

ABSTRACT

Title of Dissertation: PREDICTORS OF DISPROPORTIONATE USE OF
SUSPENSIONS AND EXPULSIONS

Alisa Williams, Doctor of Philosophy 2019

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This study used the nation-wide U.S. Department of Education's Office of Civil Rights dataset to investigate the school characteristics that influence disproportionate rates of harsh discipline in public schools. At the individual student level, research indicates that racial minority students receive suspensions and expulsions at rates that are greater than their membership in their schools' population. However, there is little research investigating whether school-level variables (i.e., school characteristics) can predict disproportional discipline and how predictors may differ between groups. This study used school-level discipline data from schools in all fifty states as well as the District of Columbia with a minimum enrollment of 15 each of African American, Hispanic and White students to investigate potential school characteristics that predict disproportional discipline as well as whether the effect sizes of these predictors vary for disproportionality with regard to African American and Hispanic students. Predictors were school-level and included student body size, diversity and poverty level; school level and typology; student: teacher ratio and percentage of new teachers, and the presence of school resource officers, while states were used as a clustering variable and controlled for state-level effects such as state discipline policies. Results indicated that on

average, disproportional discipline continues to affect both African American and Hispanic students, but that the degree of disproportionality varied considerably between schools. Few of the included variables predicted disparities in African American discipline. However, several variables, including the percentage of minority student enrollment, percentage of Hispanic student enrollment and being a middle school, high school or rural school, predicted disparities in Hispanic discipline. Results are interpreted and discussed in the context of existing, relevant research literature.

PREDICTORS OF DISPROPORTIONATE USE OF SUSPENSIONS AND
EXPULSIONS

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Chapter I

Introduction

Maintaining safe schools is a key aspect in creating a successful educational environment (Bloomberg, 2004; The Wallace Foundation, 2013). Although the primary goal of schools may be to educate students so that they can be successful adults and contribute meaningfully to society, that goal cannot be achieved if the learning environment is unsafe. Consider the classic pyramid of Maslow's hierarchy of needs, where safety and security are placed near the bottom of the hierarchy with only the physiological basics such as food and water in a more fundamental position (Maslow, 1943). If schools cannot keep students safe, how can they expect them to learn?

Of course, schools do more than protect students from physical harm. In order to ensure that students can achieve success in the classroom, they must also protect students from behaviors that disrupt to the point of impeding learning. School administrators must not only maintain safety, but order as well (The Wallace Foundation, 2013).

The behaviors that endanger students and staff and constitute a safety violation (e.g., punching another student, bringing a gun to school) can look dramatically different from behaviors that threaten order and constitute disorderly conduct (e.g., "talking back" to a teacher, throwing paper around the classroom). These latter behaviors, which often have a range of causes and serve various purposes for a student, ought to be addressed differently in order to both communicate the severity of the infraction and appropriately redress the behavior as a prevention against future misbehavior. Consequently, the punishment should fit the crime and it is unnecessary and extreme to address disruptive and disorderly conduct in the same way as behaviors that threaten safety. However, over

the past few decades, as suspension and expulsion rates have dramatically risen (Losen & Gillespie, 2012), it has become clear that these two types of behaviors are often punished with similarly harsh consequences.

The goals of punishment in schools need to be to discourage misbehavior and simultaneously encourage appropriate behavior. Suspensions and expulsions fail in both of these respects. They do not decrease rates of disruptive or violent behavior (Skiba, 2002; Skiba & Peterson, 2000), meaning they are ineffective responses for addressing any behavior other than removing immediate and significant threats to school safety (e.g., a student who brings a weapon to school with the intent to use it). These consequences also do not seem to encourage appropriate behavior considering they do not deter future misbehavior (Massar, McIntosh, & Eliason, 2015) and, in some cases, increase it (Advancement Project, 2000). Furthermore, there are no mechanisms in suspensions or expulsions that teach students how to behave if their misbehavior results from knowledge or skill deficits.

There are two major problems with using harsh discipline in schools. First, decades of research into these disciplinary practices have found that they have limited, if any, positive benefits and numerous significant long-term consequences for disciplined students. Suspensions and expulsions do not deter future misbehavior (Skiba, 2002; Skiba & Peterson, 2000), making them a dubious response. At the same time, suspensions and expulsions place disciplined students at risk for a range of negative outcomes, including future suspensions, school dropout and later incarceration (Christle, Jolivette, & Nelson, 2005; Gregory, Skiba, & Noguera, 2010; Mayer & Leone, 2007). A second problem is that the rise in suspensions and expulsions has been accompanied by an increase in

disproportional discipline, wherein certain groups of students are punished at rates not in proportion with their population (Losen & Gillespie, 2012). Often, these students are punished for disruptive, rather than dangerous, behaviors that earn less severe or even no repercussions for other students (Advancement Project, 2010; Cooley, 1995; Skiba & Sprague, 2008).

Given that suspensions and expulsions can lead to significant negative outcomes for not only the students disciplined, but also the culture of their schools, reducing the need for, and therefore the usage of, such punishments must be a priority for all schools. It is also critical to reduce and, when rarely and absolutely necessary, more appropriately use such punishments in order for students in vulnerable groups (i.e., groups that tend to be disciplined at disproportionate rates) to have fair accesses to their education. Schools may continue to need suspensions and expulsions as disciplinary options for dealing with the most serious behaviors that threaten safety. However, they need to work toward eliminating these punishments when addressing disorder or infractions with subjective degrees of severity, and instead respond to lesser infractions with consequences that keep students in school and prevent future misbehavior.

As for the disproportionate use of harsh discipline, disparities in discipline would be justified if they reflected disparities in student misbehavior (Skiba & Williams, 2014). However, research has shown that racial minority students are not more likely to engage in the behaviors that would lead to a discipline referral and a suspension or an expulsion (Cooley, 1995; McCarthy & Hoge, 1987; Wallace, 2008) but they are more likely to be referred for less severe infractions compared to their White peers (Eitle & Eitle, 2004; Engelhart, 2014; Gregory & Weinstein, 2008; Peguero & Shekarkahr, 2011; Skiba et al.,

2011). Therefore, disproportionate use of discipline represents unequal treatment of racial/ethnic groups and unfairly denies students access to their education while they are removed either from the normal instructional environment or entirely from school. Such discriminatory treatment in public education is prohibited by Title VI of The Civil Rights Act of 1964. According to the Center for Public Education (2016), educational equality can only be achieved when all students are treated in the same manner and have access to similar resources. Furthermore, educational equity is “when all students receive the resources they need” to succeed, meaning that students whose behavior interferes with their success should be provided with resources and support to improve their behavior.

By better understanding the factors associated with disproportional use of harsh discipline practices, schools and school districts can better reform discipline policies and develop more effective strategies to not only reduce unnecessary and potentially harmful suspensions and expulsions, but also promote positive student behaviors and supportive school cultures. The present study adds to the growing body of research on these factors, and expands the research investigating how risk factors differentially affect vulnerable groups. This study utilizes a national dataset of schools to investigate disproportionality, allowing for more nationally generalizable results compared to previous studies (e.g., Krezmien et al., 2006; Skiba et al., 2011; Skiba et al., 2014) that instead focus on discipline with a single state, district, or school. The current study also investigates under-researched variables as potential contributors to disproportionality, including school typology, teacher experience, and student-teacher ratio. Additionally, this study investigates disproportionality for Latino students, whereas even many recent studies (e.g., Skiba et al., 2014) have only focused on African American students.

Research Questions

The current study investigated the following research questions:

1. How do the (1) *rates* of suspensions and expulsions, and (2) *disproportionate use* of suspensions and expulsions, as measured by the relative risk ratio, vary based on school level and typology?
2. Does the percentage of all minority groups or percentage of specific minority groups (i.e., African American or Hispanic/Latinx) better predict disproportional discipline between racial groups?
3. To what degree do school level and typology predict disproportional discipline between racial groups, beyond the influence of percentage of minority students?
4. To what degree do teacher experience and student: teacher ratio predict disproportional discipline between racial groups, beyond the influence of percentage of minority students, school level, and typology?
5. To what degree do the presence of a school resource officer, school size, and percentage of Free And Reduced-Price Meals (FARMs) students predict disproportional discipline between racial groups, beyond the influence of percentage of minority students, school level, typology, teacher experience, and student-teacher ratio?

Rational for the Research Questions

Regarding research question #1, there is continuing need to understand the current state of discipline in the United States. This need includes knowing how frequently and how disproportionately students are suspended and expelled across different contexts.

Regarding, research questions 2-5, previous studies suggest that school factors, such as level and typology, are more significant predictors of disproportional discipline than individual student characteristics (Skiba & Peterson, 2000; Wu, 1980, cited in Noltemeyer & Mcloughlin, 2010b; Wu, Pink, Crain, & Moles, 1982). However, few studies have investigated the relationship between school or teacher factors, such as student-teacher ratio, teacher experience, or the diversity of the study body, and the disproportional discipline of at-risk student groups.

No study has yet to identify a single variable or set of variables as school characteristics that account for discipline disparities (Wright, Morgan, Coyne, Beaver, & Barnes, 2014). Furthermore, there is a need to look at not only what variables predict disproportional discipline, but also how these predictors may vary from group to group. The factors that contribute to the vulnerability of one group may not be consistently impactful for all vulnerable groups.

Summary of Introduction

Decades of research indicates that exclusionary discipline practices (i.e., suspensions and expulsions) have limited impact on positively changing student behaviors, are linked to numerous negative outcomes for students, and are disproportionately given to certain at-risk student groups. Much of the research on disproportional discipline has shown that racial minority students are at greater risk for receiving suspensions or expulsions compared to their White peers, with some studies indicating that this disparity occurs even when there are no differences between racial groups in behaviors that lead to disciplinary referrals. Although disproportionate use of discipline is well documented in the literature, there have been a limited number of

studies investigating specific factors related or potentially contributing to this phenomenon.

Chapter II

Literature Review

A large body of research indicates that suspensions and expulsions do not work as they are intended because they do not deter student misbehavior but, instead, increase students' risk for a host of negative educational outcomes. Unless schools are addressing the most extreme behaviors that threaten the immediate safety of school staff or students (i.e., when a student may need to be removed from school in order to protect others), there is no benefit to using suspension or expulsions over other disciplinary consequences that keep students in their schools. A further, and significant, problem with the use of these disciplinary practices is that certain groups of students are more likely to receive them even if their behaviors are comparable to those of students who are not suspended or expelled. By better understanding why certain groups of students may be vulnerable and what factors are related to their vulnerability, schools and school districts can begin to develop more equitable and more effective disciplinary practices.

Current Trends in School Discipline

The need to keep students safe and maintain an orderly learning environment has in part led to a rise in disciplinary referrals over the past few decades. In the 1960's and 1970's, schools began to embrace the use of exclusionary discipline as an alternative to previously favored discipline practices, such as corporal punishment and shaming, that were physically and psychologically harmful to students (Triplett, Allen, & Lewis, 2014). Although corporal punishment and, it could be argued, public shaming are still used by some teachers and school administrators to control student misbehavior in the name of

school safety and order, their prevalence has decreased as the use of exclusionary discipline increased (Triplett et al., 2014).

Exclusionary discipline includes in- and out-of-school suspensions and expulsions. These punishments remove (and therefore exclude) students from their typical educational environment (i.e., their classroom), with suspensions serving as short-term disciplinary removals and expulsions serving as long-term removals (Noltemeyer & McLoughlin, 2010a; Yell, 2012). When given in-school suspension, students are removed from their learning environment (i.e., their classroom) but remain in the school and under the supervision and care of school staff (Yell, 2012). As schools came to rely on an increasing degree on suspensions and expulsions as the preferred punishment, in-school suspensions in particular were seen as “the punishment of choice rather than the consequence of last resort” (Triplett et al., 2014, p. 54), as exclusionary discipline had been seen in the past.

The use of exclusionary discipline has continued to increase until recent years (Losen & Gillespie, 2012). Although suspensions and expulsions are often discussed and studied simultaneously, the rates of their use differ. As expulsions are the longer-term consequence, they are typically used for punishing more severe behaviors, such as those that threaten safety, while suspensions also used to punish behaviors that threaten order; thus, expulsions have stricter, more objective guidelines for their use (Williams, 2016). Each year approximately 1% of students are disciplined with expulsions (Losen & Gillespie, 2012; Williams, 2016). However, even this small percentage of expulsions may be too high as many schools have adopted automatic expulsion policies for what would

have been minor infractions only a few decades earlier, such as bringing a water gun to school (Cornell & Mayer, 2010).

Because the guidelines for administering suspensions are more vulnerable to subjective decision-making, there is significant variation in suspension rates from year to year and state to state (Williams, 2016). However, suspensions are consistently used much more frequently than expulsions (Williams, 2016). During the 2009-10 academic year, two million middle and high school students, or one out of every nine secondary students, received at least one suspension (Losen & Martinez, 2013). Furthermore, because suspensions tend to be used to address behaviors that fall under the umbrella of disorderly conduct, their appropriateness as a consequence is open to how teachers and administrators interpret a behavior.

For example, what is the appropriate response to a first-grade student who regularly throws temper tantrums in class and whose tantrums are increasing in severity? One teacher might see the tantrums as a result of the deficits in the student's behavioral control coupled with limited academic skills, while another teacher might view them as a disrespectful attitude and behavior that disrupts the classroom learning environment to such an extensive and prolonged degree that the student must be referred for significant disciplinary consequences. As a result, the latter student may be referred for discipline and suspended while the former student may become the target of an intervention aimed at preventing future tantrums.

Some may argue that a suspension is necessary to send a message to students that certain behaviors are unacceptable and will be met with harsh consequences to deter future misbehavior (Bear, 2012). Perhaps such a consequence is warranted if it produces

positive results. Bear (2012) argues that so long as suspensions are used appropriately, and not over- or misused, they can be effective means to respond to and deter more serious behaviors, such as fighting and other safety-related violations. However, as previously mentioned, suspensions are often used to address disorderly conduct behaviors that would not necessarily constitute a threat to student or staff safety, and Bear (2012) acknowledges that suspensions are often used inappropriately to address behaviors that would be better managed through alternative measures.

If suspensions and expulsions result in positive outcomes for schools and students, such as by contributing to school safety and reducing future misbehavior, then such benefits might outweigh the problematic nature of misusing exclusionary punishments. Unfortunately, research suggests that in the long-term, exclusionary discipline not only fails to deter misbehavior (Skiba, 2002; Skiba & Peterson, 2000), but can also have significantly negative consequences for students.

The most immediate consequence of exclusionary discipline is that by removing students from their learning environment, they are losing out on instructional time that makes it difficult for them to return to class once their discipline is over (Brown, 2007; Noltemeyer & Mcloughlin, 2010a). Excluded students recognize that they miss out on class time as a result of their punishment, and many of them are below grade level in writing, reading, and mathematics (Brown, 2007). Removing disruptive students from the classroom should, in theory, help improve the learning of other students, or at least not disrupt their learning. However, the use of exclusion has not been found to increase the test scores or graduation rates of those students not disciplined (Losen & Gillespie, 2013). Schools with high rates of suspensions tend to have poorer school climates that are

not improved by excluding disruptive students (Skiba & Sprague, 2008). Schools with high rates of disciplinary referrals in general also have high rates of repeat offenders while schools with low rates of disciplinary referrals have low rates of repeat offenders (Bergh & Cowell, 2013), suggesting that schools' current approach to discipline does not discourage future misbehavior. Schools with lower suspension rates also have more positive school environments, more successful positive behavior incentive programs, and more rigorous academic programs (Christle, Nelson, & Jolivette, 2004), suggesting that these schools have significantly different climates that may influence both misbehavior rates and student success.

High rates of suspensions fuel a chain reaction of school disengagement, further suspensions, school failure and dropout, and greater risk of incarceration (Christle et al., 2005; Gregory et al., 2010; Mayer & Leone, 2007). School discipline should help students develop the self-discipline they clearly lack (Osher, Bear, Sprague, & Doyle, 2010), but exclusionary discipline as it is typically administered does not teach students the skills they need to avoid future misbehavior (Brown, 2007). Although there are alternative models of suspensions that aim to support students' academic progress or therapeutic growth while excluded, suspension as a purely punitive form of discipline continues to be the most common model used (Allman & Slate, 2011).

Not only does exclusionary discipline fail to decrease future misbehavior (Massar, McIntosh, & Eliason, 2015) or decrease the rates of disruptive or violent behaviors (Skiba, 2002; Skiba & Peterson, 2000), it may actually increase them (Advancement Project, 2000; Atkins et al., 2002). Students who view removal from the classroom as a reward rather than a punishment will be more likely to behave disruptively or even

violently to avoid the classroom setting (Atkins et al., 2002). This may help explain why the use of exclusionary discipline does not improve perceptions of school safety, as students in schools that use harsh disciplinary practices (e.g., out-of-school suspension for a first-time cheating offense) report feeling less safe in their schools (McNeely, Nonnemaker, & Blum, 2002).

Another significant flaw in the use of exclusionary discipline is that research has shown that it is used to punish certain groups of students at disproportionately high rates. In particular, students who are African American, male, or have a behavioral or emotional disability are significantly more likely to be punished with exclusionary discipline (Bowman-Perrott, Benz, Hsu, Kwok, Eisterhold, & Zhang., 2011; Losen & Gillespie, 2012). The bulk of disproportionality research has focused on racial disparities. African American students are suspended and expelled at much higher rates than their White peers (Arcia, 2007b; Bowman-Perrott et al., 2011; Losen & Gillespie, 2012). Hispanic (Brown & DiTillo, 2013) and Native American (Brown & DiTillo, 2013; Wallace, Goodkind, Wallace & Bachman, 2008; Whitford & Levine-Donnerstein, 2014) students have also been found to be suspended and expelled at disproportionate rates (Losen & Martinez, 2013).

Because suspensions and expulsions threaten students' education and long-term well-being and disproportionately affect certain vulnerable groups more than others, the use of these consequences should be carefully considered and limited, if used at all.

Racial Minority Students at Risk for Disproportional Discipline

Student groups would be considered vulnerable to disproportional discipline if they are suspended and expelled at a rate that is higher than their representation in

schools. Although one can find school districts with high rates of suspensions for any racial group (e.g., 40.5% of White students in Arizona's Miami Unified District were suspended at least once during the 2009-2010 school year), certain racial groups are at greater risk of being suspended than others (Losen & Gillespie, 2012). During the 2009-10 school year, national suspension rates for K-12 students of different racial groups were as follows: 1 out of every 6 African American students, 1 in 13 Native American, 1 in 14 Latinx, 1 in 20 Caucasian, and 1 in 50 Asian American students (Losen & Gillespie). According to the Office of Civil Rights, during the 2011-12 school year, African American students were suspended and expelled at rates three times greater than White students (OCR, 2014), and in 2013-14 they were 3.8 times as likely to receive an out of school suspension compared to White students (OCR, 2016).

Decades of literature on disproportional discipline has investigated the overrepresentation of African American students in suspensions and expulsions. African American students are more frequently given office referrals (Bradshaw, Mitchell, O'Brennan, & Leaf, 2010; Rocque, 2010; Shirley & Cornell, 2011; Skiba et al., 2011). They are more likely to receive harsher punishments than White students who commit the same behavioral infraction (McFadden, Marsh, Price, & Hwang, 1992; Payne & Welch, 2010). These include a greater likelihood of being suspended (Bowman-Perrott et al., 2011; Eitle & Eitle, 2004; Gregory & Weinstein, 2008; Hinojosa, 2008), arrested at school (Theriot, 2009) and receiving corporal punishment (Gregory, 1995; Owen, 2005; Shaw & Braden, 1990).

Disproportional discipline is greatest in suburban school districts (Eitle & Eitle, 2004; Rausch & Skiba, 2006), even though greater numbers of students of all races are

suspended in urban school districts (Noltemeyer & Mcloughlin, 2010b).

Disproportionality is also greatest in elementary schools, even though more suspensions occur in secondary schools (Rausch & Skiba, 2006; Wallace et al., Goodkind, Wallace & Bachman, 2008).

Other racial minority groups are also vulnerable to disproportional discipline practices. Studies on Hispanic and Latinx students have produced mixed results (Gregory et al., 2010), with some studies finding them more vulnerable than their White peers (Finn & Servoss, 2014; Rausch & Skiba, 2004). Other studies have found that they are suspended equally (Cooley, 1995; Krezmien, Leone, & Achilles, 2006). Although Skiba et al. (1997) found that Native American students are more likely to be suspended compared to White students, the discipline of this group is not well researched. Asian Americans are least likely to be suspended of any racial group and are suspended at rates below their representation (Sullivan, Klingbeil, & Van Norman, 2013; Wallace et al., 2008). As with African American students, other minority groups often receive harsher punishments than White students, despite no significant differences in behavior (Skiba, 2002; Skiba & Williams, 2014; Wallace et al., 2008).

In a study looking at official discipline referrals in 364 elementary and middle schools, Skiba et al. (2011) found that in kindergarten through 6th grade, African American students were overrepresented in number of discipline referrals, whereas Hispanic and White students were underrepresented. In 6th through 9th grade, African American students continued to be overrepresented, and in fact, their overrepresentation in Grades 6 through 9 increased relative to their overrepresentation in kindergarten through 6th grade. African American students also were more likely to receive multiple

referrals in a school year compared to White and Hispanic students. At the same time, White students in 6th through 9th grade were underrepresented, but now Hispanic students were overrepresented. The researchers indicated that this overrepresentation of Hispanic students was due to the comparative and significant under-referral of White students rather than the absolute number of Hispanic students who were referred for discipline.

Similar patterns were found when Skiba et al. (2011) examined discrete categories of behaviors that led to referrals (i.e., minor misbehavior, disruption, noncompliance, moderate infractions, major violations, use/possession, tardy/truancy, and other/unknown). African American students were overrepresented compared to White students in all referral categories at all grade levels. At the Kindergarten through 6th grade level, Hispanic students were underrepresented compared to White students in referrals for minor misbehavior, disruption, noncompliance, and moderate infractions. However, at the 6th through 9th grade level, Hispanic students were overrepresented compared to White students for all categories.

In order to investigate the impact of infraction and race/ethnicity on behavioral consequences (i.e., minor consequences, detention, moderate consequences, in-school suspension, out-of-school suspension, expulsion, other/unknown), Skiba et al. (2011) ran two multinomial logistic regression models. In the first model, only infraction type was used as a predictor variable. In the second model, both race/ethnicity and infraction type were used as predictor variables. For both models, the odds of receiving a suspension or expulsion were low but increased as the severity of the infraction increased.

Results of the analysis of the second model in the Skiba et al. (2011) study indicated that race/ethnicity made a significant contribution to the likelihood of receiving

a certain consequence beyond the contribution of the type of infraction committed by the student. Both African American and Hispanic students were overrepresented in receiving suspensions and expulsions, despite their limited use. However, African American students in Kindergarten through 6th grade were underrepresented in use of detention, and in 6th through 9th grade they were underrepresented in use of all consequences other than suspensions and expulsions. These findings suggest that African American students were more likely to receive more severe disciplinary consequence regardless of the behavior that prompted the discipline referral. On the other hand, Hispanic students at all grade levels were underrepresented in receiving moderate consequences, when compared to White students, but were overrepresented in the use of detention. Both groups were more likely to receive more severe disciplinary consequences for less severe behaviors compared to their White peers, such as receiving a suspension for noncompliance, a finding that is consistent with research conducted nearly a quarter of a century earlier (McCarthy & Hoge, 1987). The results of Skiba et al. (2011) also correspond with the research of Finn & Servoss (2014) whose findings indicated that both African American and Hispanic students were more likely to be suspended than other groups even after controlling for the severity of behavior.

Intersectionality. There is a need to look at how group membership and discipline risk interact, as recent studies (e.g., Losen & Gillespie, 2010; Losen & Gillespie, 2012) have indicated that students in one demographic group have differential vulnerability to being suspended and expelled based on their membership in other demographic groups.

In regards to race and disability, some racial minority adolescent groups are disproportionately represented within the special education population. Hispanics are 17 percent more likely than Caucasians to be represented; African Americans are 43 percent more likely; and Native Americans are 80 percent more likely (Office of Special Education Programs, 2009). Minority students, particularly African Americans with an emotional disability (ED), intellectual disabilities, and/or speech/language disorders, are also overrepresented in more restrictive settings (Skiba, Poloni-Staudinger, Gallini, Simmons, & Feggins-Azziz, 2006). During the 2009-10 school year, one in four African American K-12 students with disabilities was suspended at least once (Losen & Gillespie, 2012). In that same school year, 36% of all African American male students with disabilities enrolled in middle and high schools were suspended at least once (Losen & Martinez, 2013). However, recent research suggests that having a disability, absent of other risk factors (e.g., low SES, at-risk racial/ethnic group membership, previous problem behaviors) does not by itself increase a student's risk of being suspended (Morgan et al., 2019).

The interaction between race and disability is not consistent for all groups. The odds of being suspended were highest for students with ED for every racial group (White, African American, Hispanic/Latinx, and Asian) except for American Indian students (Krezmien et al., 2006). For this latter group, ED had the second highest odds ratio, while Other Health Impairment (OHI) had the highest. Although not the most significant predictor, OHI was still a significant predictor of suspensions for all other races except Hispanic students. OHI includes students with Attention-Deficit Hyperactivity Disorder (ADHD), who may be more likely to violate school rules or norms and thus be

disciplined. For every racial group, students with a learning disability were also found to be highly at risk for suspension.

Regarding race and gender, males are suspended at higher rates than girls in the overall student populations, but suspension rates for African American girls are increasing at a greater rate than all other race and gender combinations (Losen & Gillespie, 2010). Furthermore, the greatest disparity in discipline outcomes is between African American and White or Asian American girls (Wallace et al., 2008). Wallace et al. (2008) found that although approximately 43% of all African American 10th grade girls had been suspended or expelled at some point during their educational career (a percentage that has been steadily increasing since the early 1990's), only approximately 10% of White and Asian students had received suspensions at some point prior to or during 10th grade. This disproportionality high rate for suspensions and expulsions for African American girls was found despite comparable rates of office referrals across races and genders (Wallace et al., 2008).

Factors Related to Disproportional Discipline

Student Behavior and Other Student Factors. Disparities in discipline would be justified if they reflected disparities in student misbehavior (Skiba & Williams, 2014). That is, if African American students misbehave more frequently and more severely than their peers, they would be more likely to experience higher discipline rates. Studies have shown that this is not the case, and these groups do not misbehave more often or commit more serious infractions than their peers, despite receiving more frequent and more severe punishments. Research has shown that there are few differences between racial groups as well as between students with and without disabilities when the severity of

their infractions is compared (Cooley, 1995; McCarthy & Hoge, 1987; Wallace et al., 2008). Racial disparities exist in the types of infractions, with African American students more likely to be referred for subjective infractions, such as disrespect or insubordination, while White students are more likely to be referred for objective or observable offenses, such as smoking or vandalism (Eitle & Eitle, 2004; Engelhart, 2014; Gregory & Weinstein, 2008; Peguero & Shekarkahr, 2011; Skiba et al., 2011).

Students living in poverty are disciplined more frequently than their more affluent peers; however, poverty alone does not account for racial discipline disparities as African American students continue to be suspended at higher rates than their peers of the same socioeconomic level (Noltemeyer & Mcloughlin, 2010a; Skiba & Williams, 2014).

Discipline disparities, particularly racial disparities, are often presented as the result of poverty, with the argument being that students who grow up in low-income households are not taught the self-control skills needed to behave properly in schools (Skiba & Williams, 2014). Wright and Beaver (2014) found that although African American students were significantly more likely to be suspended than White students, teacher- and parent-reports of previous misbehavior accounted for the racial disparity in discipline. The authors cite articles (e.g., Wright & Beaver, 2005) suggesting that lack of self-control leads to later problem behaviors that must be disciplined in the classroom.

Although this argument may explain Wright et al. (2014)'s findings, it seems to advocate a rather fatalistic idea of misbehavior in schools; that is, if a student acts out, the logical result is that he or she will be suspended. This fails to consider that for students, especially those who lack foundational self-control skills, there could and should be alternative consequences (e.g., an intervention that teaches self-control). The authors'

argument also fails to take into consideration the aforementioned research findings that racial minority students are not more likely to misbehave, but are more likely to be disciplined for less serious or more subjective offenses than White students.

Students' grade level also appears to play a role in whether they will be suspended or expelled. High schools have the highest rates of total exclusionary discipline (Wauchope, 2009). Suspensions are lowest in elementary school and increase in number until reaching their peak in 9th grade (Arcia, 2007b). During the 2009-2010 school year, one in every nine secondary school students was suspended at least once (Losen & Martinez, 2013). Vulnerable groups, such as racial minority students, are also at greatest risk for disproportional discipline at this level (Losen & Martinez, 2013).

However, elementary schools do use exclusionary discipline. Specifically, both elementary and high schools tend to have higher rates of out-of-school suspensions, while middle schools have higher rates of in-school suspensions (Wauchope, 2009). This distinction holds true for combined elementary/middle schools, where middle school students are more frequently disciplined with in-school suspensions (Wauchope, 2009).

It could be argued that as students become older, they also become more rebellious and disruptive. However, some research suggests that it is not the students' age that increases their likelihood of suspension. Arcia (2007a) investigated the discipline trajectories of elementary and middle school students. The discipline histories of three groups of students were analyzed: students who attended the same school for Kindergarten through 8th grade, students who initially attended a K-8 school and transitioned to a middle school for 7th grade, and students who attended 6th-8th grade middle schools for both 6th and 7th grades. Although the author found that African

American and Latinx students were more at risk for suspensions, students of all races were more likely to be suspended in middle school than elementary school. In terms of grade level, the students most likely to be expelled were those who had attended middle school for both 6th and 7th grade as well as 7th graders who had previously attended a K-8 school. This was true even for students who had no previous history of suspension. The author argued that it was not the grade, per se, but specifically being in a middle school that increased the suspension risk.

Teachers' Roles in Discipline and Other Teacher Factors. Considering that teachers are often schools' first line of defense in managing disruptive and out of control student behavior, there is minimal research on how teacher factors influence disproportionality. One teacher may want to implement a carefully crafted behavior management plan in the classroom as a way of stopping problem behaviors proactively and reducing the severity of problems that do occur, while another teacher may see his or her role as purely academic and view behavior management and discipline as being part of the administrators' duties. These teachers are likely to refer students for discipline for very different offenses, which could then impact the likelihood of students being given harsh punishments. Individual differences among teachers may also impact the risk of certain student groups being disciplined more frequently than others.

Racial mismatch between students and teachers has been proposed as one explanation for racial disparities in discipline. Some studies have found that lower rates of discipline disproportionality exist in schools with more racially diverse teachers (McLoughlin & Noltemeyer, 2010; Rocha & Hawes, 2009), while others have found that ethnic match did not reduce risk of receiving disciplinary referrals for African American

students (Bradshaw et al., 2010; Sullivan et al., 2013). Schools that have higher percentages of African American student enrollment have been found to use higher rates of exclusionary discipline and other harsh discipline methods while using fewer mild discipline methods (Payne & Welch, 2010; Rocque & Paternoster, 2011; Welch & Payne, 2010).

Another explanation might be that teachers' view certain behaviors as more serious and thus more in need of strict punishment. However, teacher perception of the severity of disruptive behavior alone does not account for racial disparities in discipline, as teachers often refer African American students for behavior they see as less severe than the behaviors of their White students (Bradshaw et al., 2010; Skiba & Sprague, 2008).

A third reason may be that teachers may not have the behavior management skills to address certain behaviors in the classroom, particularly when working with certain groups whose behaviors do not fit classroom norms (e.g., male students, students with disabilities). Arcia (2007b) found that African American students were at greater risk of being suspended in schools with a less experienced teaching staff. Although Arcia did not specifically measure teachers' experience with behavior management, presumably less experienced teachers would be less competent and effective in the use of behavior management techniques than their more experienced colleagues.

Teachers who struggle with classroom management may write more discipline referrals, increasing the greater chances for vulnerable students to be disproportionately disciplined. In a study of suspension risk for African American students, Mcloughlin and Noltemeyer (2010) found that one of the most significant predictors for overall

suspension rates were the number of office disciplinary referrals, which would make intuitive sense given that most referrals are written by classroom teachers. However, perhaps more interesting was the finding that the majority of the referrals were written by a small number of classroom teachers, suggesting that these teachers may be writing referrals as a form of behavior management while their colleagues are using other methods to manage classroom behavior.

Interventions such as Positive Behavior Interventions and Supports (PBIS) provide a framework for teachers to use pro-active, positive behavior management techniques to de-incentivize and, therefore, discourage negative student behaviors and result in fewer referrals and disciplinary actions (PBIS, 2018). Culturally responsive teaching is another approach to classroom management that encourages teachers to understand the relationship between their culture and their students' cultures as a way of improving positive student behavior and could potentially reduce disproportional discipline rates (Larson, Pas, Bradshaw, Rosenberg, Day-Vines, & Gregory, 2018). Positive teacher qualities, such as demonstrating caring for their students while having high academic expectations, predicted students' willingness to trust and cooperate with their teachers and predicted less defiance in the classroom (Gregory & Weinstein, 2008).

More generally, teachers' stress level and dissatisfaction may also affect their ability to employ successful behavior management techniques and their likelihood of relying on exclusionary discipline practices. In a study of the impact of job satisfaction on teacher absenteeism, Dana (2014) surveyed 84 third, fourth, and fifth grade teachers across five school districts in Mississippi. The study found a moderate correlation between the socioeconomic status of the school (measured by percentage of students

receiving free or reduced price lunch) and teacher absenteeism. Schools serving lower SES students had higher rates of teacher absenteeism.

Teacher participants also provided additional comments about the negative impact of stress on their work (Dana, 2014). Teachers reported feeling a lack of administrative support around discipline with the resulting stress leading to teacher absenteeism. Some teachers reported feeling that their administrators did not have confidence in their judgment regarding students who frequently misbehave. Teachers' recommendations included wanting school-wide discipline policies for all school staff to follow. They also suggested a general behavior policy for all schools in a district so students will know what is expected for them moving from school to school. Although this study surveyed only third through fifth grade teachers in a few school districts in Mississippi, it suggests the potential route by which teacher stress and dissatisfaction may affect school discipline. Specifically, teachers who feel unsupported by administration or who feel that their school lacks a clear, consistent discipline policy may struggle to enact consistent and effective behavior management and disciplinary practices in their classroom.

Experience has been shown to help teachers improve their behavior management despite job stress. In a survey of Texas teachers, these teachers also reported taking time off from work for mental health days in order to manage job stress that resulted from increased expectations as well as lack of administrative and peer support (Harrison, Labby, & Sullivan, 2015). However, they also reported that as they gained more experience, they needed fewer mental health days, suggesting that experience helped teachers better meet job demands, including managing student behavior. Job stress, particularly for younger teachers who may still lack the classroom management skills to

effectively respond to more extreme behavior problems, may make it difficult for teachers to proactively work toward reducing discipline problems. As teachers gain more experience and learn what works and what does not work to deter misbehavior, they may become better able to prevent or manage misbehavior so that incidents do not rise to the level of requiring suspensions and expulsions.

School Factors. School-level characteristics have a more meaningful impact on disproportional discipline of racial minority students than student characteristics (Skiba & Williams, 2014). A growing number of studies have found that school characteristics have a greater effect on suspension rate than the characteristics of the students suspended (Skiba & Peterson, 2000; Wu, 1980, cited in Noltemeyer & McLoughlin, 2010b; Wu, Pink, Crain, & Moles, 1982). Along with research showing that vulnerable groups receive harsher punishments for the same infractions, these findings suggest that disproportional discipline may be less the result of the severity and frequency of student misbehavior and more the result of school culture and policies (Losen & Martinez, 2013).

The overall poverty level of a school may affect administrators' approaches to discipline, as schools with the highest percentages of students eligible for the Free and Reduced School Lunch Program average more than four times as many suspensions and expulsions as schools with the lowest rates (Wauchope, 2009). Several studies have also looked at the impact that school size has discipline rates, although findings have been inconsistent. Although one study found higher rates of exclusion in smaller schools (Wauchope, 2009), others found no relationship (Christle et al., 2004; Christle, Jolivet, & Nelson, 2007). The studies finding no relationship used correlational analysis rather than multilevel procedures to analyze the effect of school size on individual exclusion

rates (Krezmien, Leone, & Achilles, 2006), whereas the study finding a relationship between school size and exclusion compared discipline rates of the largest 25% and smallest 25% of schools in their sample (Wauchope, 2009). The relationship between school size and exclusion is still unclear and studies using more sophisticated analysis methods are necessary to determine what, if any, relationship exists.

School typology has also been found to relate to suspension rates (Noltemeyer & Mcloughlin, 2010b). School typology is determined based on multiple school and community characteristics, including population density, school size, geographic, local and community income levels. High poverty urban school districts have higher rates of suspensions and expulsions than schools with other typological characteristics. In general, urban and suburban schools expel more students than rural schools. The interaction between race and school typology predicted even higher rates of disproportionality for suspensions. African American students are disproportionality suspended most often in high poverty urban schools and least often in low poverty rural schools (Noltemeyer & Mcloughlin, 2010b). However, this last result is in conflict with other studies finding that disproportional discipline is greatest in suburban school districts (Eitle & Eitle, 2004; Rausch & Skiba, 2006). Ultimately, more research is needed to better understand how and why typology impacts disproportional discipline.

School police presence has also been found to impact school discipline. School-based law enforcement officers, or school resource officers (SROs), are one method schools have turned to in recent years to address violence and misbehavior (McKenna, Martinez-Prather, & Bowman, 2016). SROs can take on many roles in the school, some of which they consider to be appropriate, whereas others may be less appropriate but are

assigned to them in one way or another based on schools' needs. SROs report taking on roles of law enforcers, mentors/role models/surrogate parents, social workers, and educators, with the majority of their work falling in the realm of law enforcement (McKenna et al., 2016). While some SROs value their additional, non-law enforcement roles, others feel that school staff should be responsible for school discipline and SROs should be there specifically to address criminal behavior and public safety issues (McKenna et al., 2016).

In a study on the impact that police presence has on discipline during the 2007-2008 school year, 21.1% of schools nationwide reported having at least one police officer at the school at least once a week, with 53% of those having full-time police officers (Na & Gottfredson, 2011). Police presence varied by school type, with rural elementary schools least likely to have full-time officers and urban high schools most likely. However, Na and Gottfredson (2011) found selection artifacts in the data, in that schools that had higher rates of crime in prior school years were more likely to then have police officers during the 2007-2008 school year. When this was accounted for, they found that schools with SROs had higher rates of weapons and drug crimes, but not other offenses. Police presence in schools were most likely in schools that reported higher levels of crime earlier, in low SES schools, and in secondary schools. The researchers also noted that the presence of law enforcement in schools did not increase school safety, as schools did not report a decrease in crime after an increase in police presence.

Although it makes sense that schools with higher rates of weapon and drug crimes would want and possibly even need police presence at the school to help address this serious problem, police have an impact on discipline beyond these types of crime.

Seventy-six percent of officers were involved in maintaining school discipline (Na & Gottfredson, 2011). For all types of school-based crime, excluding the rarest offenses (i.e., rape and robbery with a weapon), schools with at least one law enforcement officer reported higher school-based crime rates than schools without officers present. Presence of an officer more than doubled the rate at which incidents (e.g., assault without a weapon, threats without a weapon, alcohol violations) were reported to law enforcement. Responses to all crimes were harsher, in that students were more likely to be suspended, removed from school, or transferred to another school if they attended a school with a law enforcement officer. These crimes included firearms violations, weapons violations, drug and alcohol violations, assault without a weapon, and insubordination. The presence of law enforcement officers more than doubled the likelihood of harsh punishment for assaults without a weapon and nearly doubled the likelihood for insubordination.

Nance (2016) also found that the presence of SROs in schools nationwide increased the number of students referred to law enforcement, particularly for low-level offenses such as fighting someone without a weapon, theft, or vandalism. This was true even after other factors were controlled for, including state statutes requiring referrals for certain offenses, level of criminal activity and disorder at the school, and level of crime in the surrounding neighborhood. Nance argued that schools might be embracing a “broken windows” style of discipline that encourages schools to respond harshly to minor infractions in order to discourage more serious infractions. Results also indicated that larger schools had higher odds of referring students to law enforcement, which suggests that these schools may not have the resources to address disciplinary problems through

other, less harsh means, and under-resourced schools are then left to rely on SROs and law enforcement more heavily.

Threat Bias as a Cause of Disproportional Discipline

Disproportionate numbers are not automatically unjust, but they do suggest there is potential for an unjust environment that breeds those unequal numbers (Heller, Holtzman, & Messick, 1982, cited in Thorius and Stephenson, 2012). In the case of disproportional discipline, the negative consequences of exclusionary discipline are reason enough to better understand the environments that lead to the use of suspensions and expulsions. There is added reason to investigate the environments that lead some schools to have higher rates of discipline for some students rather than others, because if these differences are not merited (i.e., are not the result of clear, objective differences in student behavior), then discipline becomes a way to punish only certain students and effectively exclude them from their education.

Research refuting the argument that disproportion is a result of factors inherent to the students themselves suggests that there are underlying, systemic factors promoting disproportional discipline. As Thorius and Stephenson (2012) point out, decision-making (e.g., decisions about appropriate behavior management and discipline procedures) is heavily influenced by the perspectives of the school personnel and by institutional agendas, and to best understand disproportionality, researchers must investigate how the school and educational environment as a whole contributes to the phenomenon.

Teacher perception of the severity of disruptive behavior alone does not account for racial disparities in discipline, as teachers often refer African American students for behavior they see as less severe than the behaviors of their White students (Bradshaw et

al., 2010; Skiba & Sprague, 2008). If teachers view African American students' behaviors as less severe, why do they then refer them for discipline? This disconnect may be explained through the lens of Racial Threat Theory (RTT). RTT argues that racial minorities are seen as economic, political and criminal threats to the dominant social group (Blalock, 1967) and the dominant group will then use punitive social controls to these perceived threats to maintain their dominance (Triplett et al., 2014).

A growing body of research has applied RTT to better understand disproportional discipline practices, specifically because racial minority students are seen as a threat to school cultures where White, middle class students and their behaviors are seen as normative (Rocque & Paternoster, 2011; Triplett et al., 2014; Welch & Payne, 2010). Exclusionary discipline practices disproportionality harm students in poor, high-minority, urban districts (Triplett et al., 2014) – the precise demographics that might appear threatening to a White, middle class system. For example, gang-related shootings associated with poor, high-minority, urban neighborhoods has been used to justify the increase of zero-tolerance policies that have led to the growth of suspensions and expulsions (Klein, 2012). So from an RTT perspective, it should not be surprising that the highest rates of suspensions are seen among African American males in poor urban schools (Noltemeyer & Mcloughlin, 2010b), even though most school shootings are carried out by White males in suburban and rural school districts (Klein, 2012).

In a study looking at the influence of school prisonization (e.g., presence of law enforcement officers, use of security camera and metal detectors) and minority threat (as measured by the percentage of minority students), Mitchell et al. (2018) found some support for the argument that racial threat influences disciplinary decisions. Although the

percentage of minority students, by itself, did not predict higher rates of exclusionary discipline practices, schools that had both higher minority student populations as well as higher rates of prisonization had higher rates of exclusionary discipline practices. The authors also found that schools with a larger population of minority students had significant decreases in the use of milder and restorative discipline responses.

When schools discipline students of certain races more harshly for the same infractions, they have effectively re-established the status quo that was removed after schools were desegregated. By suspending and expelling students for minor infractions, schools exclude a significant number of racial minority students from the educational environment.

A similar argument can be made for students with disabilities, that these students are suspended as a way to protect the education of their non-disabled peers and to replace our previous approach to deal with individuals with disabilities: institutionalization (Williams et al., 2013; Williams et al., 2016). In a review of 21 studies on school administrators' attitudes toward students with disabilities, Williams et al. (2013) reviewed statements made by administrators that indicated the administrators perceived students receiving special education services as threats. Mostly commonly, administrators saw these students as threats to the schools' available resources, especially money and time. Both students receiving special education services and their parents were considered to be threats to school resources, with many administrators citing parents who sue schools and the amount of time and money litigation demands. Furthermore, they reported seeing students with disabilities as a threat to the education of the general student body.

Administrators also saw students with disabilities as symbolic threats to

administrators' self-concepts and the self-beliefs of their teachers as well as threats to their school's philosophy, academic performance and overall school community. Some administrators indicated that they see students in special education as contributing to their emotional stress, their reputation, as well as threats to their personal beliefs (e.g., one school principal reported being unsupportive of inclusion even if given unlimited resources to do so). Administrators were least likely to perceive students with disabilities as being threats that would impact their ability to perform their work, to their time, or to their behavior, although a few instances of these were reported.

Williams and colleagues (2013) did not investigate the discipline practices in the schools of the surveyed administrators, so it is unclear how the administrators' views affected their approach to the discipline of their students with disabilities. The authors argue that these perceptions by school administrators may contribute to discriminatory discipline practices toward students receiving special education services. For example, one administrator reported making a placement change decision out of desperation rather than sound policy.

Decades of research on school discipline has demonstrated that certain groups of students, including racial and ethnic minority students, are at disproportionate risk of being suspended and expelled from their school, often despite engaging in similar behaviors as their peers who are not suspended or expelled. Some have argued that these disparities exist due to racial bias and the perception of racial threat when school staff interpret and address the behaviors of racial and ethnic minority students. However, no study has explicitly researched this as a cause of discipline disproportionality. Although some studies suggest that teacher and school factors may contribute more to

disproportionately high rates of exclusionary discipline when compared to student factors, there is no set of variables that has been identified as consistent, key factors that significantly increase risk of suspensions and expulsions for certain groups of students.

Chapter III

Methods

The present study used archival data collected by the Office of Civil Rights (OCR) as part of the biennial Civil Rights Data Collection (CRDC) survey, specifically data gathered as part of the 2013-14 collection. The raw data was released in June 2016. Data from the 2015-16 collection has since become available and is the most recent available for research use. However, this was not available early enough for use in the present study.

Appendix A provides a summary of all the variables that are available through the 2013-14 Civil Rights Data Collection. For the purposes of this study, only discipline variables as well as a select number of other variables hypothesized to relate to discipline were used. These variables include: the number of students at a school based on race (used to calculate the percentage of African American, Hispanic, and minority students), school level (elementary, middle, high school), number of 1st and 2nd year teachers (used to calculate the percentage of new teachers), number of teachers (used to calculate the student-teacher ratio), and the presence of a school resource officer. The discipline variables were used to create relative risk ratios to determine the school-level risk to African American and Hispanic students of receiving an expulsion, out-of-school or in-school suspension relative to White students. An ordinary least squares regression procedure was used with the remaining variables serving as predictors and the relative risk ratios as dependent variables, to determine the best model of variables that predicted disparities in discipline risk within school buildings.

Additional variables included in the 2013-14 CRDC may be related to discipline rates, and thus disproportional discipline; however, these relationships are likely indirect. The 2013-14 CRDC collected data on the types and rigor level of classes offered at each school, whether interscholastic sports were offered, rates of harassment and bullying, as well as how school finances were spent. These factors are related to the general climate at a school. Schools that have rigorous classes, offer a wide range of sports teams for students to join, make efforts to reduce harassment and bullying, and effectively spend their funds may have more positive climates that lead to a reduction in student misbehavior and thus a reduction in discipline. However, it seems unlikely that these factors are directly linked to discipline and there is no basis in the literature that would justify including them in this study. Other factors may have a more direct impact, such as the number of school psychologists or social workers, as students with behavior concerns may be referred to these specialists in lieu of or prior to exclusionary discipline. However, reporting the presence of a school psychologist and a social worker was not mandatory on the 2013-14 CRDC.

Description of Sample

For the 2013-14 CRDC, every public local educational agency (LEA) and school was surveyed. This included juvenile justice facilities, charter schools, alternative schools, and schools serving only students with disabilities. This procedure resulted in the inclusion of 95,507 schools, or a total of 99.5% of all public schools. The following demographic information for students included in the OCR dataset was reported by the OCR.

Table 1

Student Demographics of the 2013-14 Civil Rights Data Collection

Variable	Percentage
Race	
White	50.3
Hispanic/Latino of Any Race	24.7
Black or African American	15.5
Asian	4.8
American Indian or Alaskan Native	1.1
Two or More Races	3.1
Native Hawaiian or Other Pacific Islander	0.4
Gender	
Male	51.4
Female	48.6
Educational Disability	
Yes	14.0
No	86.0

OCR made corrections to the 2013-14 CRDC to account for errors in the data collection from Florida schools. Any additional errors reported by OCR did not impact the data used in the current study (e.g., errors in variables that were not used in the current analysis). Although inclusion of all surveyed schools from all fifty states as well as the District of Columbia were considered, schools were excluded from the current study if they fell into any of the following categories: (a) schools without a physical location (e.g., online or correspondence and distance schools), (b) juvenile justice facilities, (c) alternative schools, and (d) schools only for students receiving special education services.

In accordance with procedures used by Losen and Gillespie (2010), online and correspondence or distance schools were excluded from analysis because of the inability to use exclusionary discipline. Juvenile justice facilities were excluded due to the high likelihood that these students had been removed from their local school for disciplinary infractions and were thus accounted for elsewhere in the data (Losen & Gillespie).

Alternative education schools were also excluded due to the potential that their students were removed from their local school due to behavioral concerns and, similar to juvenile justice facilities, these students might be accounted for elsewhere. Schools that serve only students receiving special education services were removed because of the lack of a non-disabled comparison group.

Table 2

Initial Schools Removed

School Type	Number	Percentage of CRDC Sample
Juvenile justice facilities	633	0.6%
Online and distance or correspondence schools	285	0.2%
Alternative education schools	4227	4.4%
Special education schools	2018	2.1%

Additional schools were removed based on the racial/ethnic make-up of their student bodies. This was done to ensure that all schools had a sufficient number of students in each racial/ethnic group that was needed for the analysis. Student enrollment cut-offs of 10, 15, and 20 were considered. Including schools with fewer than 10 students

per group would have resulted in significantly reduced statistical power. The number of schools that would have been removed based on each cut-off was calculated and 15-student per group criteria was determined to best balance concerns about overly wide confidence intervals around the incidence rates of use of harsh discipline versus the number of schools lost by requiring a higher sample size for each ethnic group. A higher cut-off of 20 students per group would have allowed for a more conservative confidence interval, but would have resulted in the loss of 61,680 schools. The 15 student per group cut-off resulted in a loss of 56,611 schools. The breakdown of the schools removed is included below. Note that each removed school would be counted under one of the levels as well as one of the typologies:

Table 3

Schools Removed Due to 15-Student Cut-Off

Category	School Type	<i>N</i>	Percentage of CRDC
Level	Pre-Kindergarten and Kindergarten	1,332	1.3
	Elementary	26,538	2.8
	Middle	6,359	6.3
	High	7,547	7.9
	Other	10,845	11.4
Type	Urban	13,043	13.7
	Suburban	13,610	14.2
	Rural	29,958	31.4

Finally, schools were removed based on the grade levels offered, due to the likelihood that these schools function differently than other schools with more traditional grade ranges, and including them might confound the analysis by school level (one of the major research questions in this study). These schools include: pre-Kindergarten and/or Kindergarten only schools, Kindergarten through 8th grade and Kindergarten through 12th grade schools, elementary and middle combined schools, middle and high combined schools, and schools reporting no grade level data.

Table 4

Schools Removed Due to Atypical Grade Levels

School Type	Number	Percentage of Remaining Sample
Pre-Kindergarten and/or Kindergartens	371	1%
Pre-Kindergarten or Elementary through 12 th grade	397	1.1%
Combined elementary and middle schools	2509	6.9%
Combined middle and high schools	705	1.9%
No grade level reported	14	<0.0%

An additional seven schools were removed because of possible reporting errors in their total number of teachers, and two schools were removed because of possible reporting errors in their number of new teachers. Finally, 41 schools were removed due to missing data on the number of students receiving free and reduced priced lunch. All totaled, 63,779 schools were removed, leaving a total of 31,728 schools in the final dataset with the following characteristics:

Table 5

Schools Included in Analysis

Category	School Type	Number	Percentage of Study Sample
Level	Elementary	18,929	59.6
	Middle	6,272	19.8
	High	6,527	20.6
Typology	Urban	10,920	34.4
	Suburban	14,532	45.8
	Rural	6,276	19.8
Level and Typology	Urban Elementary	6,821	21.5
	Suburban Elementary	8,713	27.5
	Rural Elementary	3,395	10.7
	Urban Middle	2,029	6.4
	Suburban Middle	2,930	9.2
	Rural Middle	1,313	4.1
	Urban High	2,070	6.5
	Suburban High	2,889	9.1
Rural High	1,568	4.9	

Measures

OCR sent principals of schools who serve students in kindergarten through 12th grade end-of-the-school-year surveys that collected information on variables such as student enrollment and discipline, and this information is available disaggregated by race, gender, and disability status. The data are *not* disaggregated by grade level *within* school buildings.

Predictor Variables.

Based on previous research and the data available through the CRDC 2013-14, the following predictor variables were used and are defined as follows:

Table 6

Predictor Variables

Predictor	Operational Definition	Continuous or Categorical	Code	Rationale
Percentage of All Minority Students	This is the percentage of non-White students enrolled at a school, including African American, Hispanic, Asian/ Pacific Islander, Native American, and Multi-Racial students.	Continuous	Numerical Percentage Value	Teachers and administrators may adjust their approach to behavior management and discipline in response to the racial or ethnic make-up of their school. Some studies (e.g., Payne & Welch, 2010; Welch & Payne, 2010) have found that schools with a high percentage of racial minority students have higher rates of punitive discipline.
Percentage of African American Students	This is the percentage students enrolled at a school who are African American.	Continuous	Numerical Percentage Value	
Percentage of Hispanic Students	This is the percentage of students enrolled at a school who are Hispanic.	Continuous	Numerical Percentage Value	
School Level	<p>This was determined based on the following categories: elementary, middle, and high school.</p> <p>Elementary schools include those that offer grade ranges from 6th grade and below.</p> <p>Middle schools include those that offer grade ranges that start at 6th grade or higher and end at 9th grade or lower.</p> <p>High schools include those that offer grade ranges from 9th grade and above.</p>	Categorical	<p>Dummy coded with Elementary School as the reference group;</p> <p>1,0 = Middle School;</p> <p>0,1 = High School</p>	Previous research (Skiba et al., 2011) suggests that grade level affects the likelihood that certain groups will be disproportionately disciplined. For example, Skiba et al. (2011) found that in kindergarten through 9 th grade, African American students were overrepresented in discipline referrals, and Hispanic students were overrepresented in 6 th through 9 th grade. African American students were also less likely to be given alternatives to suspension or expulsion.

Predictor	Operational Definition	Continuous or Categorical	Code	Rationale
School Typology	<p>This was determined based on the schools' NCES Locale Code, which is based on the population of the surrounding community. The twelve possible Locale Codes were aggregated into the following typology groupings: Urban (City, Large; City, Mid-sized; City, Small), Suburban (Suburb, Large; Suburb, Mid-sized; Suburb, Small), Rural (Town, Fringe; Town, Distant; Town, Remote; Rural, Fringe; Rural, Distant; Rural, Remote).</p>	Categorical	<p>Dummy coded with Suburban as the reference group; 1,0 = Urban; 0,1 = Rural.</p>	<p>Previous research (Noltemeyer & Mcloughlin, 2010b) suggests that school typology impacts discipline rates, and that there is an interaction between typology and race when it comes to discipline rates. High rates of disproportional discipline have been found in high poverty urban schools (Noltemeyer & Mcloughlin) and suburban schools (Eitle & Eitle, 2004; Rausch & Skiba, 2006; Wallace et al., 2008).</p>
Percentage of 1 st and 2 nd year teachers	<p>Percentage of teachers within a school with one or two years of teaching experience, including the current year but not including any student teaching or other similar preparation experiences. Experience includes teaching in any school, subject, or grade; it does not have to be in the school, subject, or grade that the teacher is presently teaching.</p>	Continuous	Numerical Percentage Value	<p>Previous studies have indicated that school staff may not have the knowledge and training to work with students with disabilities (Woods, 2004; Williams et al., 2013). More broadly, limited training and experience with students from different backgrounds may make it more difficult for teachers to determine the appropriateness of certain behaviors and whether those behaviors can be adequately managed within the classroom. Classroom experience may explain why experienced teachers are more likely to modify the classroom setting to guide or control student behavior, compared to novice or student teachers (Martin & Shoho, 2000).</p>

Predictor	Operational Definition	Continuous or Categorical	Code	Rationale
Student-Teacher Ratio	Number of certified full-time equivalent teachers per enrolled student	Continuous	Numerical Value, expressed as the number of students per teacher, e.g., 22.5, higher numbers indicate poorer ratio	Although studies have found inconsistent results when investigating school size and discipline rates (Wauchope, 2009; Christle et al., 2004; Christle et al., 2007), these studies looked at overall student population rather than the student-teacher ratio. A smaller student teacher ratio would indicate that teachers have fewer students to manage, and this may decrease discipline referrals, as teachers are able to address less severe discipline problems within the classroom.
Percentage of FARM-eligible students	The percentage of the student body who qualify to receive either free or reduced price lunches due to parental income level.	Continuous	Numerical Percentage Value	Student socioeconomic status (SES) has been associated with discipline outcomes for some student groups (Noltemeyer & Mcloughlin, 2010a; Skiba & Williams, 2014).
Presence of a law enforcement officer	The presence of a sworn law enforcement officer with arrest authority at a school, including school resource officers.	Categorical	0 = No SRO; 1 = SRO present at school	The presence of an SRO may influence administrator’s approach to discipline. For example, Nance (2016) found that the presence of an SRO led to higher numbers of students referred to law enforcement.

Descriptive information for the predictor variables is presented in Table 7, excluding level and typology, which are presented in Table 5. Bivariate correlations between predictors were run, and the results presented in Appendix B.

Previous research (Noltemeyer & Mcloughlin, 2010b; Skiba et al., 2011) suggests that school level (i.e., elementary, middle, and high school) as well as school typology (i.e., urban, suburban, town, rural) may influence the likelihood that certain groups will receive suspensions or expulsions at disproportionate rates.

Teacher behavior management plays an important role in deterring problem behaviors or preventing behaviors from escalating to the point that formal discipline procedures are necessary. Two variables related to a teacher's ability to successfully manage his or her students were included in the analysis: student-teacher ratio and percentage of 1st and 2nd year teachers. More experienced teachers may be better able to manage classroom behaviors and correct misbehavior before it escalates (Martin & Shoho, 2000) and smaller student-teacher ratios may be easier for all teachers to manage. Experience in the classroom may help explain why experienced teachers are more likely to modify the classroom setting to guide or control student behavior, compared to novice or student teachers (Martin & Shoho, 2000). Furthermore, a stable teaching staff is better able to manage problematic behaviors (Ingersoll, 2001). Not only does this stability allow schools to develop a consistent teaching staff, but teachers are able to gain the years of experience needed for highly effective classroom management.

Additional variables, including total student enrollment, the presence of a law enforcement officer/school resource officer, and the percentage of FARM-eligible students, were also included in the analysis to determine if they could account for any

variability in discipline that was not accounted for by the variables of interest. Presence of a law enforcement or school resource officer was coded for either the presence or absence. Sixty-one percent of schools did not report the presence of a law enforcement officer on their campuses.

Table 7

Descriptives of the Predictor Variables

Predictor Variables	Mean	Min	Max
Percent of All Minority Students	54.3%	3%	99%
Percent of African American Students	18%	<1%	96%
Percent of Hispanic Students	25%	1%	97%
Percentage of 1 st and 2 nd Year Teachers	12.26%	0%	100%
Student: Teacher Ratio	16.64:1	2.4:1	158.27:1
Percentage of FARM Eligible Students	53.68%	0%	100%
Presence of Law Enforcement Officers	0.3899	0	1
Total Enrollment	797.06	58	5317

Dependent Variables.

The CRDC data on the disciplinary consequences used in each school served as the basis for the dependent variables for all analyses. Although the CRDC provides two expulsions variables (i.e., expulsion with or without education, services) and two out-of-

school suspension variables (i.e., suspension with or without educational services), for the purposes of this study these variables were grouped together. Previous research using the CRDC database (Williams, 2016) indicated that there were no significant differences between the disproportional use of suspensions with and without services, or expulsions with and without service, but there were significant differences between the disproportional use of expulsions and suspensions. As such, the current study aggregates the two types of expulsions and the two types of out-of-school suspensions, while leaving the broader categories (i.e., expulsions, in-school suspensions, out-of-school suspensions) disaggregated.

The following composite discipline variables were calculated, and are defined in Table 8: **Expulsions** (Expulsions with or without educational services), **In-School Suspensions** (Students receiving one or more in-school suspension), and **Out-of-School Suspensions** (Students receiving one or more out-of-school suspensions). All discipline variables are reported as the total number of students who have received that form of discipline during that school year. While the categories “Students receiving only one out-of-school suspension” and “Students receiving more than one out-of-school suspension” do not overlap and a single student could only be counted under one of those categories, this is not the case with the other categories. For example, a student who received an in-school suspension in the fall semester and an expulsion without educational services in the spring semester would be counted under both “Students receiving one or more in-school suspension” and “Expulsion without educational services”.

The following definitions were provided by the CRDC to the participating school principals.

Table 8

Discipline Variables (from OCR Dataset)

Composite Variable	CRDC Component Variables	Operational Definition ¹
Expulsions	<p>Expulsions without educational services</p> <p>Expulsion with educational services</p>	<p>An action taken by the local educational agency of removing a child from his/her regular school for disciplinary purposes, and not providing educational services to the child for the remainder of the school year or longer in accordance with local educational agency policy. This also includes removals resulting from violations of the Gun Free Schools Act that are modified to less than 365 days. An action taken by the local educational agency of removing a child from his/her regular school for disciplinary purposes, and providing educational services to the child (e.g., school-provided at home instruction or tutoring; transfer to an alternative school or regular school) for the remainder of the school year (or longer) in accordance with local educational agency policy</p>
In-School Suspensions	Students receiving one or more in-school suspension	<p>An in-school suspension is an instance where a child is temporarily removed from his or her regular classroom(s) for at least half a day for disciplinary purposes, but remains under the direct supervision of school personnel. Direct supervision means school personnel are physically in the same location as students under their supervision</p>
Out-of-School Suspensions	<p>Students receiving only one out-of-school suspension</p> <p>Students receiving more than one out-of-school suspension</p>	<p>For students without disabilities: Out-of-school suspension means excluding a student from school for disciplinary reasons for one (1) school day or longer. It does NOT include students who served their suspension in the school.</p> <p>For students with disabilities (served under IDEA): Out-of-school suspension is an instance in which a child is temporarily removed from his/her regular school for at least half a day for disciplinary purposes to another setting (e.g., home, behavior center).</p>

¹ OCR (2017)

Although the CRDC reported the discipline variables as the total number of students who received a disciplinary consequence, the current study instead used the number of students at a given school who did *not* receive that disciplinary consequence, which was calculated by subtracting the total number of suspended or expelled students from the total student body. Therefore, the dependent variables used to answer research questions 2 through 5 are (a) total number of students who did not receive an in-school suspension, (b) total number of students who did not receive an out-of-school suspension, and (c) total number of students who did not receive an expulsion. This study then utilized the total number of students who did not receive disciplinary consequences in order to calculate relative risk ratios, a procedure that is described below.

Data Analysis

An analysis of multicollinearity between the predictors was conducted. For all independent variables for both African American and Hispanic students only the Percentage of New Teachers X Student: Teacher Ratio had VIF values above 10, a structural multicollinearity resulting from the multiplicative construction of the interaction term. For all other independent variables, the VIF values were between 1 and 10, such that multicollinearity was not generally a problem

The relative risk ratio of *not* receiving each type of discipline was calculated for each vulnerable group in comparison to a reference group (White students), based on students' race/ethnicity. The relative risk ratio (Bollmer, Bethel, Garrison-Mogren, & Brauen, 2007) is the ratio between the proportion of people in the group of interest who experience some event (e.g., a disciplinary consequence) and that same proportion in the

reference group. For example:

$$\text{Risk Ratio (Hispanic)} = \frac{\# \text{ of Hispanics expelled} \div \text{Total \# of Hispanics}}{\# \text{ of Whites expelled} \div \text{Total \# of Whites}}.$$

A ratio of 1.0 indicates no relative risk. Ratios greater than 1.0 indicate a higher risk for the group of interest than for the reference group. Ratios less than 1.0 indicate a lower risk relative to the reference group (Bollmer et al., 2007). The risk ratio has been recommended as a method to measure the disproportionate use of discipline practices (Boneshefski & Runge, 2014). This measure has also been used extensively in epidemiological research (Gerstman, 2013), as well as to assess disproportionality of special education identification (Bollmer et al., 2007) and risk factors in child and adolescent development (e.g., Mason, Scott, Chapman, & Tu, 2000).

A relative risk ratio cannot be calculated if the value in the denominator is zero. For the purposes of this study, the comparison group, White students, was the denominator value. Relative risk ratios could not be calculated for any school that did not give any in-school suspensions, out-of-school suspensions, or expulsions to White students. Of the schools used in the current study, 4,724 did not suspend or expel a single White student. In order to remedy this problem, the current study instead used the relative risk of *not* receiving a disciplinary consequence for African American and Hispanic students, with White students serving as the comparison group (reverse risk ratio). For example:

$$\text{Reverse Risk Ratio (Hispanic)} = \frac{\# \text{ of Hispanics NOT expelled} \div \text{Total \# of Hispanics}}{\# \text{ of Whites NOT expelled} \div \text{Total \# of Whites}}.$$

A ratio of 1.0 indicates no relative risk. Ratios *less* than 1.0 may be interpreted as indicating a *higher* relative risk of the group in question (Hispanics, here) receiving harsh discipline (i.e., a *lower* relative risk of *not* receiving harsh discipline). Similarly, ratios

greater than 1.0 may be interpreted as a *lower* relative risk for the group in question compared to Whites.

Because no school suspended or expelled all of its White students, the denominators in the reverse risk ratios were never zero; hence, the reverse relative risk ratios could be calculated for all disciplinary consequences in all schools. To address the highly skewed nature of these variables, the natural logs of the relative risk ratios were then calculated and used as the dependent measures for the analysis (J. Harring, personal correspondence, March 10, 2018).

Research Question 1.

In order to answer Research Question 1 (i.e., how do rates of suspensions and expulsions, as well as the racial disproportions of suspensions and expulsions vary based on school level and typology), the incidence rates of each disciplinary outcome for each student group of interest were calculated.

Research Questions 2 - 5.

In order to answer Research Questions 2 - 5, models were developed and tested hierarchically according to the specifics described below, similarly to the procedures used by Sullivan and Bal's (2013) analysis of disproportionality in special education. Variables suspected, based on other research and theory, of likely accounting for the most variance in disproportionality were included first, followed by those variables suspected of accounting for small proportions of variance. Variables that were not statistically significant in any given model were dropped for further consideration. In this section the analysis plan is described. The actual models resulting from the analysis of the data are presented in Chapter IV Results.

Note: In the equations, below, the dependent variable Y is the Reverse Relative Risk Ratio (index of disproportionality) *either* for African-American vs. Anglo white *or* Latino vs. Anglo white, respectively, *and* refers to use of in-school suspensions, out-of-school suspensions, or expulsions. That is, each of the models were run separately for each of these six dependent variables.

Model 1: Percentage of All Minority Enrollment.

Model 1 investigated whether the percentage of total minority students in a school or the percentage of only the minority group of interest (e.g., either African American or Hispanic students) better account for the variance in the disproportional discipline of racial minority students.

Model 1a: $Y = b_0 + b_1X_1 + e$; where X_1 = the proportion of all racial/ethnic minorities in a school.

Model 1b: $Y = b_0 + b_2X_2 + e$; where X_2 = the proportion of African-American *or* Latinos, respectively, in a school.

Previous research suggests that schools with greater percentages of racial minority students have greater rates of disproportionality. However, it was unclear how percentage of racial minority students should be conceptualized, and if the important factor is the percentage of minority students from any racial group or if its variance is better accounted for when only the percentage of minority students from the group in question are considered.

Model 2: School Level and Typology.

Model 2 included the most predictive variable from Model 1 (percentage of all minorities or percentage of either African-American or Latinos, respectively), and added

school level, school typology, and a variable for the interaction between school level and typology, to determine the amount of variance that is accounted for by these additional variables.

$$\text{Model 2: } Y = b_0 + (b_1X_1 \text{ or } b_2X_2) + b_3X_3 + b_4X_4 + b_5X_5 + b_6X_6 + b_7X_7 + b_8X_3X_5 + e;$$

where X_1 = the proportion of all racial/ethnic minorities in a school, X_2 = the proportion of African-American *or* Latinos, respectively, in a school, X_3 = Middle School, X_4 = High School, X_5 = Urban, X_6 = Rural, X_3X_5 = Middle School X Urban interaction...etc.,.

Previous research has shown that both school level (Skiba et al., 2011) and school typology affect the degree of disproportionality (Eitle & Eitle, 2004; Rausch & Skiba, 2006; Wallace et al., 2008), and that there may be an interaction between typology and race when it comes to discipline rates (Noltemeyer & Mcloughlin, 2010b).

Model 3: Teacher Experience and Student Teacher Ratio.

Model 3 included the statistically significant predictive variables from Model 2, and added teacher experience, student: teacher ratio, and a variable for the interaction between teacher experience and student-teacher ratio, to determine the amount of variance that is accounted for by these additional variables.

$$\text{Model 3: } Y = b_0 + (b_1X_1 \text{ or } b_2X_2) + b_3X_3 + b_4X_4 + b_5X_5 + b_6X_6 + b_7X_7 + b_8X_3X_5 + b_9X_3X_6 + b_{10}X_4X_5 + b_{11}X_4X_6 + b_{12}X_7 + b_{12}X_8 + b_{13}X_9 + e;$$

where X_1 = the proportion of all racial/ethnic minorities in a school, X_2 = the proportion of African-American *or* Latinos, respectively, in a school, X_3 = Middle School, X_4 = High School, X_5 = Urban, X_6 = Rural, X_3X_5 = Middle School X Urban

interaction, X_3X_6 = Middle School X Rural interaction, X_4X_5 = High School X Urban interaction, X_4X_6 = High School X Rural interaction, X_7 = Teacher experience, X_8 = student: teacher ratio, X_9 = Teacher Experience X Student: Teacher Ratio interaction... etc.,.

Previous research suggests that teacher training and experience affect their ability to work with and better manage the behavior of students with diverse needs (Martin & Shoho, 2000; Williams et al., 2013; Woods, 2004). Research on the effect of school size has been mixed (e.g., Christle, 2004; Christle et al., 2007; Wauchope, 2009) but these studies have looked at overall school size and not considered classroom size or the number of students per teacher.

Model 4: SROs, FARM, and School Size.

Model 4 included the statistically significant predictive variables from Model 3, and added the presence of a school resource officer, number of students at the school, and percentage of FARM students, to determine the amount of variance that is accounted for by these additional variables.

$$\begin{aligned} \text{Model 4: } Y = & b_0 + (b_1X_1 \text{ or } b_2X_2) + b_3X_3 + b_4X_4 + b_5X_5 + b_6X_6 + b_7X_7 + b_8X_3X_5 \\ & + b_9X_3X_6 + b_{10}X_4X_5 + b_{11}X_4X_6 + b_{12}X_7 + b_{12}X_8 + b_{13}X_9 + b_{14}X_{10} + b_{15}X_{11} + \\ & b_{16}X_{12} + e; \end{aligned}$$

where X_1 = the proportion of all racial/ethnic minorities in a school, X_2 = the proportion of African-American *or* Latinos, respectively, in a school, X_3 = Middle School, X_4 = High School, X_5 = Urban, X_6 = Rural, X_3X_5 = Middle School X Urban interaction, X_3X_6 = Middle School X Rural interaction, X_4X_5 = High School X Urban interaction, X_4X_6 = High School X Rural interaction, X_7 = Teacher experience, X_8 =

student: teacher ratio, X_9 = Teacher Experience X Student: Teacher Ratio interaction, X_{10} = Presence of SRO, X_{11} = Total Enrollment, X_{12} = Percentage of FARMs students, etc...

Previous research suggests that socioeconomic status (e.g., Skiba & Williams, 2014), the presence of school resource officers (e.g., McKenna, Martinez-Prather, & Bowman, 2016), and overall school size may influence discipline rates. These variables will be included in the final model to determine if they explain any variance that is not accounted for by the variables of interest.

The above analyses were conducted using Mplus (Muthén & Muthén, Version 8, 2017) software with states used as a clustering variable in order to account for the impact of schools being clustered within states. Because many of the blocks in the hierarchical regression were non-nested and changes in R^2 values in non-nested models cannot be tested for statistical significance (J. Harring, October 25, 2018), differences in R^2 s are reported only descriptively.

Chapter IV

Results

Preliminary Analysis

Before performing analyses to address the research questions, correlations between the dependent variables (reverse risk ratios) were calculated to see if any patterns would emerge. Results are reported in Table 9.

Table 9

Correlations among Reverse Relative Risk Ratios

	African American Non-Expulsions	African American Non-Out-of-School Suspensions	African American Non-In-School Suspensions	Hispanic Non-Expulsions	Hispanic Non-Out-of-School Suspensions
African American Non-Expulsions	--				
African American Non-Out-of-School Suspensions	.190**	--			
African American Non-In-School Suspensions	.121**	.404**	--		
Hispanic Non-Expulsions	.289**	.051**	.028**	--	
Hispanic Non-Out-of-School Suspensions	.063**	.299**	.139**	.208**	--
Hispanic Non-In-School Suspensions	.053**	.161**	.339**	.093**	.394**

* $p=.05$, ** $p<.01$,

All of the correlations between the reverse risk ratio variables are statistically significant. However, most of the effect sizes are small. The largest correlation ($r = .404$) is between African American Non-In-School Suspension and African American Non-Out-of-School, suggesting that schools that have greater disproportionate use of in-school suspensions between White and African American students are also likely to have greater disproportionate use of out-of-school suspensions between these same groups of students. Similarly, the above results also suggest that schools with greater disproportionate use of in-school suspensions between Hispanic and White students are also likely to have greater disproportionate use of out-of-school suspensions. There was also a larger, although still modest, correlation between disproportionate use of in-school suspensions for both African American and Hispanic students.

Research Question 1

In order to answer research question 1, which addressed both the rates and the racial disproportions of expulsions and suspensions, the incidence rate at which each racial group received each discipline outcome was calculated. During the 2013-14 school year, expulsions were infrequent for all three racial groups investigated in this study, with less than 1% of each group being expelled on average.

Table 10 presents the mean, standard deviation, minimum, and maximum incidence rates for expulsions of all three groups, while Table 11 presents the corresponding information for out-of-school suspensions and Table 12 for in-school suspensions. These tables also disaggregate the risk by school level and typology. Additional tables are included in the appendices, including a table of incidence rates for the level by typology interaction (Appendix C).

Table 10

Percentage of Students Receiving an Expulsion

African American				Hispanic				White			
Mean	S.D.	Min.	Max	Mean	S.D.	Min.	Max	Mean	S.D.	Min.	Max
Expulsions – All Schools											
0.40	2.32	0.00	80.00	0.19	1.44	0.00	82.00	0.16	1.00	0.00	35.00
Expulsions – Elementary Schools											
0.16	1.62	0.00	68.00	0.06	0.85	0.00	64.00	0.07	0.72	0.00	31.00
Expulsions – Middle Schools											
0.65	2.68	0.00	62.00	0.31	1.54	0.00	50.00	0.26	1.22	0.00	35.00
Expulsions – High Schools											
0.84	3.35	0.00	80.00	0.45	2.37	0.00	82.00	0.34	1.37	0.00	32.00
Expulsions – Urban Schools											
0.41	2.02	0.00	74.00	0.18	1.03	0.00	50.00	0.17	1.05	0.00	32.00
Expulsions – Suburban Schools											
0.36	2.45	0.00	80.00	0.19	1.61	0.00	64.00	0.15	1.00	0.00	35.00
Expulsions – Rural Schools											
0.47	2.48	0.00	68.00	0.20	1.63	0.00	82.00	0.18	0.91	0.00	31.00

Table 11

Percentage of Students Receiving an Out-of-School Suspension

Mean	African American			Hispanic				White			
	S.D.	Min.	Max	Mean	S.D.	Min.	Max	Mean	S.D.	Min.	Max
Out-of-school suspensions – All Schools											
10.40	11.43	0.00	100.00	4.97	6.89	0.00	84.00	4.53	6.23	0.00	81.00
Out of-school suspensions – Elementary Schools											
6.24	7.71	0.00	88.00	2.43	4.10	0.00	64.00	2.99	4.69	0.00	75.00
Out of-school suspensions – Middle Schools											
17.74	13.70	0.00	100.00	9.06	8.43	0.00	75.00	7.38	8.18	0.00	74.00
Out of-school suspensions – High Schools											
15.43	12.44	0.00	96.00	8.39	8.21	0.00	84.00	6.27	6.55	0.00	81.00
Out of-school suspensions – Urban Schools											
11.28	12.23	0.00	100.00	5.33	7.20	0.00	79.00	5.39	7.51	0.00	81.00
Out of-school suspensions – Suburban Schools											
9.33	10.60	0.00	95.00	4.48	6.27	0.00	74.00	3.79	5.19	0.00	63.00
Out of-school suspensions – Rural Schools											
11.34	11.62	0.00	91.00	5.44	7.63	0.00	84.00	4.76	5.77	0.00	73.00

Table 12

Percentage of Students Receiving an In-School Suspension

Mean	African American			Hispanic				White			
	S.D.	Min.	Max	Mean	S.D.	Min.	Max	Mean	S.D.	Min.	Max
In-school suspensions – All Schools											
9.70	13.56	0.00	100.00	5.16	8.48	0.00	88.00	4.44	7.12	0.00	97.00
In-school suspensions – Elementary Schools											
4.54	7.74	0.00	89.00	1.79	3.75	0.00	45.00	2.12	4.14	0.00	65.00
In-school suspensions – Middle Schools											
19.13	16.69	0.00	100.00	10.37	10.27	0.00	74.00	8.33	9.03	0.00	97.00
In-school suspensions – High Schools											
15.58	15.97	0.00	99.00	9.92	11.21	0.00	88.00	7.45	8.90	0.00	88.00
In-school suspensions – Urban Schools											
9.01	13.16	0.00	99.00	4.70	8.18	0.00	88.00	4.24	7.18	0.00	74.00
In-school suspensions – Suburban Schools											
8.38	12.28	0.00	93.00	4.53	7.71	0.00	73.00	3.65	6.19	0.00	65.00
In-school suspensions – Rural Schools											
13.94	16.01	0.00	100.00	7.42	10.14	0.00	76.00	6.63	8.48	0.00	97.00

These descriptive results suggest a few patterns across racial groups. For all groups at all levels of school and all typological environments, expulsions were the least common form of disciplinary consequence during the 2013-14 school year. On average, schools suspended and expelled a lower percentage of White students than Hispanic students who were suspended and expelled at a lower percentage than African American students. These results generally are consistent with previous research on African American student discipline (Bowman-Perrott et al., 2011; Eitle & Eitle, 2004; Gregory & Weinstein, 2008; Hinojosa, 2008). The results also give further support to previous studies on Hispanic student discipline that found that they are at greater risk than White students (Finn & Servoss, 2014; Rausch & Skiba, 2004), but these results are not consistent with those studies that found no difference in discipline between Hispanic and White students (Cooley, 1995; Krezmien et al., 2006). Krezmien and colleagues' study focused on schools in Maryland only, and acknowledged that although Hispanic students had low odds of being suspended in their study, the strength of this finding was limited. The study by Cooley was also conducted using data from Maryland schools, so it may be that Hispanic students are at less risk in Maryland, or other states, but overall across the country are at greater risk compared to White students.

In the current study, descriptively a greater percentage, at least to some degree, of Hispanic students received all forms of discipline and all typologies, with the exception of out-of-school suspensions in urban schools, compared to White students. White students received all three forms of discipline compared to Hispanic students in elementary school. However, in middle and high school, a greater percentage of Hispanic students received all three forms of discipline. Skiba et al. (2011) found that Hispanic

students were at reduced risk for office referrals in elementary school, with that risk increasing significantly in latter grades. It may be that in elementary schools, Hispanic students are at less risk for being disciplined than White students, but at greater risk in secondary schools as they are referred for discipline more often.

Elementary schools had the lowest percentages of exclusionary discipline while middle schools, on average, had higher percentages of in-school suspensions and high schools had higher rates of out-of-school suspensions. Suburban schools had lower percentages of exclusionary discipline than urban and rural schools. This is consistent with previous research on disproportional discipline at different school levels, which suggests that disproportionality increases from elementary school to secondary schools (Rausch & Skiba, 2006; Wallace et al., 2008). However, the results are inconsistent with the limited number of studies on school typology and discipline, which found that although urban school districts suspend the highest number of students (Noltemeyer & Mcloughlin, 2010b), disproportional discipline is greatest in suburban school districts (Eitle & Eitle, 2004; Rausch & Skiba, 2006). Eitle and Eitle's study used data from Florida schools, while Rausch and Skiba's study used data on Indiana schools. Although there may be states where suburban school districts have greater rates of disproportionality compared to urban or rural schools, the current study suggests that at the national level on average suburban school districts are less likely to use discipline at disproportionate rates.

For each disciplinary consequence, there was at least one outlier school at each grade level, in each typological environment, and for each racial group that had suspended or expelled a significantly higher than average percentage of students. For

example, although on average, elementary schools used out-of-school suspensions to discipline 6.2% of their African American students, there was at least one elementary school that used out-of-school suspensions with 88% of its African American students. Of particular interest are the extremely high maximum rates of expulsions and their disparities between racial groups. The average rates of expulsions for all three racial/ethnic groups are low (less than 1%) and there appears to be less of a disparity in the use of expulsions between these groups than there are between the use of in- and out-of-school suspensions. However, the maximum percentage of expelled White students all fall between 30% and 35%, while the maximum percentage of expelled African American fall between 62% and 80% and of expelled Hispanic students fall between 50% and 82%. These descriptive results for Research Question 1 will be discussed further in Chapter V, including with reference to other existing research literature.

Research Questions 2 through 5

Ordinary least squares regression was used to test the degree to which the independent variables predicted the risk to both African American and Hispanic students of *not* receiving either an expulsion, an in-school suspension, or an out-of-school suspension. Hierarchical regression was used to assess the changes across the blocks corresponding to each of the research questions. Standard errors of the regression coefficients were adjusted (see Chapter III) in order to account for nesting of schools within states.

The following results present both the standardized and unstandardized betas for each predictor variable as well as the *p*-values for the unstandardized beta coefficients. At

each block of analysis, variables were retained in the model if they were significant at the $p=.05$ level. This criteria was also used to determine overall model significance.

These results are for the reverse risk ratios (e.g., risk of *not* receiving an expulsion), but can be interpreted to understand the risk for African American and Hispanic students of receiving a disciplinary consequence. For each variable, a general interpretation of the unstandardized betas can be applied. Variables with a positive unstandardized beta demonstrate a lower relative risk to that racial group of receiving that discipline consequence, and therefore less disproportionality between the two racial groups. Variables with a negative unstandardized beta demonstrate a higher relative risk to that racial group of receiving that disciplinary consequence, and therefore greater disproportionality. Subsequent explanations and interpretations of the reverse risk ratios will refer to the risk of receiving a disciplinary consequence. Descriptive information on the reverse risk ratio is presented in Appendix D.

African American Expulsions.

Summaries of the regressions for each block are reported in Table 12; data on regression coefficients are reported in Table 13. In the first block (Research Question 2: Percentage of Minority Students), which intended to investigate which minority population variable was the best variable to include in the model, Percent All Minorities and Percent African American students (when both included in the regression) predicted less than 1/10th of 1% of the variance in the non-expulsion risk ratios. The R^2 was not statistically significant. Because neither Percent African American Students ($p = .796$) nor Percent All Minorities ($p = .407$) were statistically significant, they were both excluded from subsequent blocks.

Block 2 (Research Question 3: Level and Typology) accounted for 8/10th of 1% of the variance in the non-expulsions risk ratio. This block included the Level, Typology, and Level X Typology interaction variables. Within this block, Middle ($\beta = -0.039$, $b = -.002$, $p < .001$) and High ($\beta = -0.084$, $b = -.005$, $p = .002$) were found to be significant predictors, indicating that by comparison to elementary schools, middle and high schools' use of expulsions was less non-disproportional for African Americans vs. Whites (or, conversely, were more disproportional). Descriptively, the high school vs. elementary school effect (as indicated by both the standardized and unstandardized betas) was about twice as large as the effect for middle school vs. elementary school. However, the Middle x Urban interaction effect ($\beta = -0.021$, $b = -.002$, $p = .037$) was also significant, though descriptively smaller (standardized betas) than the effects of level, suggesting that relative racial effect of school level on disproportionate use of expulsions may not be the same in urban vs. suburban schools.

Block 3 (Research Question 4: Teacher Variables) continued to account for 8/10th of 1% of the variance, no change from Block 2. This block included Middle, High, and Middle X Urban, as well as Percent New Teachers, Student: Teacher Ratio, and the interaction between Percent New Teachers and Student: Teacher Ratio. The effect on disproportionate use of expulsions of being a Middle ($\beta = -0.047$, $b = -.003$, $p < .001$) or High ($\beta = -0.081$, $b = -.005$; $p < .001$) school remained significant, with descriptively little change in effect size from the previous block. However, the Middle X Urban interaction effect ($\beta = -0.015$, $b = -.001$, $p = .192$) was no longer statistically significant. Neither the Percent New Teachers ($\beta = -0.023$, $b = -.005$, $p = .241$) nor the Student: Teacher Ratio ($\beta = -0.012$, $b < .001$, $p = .263$) were significant, but their interaction (PNT X STR) was ($\beta =$

.028; $b < .001$, $p = .044$), though it was very small. The apparent reduction in the Middle X Urban interaction effect from the previous block, to the point of non-significance, suggests that the interaction effect found in Block 3 may be associated with factors related to the interplay of the proportion of new teachers and the student teacher ratio (PNT X STR) variable that was not included in Block 3. However, the PNT X STR interaction was rather small, making it difficult to interpret.

Block 4 (Research Question 5: Enrollment, Percent FARMS, SRO Presence) accounted for 9/10ths of 1% of the variance in the non-expulsion risk ratios, descriptively a very small change. This block included Middle, High, Percent New Teachers X Student: Teacher Ratio, as well as Total Enrollment, Percent FARMS, and SRO Presence. Middle ($\beta = -0.059$, $b = -0.004$, $p < .001$), High ($\beta = -0.095$, $b = -0.006$, $p < .001$) and Percent FARMS ($\beta = -0.035$, $b = -0.003$, $p = .032$) were significant variables at this point. Descriptively, the previously small PNT X STR interaction decreased to the point that it was no longer statistically significant ($\beta = 0.009$, $b < .000$, $p = .439$).

The results of Block 4 suggest that disparities between African American and White student expulsions increase when they are in middle school versus elementary school, or in high school versus elementary school. The percentage of students who receive Free And Reduced-Price Meals (FARMS) also appears to have an impact on expulsion disparities, with greater disparities in schools that have a high percentage of students who qualify for FARMS.

Details on the regression analysis for African American students' risk of not receiving an expulsion are presented in Table 13.

Table 13

Regression Summary Table: African American Non-Expulsions

	R^2	ΔR^2	z	p
Block 1a (Research Question 2) Percent Minority Students Variables: Percent All Minorities, Percent African Americans	<0.001	--	0.687	.492
Block 2 (Research Question 3) Level and Typology Variables: Middle, High, Urban, Rural, Middle x Urban, Middle x Rural, High x Urban, High x Rural	0.008	0.008	4.753**	.000***
Block 3 (Research Question 4) Teacher Experience and Student: Teacher Ratio Variables: Middle, High, Middle x Urban, Percent New Teachers (PNT), Student: Teacher Ratio (STR), PNT x STR	0.008	0.000	5.098**	.000***
Block 4 (Research Question 5) Enrollment, Percent FARMs, and SRO Presence Variables: Middle, High, Total Enrollment, Percent FARMs, SRO Presence	0.009	0.001	4.648**	.000***

* $p < .05$, ** $p < .01$, *** $p < .001$

Table 14

Regression Analysis: African American Non-Expulsions

	β	<i>b</i>	S.E.	<i>P</i>
Block 1 (Research Question 2) Percent Minority Students				
Percent All Minorities	0.020	0.002	0.002	.407
Percent African Americans	0.003	0.000	0.002	.796
Block 2 (Research Question 3) School Level and Typology				
Middle	-0.039	-0.002	0.001	.000***
High	-0.084	-0.005	0.002	.002**
Urban	0.002	0.000	0.001	.880
Rural	-0.005	0.000	0.000	.391
Middle x Urban	-0.021	-0.002	0.001	.037*
Middle x Rural	-0.011	-0.001	0.001	.199
High x Urban	0.005	0.000	0.001	.716
High x Rural	0.003	0.000	0.001	.785
Block 3 (Research Question 4) Teacher Experience and Student-Teacher Ratio				
Middle	-0.047	-0.003	0.001	.000***
High	-0.081	-0.005	0.001	.000***
Middle x Urban	-0.015	-0.001	0.001	.192
Percent New Teachers (PNT)	-0.023	-0.005	0.004	.241
Student: Teacher Ratio (STR)	-0.012	0.000	0.000	.263
PNT x STR	0.028	0.000	0.000	.044
Block 4 (Research Question 5) Enrollment, Percent FARMs, and SRO Presence				
Middle	-0.059	-0.004	0.001	.000***
High	-0.095	-0.006	0.001	.000***
PNT x STR	0.009	0.000	0.000	.439
Enrollment	0.017	0.000	0.000	.263
Percent FARMs	-0.035	-0.003	0.002	.032*
SRO Presence	-0.008	0.000	0.001	.634

* $p=.05$, ** $p<.01$, *** $p<.001$

African American Out-of-School Suspensions.

In Block 1 (Research Question 2: Percentage of Minority Students), neither Percent All Minorities nor Percent African American students predicted more than 1/10th of 1% of the variance in the non-out-of-school suspension risk ratios for African American students, a non-significant amount ($p = .373$). Both Percent African American students ($\beta = -.011$, $b = -3.488$, $p = .341$) and Percent All Minorities ($\beta = .014$, $b = 2.996$, $p = .342$) were excluded from subsequent analysis due to non-significance.

Within Block 2 (Research Question 3: Level and Typology), Middle ($\beta = -0.001$, $b = -0.087$, $p < .001$), High ($\beta = -0.001$, $b = -0.081$, $p < .001$), Urban ($\beta = 0.000$, $b = -0.006$, $p = .043$), and Rural ($\beta = 0.000$, $b = -0.010$, $p < .001$) were significant, and retained in the model. Although these variables were significantly different from zero, the amount of variance that they accounted for (i.e., less than 1/10th of 1%) was not significantly different from zero ($p = .353$)

Block 3 (Research Question 4: Teacher Variables) also accounted for less than 1/10th of 1% of the variance in the non-out-of-school suspensions risk ratios, a non-significant amount of variance ($p = .358$). This block included Middle, High, Urban, and Rural, as well as Percent New Teachers, Student: Teacher Ratio, and Percent New Teachers x Student: Teacher Ratio. Within this block, no variable was significant. Therefore, no variables were retained in the model.

Block 4 (Research Question 5: Research Question 5: Enrollment, Percent FARMS, SRO Presence) resulted in an R^2 value of less than 1/10th of 1% of the variance in the non-out-of-school suspensions risk ratios, a non-significant amount of variance ($p = .319$). This block included Total Enrollment, Percent FARMS, and SRO Presence. No

variables were significant within this block, indicating that none of these variables could explain any of the variance in disparities between the risk to African American students and White students in receiving an out-of-school suspension.

None of the models predicted a significant amount of variance in terms of African American non-out-of-school suspension risk. Although in Block 2, there were four variables with significant unstandardized betas, the effect sizes were very small. Details on the regression analysis for African American students' risk of not receiving an out-of-school suspension are presented in below.

Table 15

Regression Summary Table: African American Non-Out-of-School Suspensions

	R^2	ΔR^2	z	p
Block 1 (Research Question 2) Percent Minority Students Variables: Percent All Minorities, Percent African Americans	<0.001	--	0.890	.373
Block 2 (Research Question 3) Level and Typology Variables: Middle, High, Urban, Rural, Middle Urban, Middle Rural, High Urban, High Rural	<0.001	0.000	0.930	.353
Block 3 (Research Question 4) Teacher Experience and Student: Teacher Ratio Variables: Middle, High, Urban, Rural, Percent New Teachers (PNT), Student: Teacher Ratio (STR), PNT x STR	<0.001	0.000	0.919	.358
Block 4 (Research Question 5) Enrollment, Percent FARMS, and SRO Presence Variables: Total Enrollment, Percent FARMS, SRO Presence	<0.001	0.000	0.997	.319

* $p < .05$, ** $p < .01$, *** $p < .001$

Table 16

Regression Analysis: African American Non-Out-of-School Suspensions

	β	<i>b</i>	S.E	<i>p</i>
Block 1 (Research Question 2) Percent Minority Students				
Percent All Minorities	0.014	2.996	3.152	.342
Percent African Americans	-0.011	-3.488	3.667	.341
Block 2 (Research Question 3) School Level and Typology				
Middle	-0.001	-0.087	0.005	.000***
High	-0.001	-0.081	0.006	.000***
Urban	0.000	-0.006	0.003	.043
Rural	0.000	-0.010	0.002	.000***
Middle x Urban	0.021	4.906	5.090	.335
Middle x Rural	0.000	-0.002	0.006	.723
High x Urban	0.000	0.009	0.008	.257
High x Rural	0.000	0.005	0.005	.385
Block 3 (Research Question 4) Teacher Experience and Student-Teacher Ratio				
Middle	0.011	1.545	1.687	.360
High	0.000	0.039	0.124	.753
Urban	0.008	0.934	0.974	.337
Rural	-0.001	-0.085	0.084	.313
Percent New Teachers (PNT)	0.004	1.711	2.269	.451
Student: Teacher Ratio (STR)	-0.004	-0.054	0.056	.341
PNT x STR	-0.003	-0.063	0.091	.488
Block 4 (Research Question 5) Enrollment, Percent FARMs, and SRO Presence				
Total Enrollment	0.000	0.000	-0.534	.593
Percent FARMs	0.006	1.367	1.442	.343
SRO Presence	-0.005	-0.530	0.518	.306

* $p=.05$, ** $p<.01$, *** $p<.001$

African American In-School Suspensions.

Analysis of Block 1 (Research Question 2: Percentage of Minority Students), resulted in an R^2 value of less than 1/10th of 1% of the variance in African American non-in-school suspension risk ratios, a non-significant amount of variance ($p = .348$). Neither

Percent All Minorities ($\beta = -0.008$, $b = -1.819$, $p = .341$) nor Percent African Americans ($\beta = 0.001$, $b = 0.173$, $p = .530$) were significant predictors; both were removed due to non-significance.

Analysis of Block 2 (Research Question 3: Level and Typology) resulted in an R^2 value of 1/10th of 1% of the variance in the in-school suspension risk ratios for African American students, a non-significant amount of variance ($p = .355$). This block included the Level, Typology, and interaction variables. Within this block, Middle ($\beta = -0.001$, $b = -0.107$, $p < .001$), High ($\beta = -0.001$, $b = -0.077$, $p < .001$), Rural ($\beta = 0.000$, $b = -0.021$, $p < .000$), and High x Rural ($\beta = 0.000$, $b = -0.021$, $p = .002$) were significant and retained in the model. Although these variables were all significantly different from zero, they did not account in total for a significant amount of variance in the dependent variable.

Block 3 (Research Question 4: Teacher Variables) had an R^2 value of less than 1/10th of 1% of the variance in African American non-in-school suspension risk ratios, a non-significant amount of variance. Descriptively, the R^2 value of Block 3 was less than the R^2 value of Block 2, suggesting that there is an unknown interaction between the variables retained from Block 2 and variables added in Block 3 that accounts for the any effects seen from the Block 2 variables. No variables were significant within this block and thus all were excluded from the final block.

Analysis of Block 4 (Research Question 5: Enrollment, Percent FARMS, SRO Presence) resulted in an R^2 value of less than 1/10th of 1% of the variance in African American non-in-school suspension risk ratios, a non-significant amount of variance. This block included Total Enrollment, Percent FARMS, and SRO Presence. No variables were significant within this block indicating that none of these variables could explain

any of the variance in disparities between the risk to African American students and White students in receiving an in-school suspension.

None of the models predicted a significant amount of variance in terms of African American non-in-school suspension risk. Although in Block 2, there were four variables with significant unstandardized betas, the effect sizes were very small. Details on the regression analysis for African American students' risk of not receiving an in-school suspension are presented in Table 17 below.

Table 17

Regression Summary Table: African American Non-In-School Suspensions

	R^2	ΔR^2	z	p
Block 1 (Research Question 2) Percent Minority Students Variables: Percent All Minorities, Percent African Americans	<0.001	--	0.938	.348
Block 2 (Research Question 3) Level and Typology Variables: Middle, High, Urban, Rural, Middle Urban, Middle x Rural, High x Urban, High x Rural	0.001	0.001	0.925	.355
Block 3 (Research Question 4) Teacher Experience and Student: Teacher Ratio Variables: Middle, High, Rural, High x Rural, Percent New Teachers (PNT), Student: Teacher Ratio (STR), PNT x STR	<0.001	-0.001	0.927	.354
Block 4 (Research Question 5) Enrollment, Percent FARMs, and SRO Presence Variables: Total Enrollment, Percent FARMs, SRO Presence	<0.001	0.000	0.950	.342

* $p<.05$, ** $p<.01$, *** $p<.001$

Table 18

Regression Analysis: African American Non-In-School Suspensions

	β	<i>b</i>	S.E	<i>p</i>
Block 1 (Research Question 2) Percent Minority Students				
Percent All Minorities	-0.008	-1.819	1.912	.341
Percent African Americans	0.001	0.173	.275	.530
Block 2 (Research Question 3) School Level and Typology				
Middle	-0.001	-0.107	0.009	.000***
High	-0.001	-0.077	0.008	.000***
Urban	0.000	-0.005	0.002	.064
Rural	0.000	-0.021	0.006	.000***
Middle x Urban	0.000	-0.010	0.010	.345
Middle x Rural	0.027	7.581	7.778	.330
High x Urban	0.000	0.009	0.007	.212
High x Rural	0.000	-0.021	0.007	.002**
Block 3 (Research Question 4) Teacher Experience and Student-Teacher Ratio				
Middle	0.010	1.432	1.586	.367
High	0.003	0.420	0.512	.412
Rural	0.014	1.979	2.037	.331
High x Rural	-0.008	-2.158	2.180	.322
Percent New Teachers (PNT)	0.008	3.947	4.442	.374
Student: Teacher Ratio (STR)	-0.005	-0.061	0.074	.412
PNT x STR	-0.007	-0.179	0.207	.386
Block 4 (Research Question 5) Enrollment, Percent FARMs, and SRO Presence				
Total Enrollment	-0.009	-0.001	0.001	.320
Percent FARMs	0.004	0.872	0.915	.340
SRO Presence	0.010	1.134	1.204	.346

* $p < .05$, ** $p < .01$, *** $p < .001$

Hispanic Expulsions.

In Block 1 (Research Question 2: Percentage of Minorities), Percent All Minorities and Percent Hispanics explained 2/10th of 1% of the variance in Hispanic non-

expulsions risk ratios, a significant amount of variance ($p < .001$). Percent All Minorities ($\beta = 0.033$, $b = 0.002$, $p < .001$) was significant and retained in the model for non-expulsions risk ratios for Hispanic students, while Percent Hispanic ($\beta = 0.013$, $b = 0.001$, $p = .243$) was excluded due to non-significance.

Block 2 (Research Question 3: Level and Typology) accounted 3/10th of a percent of the variance in the non-expulsions risk ratios for Hispanic students, a significant amount of variance and descriptively a small increase of 0.001 from Block 1. In addition to Percent All Minorities, this block included Level, Typology, and interaction variables. Within this block, Percent All Minorities ($\beta = 0.040$, $b = 0.002$, $p < .001$), and Rural ($\beta = 0.013$, $b = 0.001$, $p = .002$) were significant and retained in the model. All other variables were removed.

Block 3 (Research Question 4: Teacher Variables) accounted for 2/10th of a percent of the variance, meaning that with this addition of the new variables, Percent New Teachers, Student: Teacher Ratio, and Percent New Teachers x Student: Teacher Ratio, descriptively the Block 3 model accounted for less variance than the Block 2 model. There may be an unknown interaction effect between Rural and the new variables added, such that the previously seen effect of Rural may now be accounted for, in part, by the additional variables. Only Percent All Minorities ($\beta = 0.043$, $b = 0.003$, $p = .001$) was significant within this block and retained.

Block 4 (Research Question 5: Enrollment, Percent FARMS, SRO Presence) accounted for 2/10th of a percent of the variance, and there was no additional variance accounted for by the new variables, Total Enrollment, Percent FARMS, and SRO

Presence. Only Percent All Minorities ($\beta = 0.041, b = 0.003, p = .011$) was significant within this block.

Although Rural was a significant variable in Block 2, it was no longer a significant predictor as variables were added to later models. Percent Minority Students was a significant variable within all analysis blocks. At every level of analysis and regardless of what additional variables were added, schools that had a higher percentage of minority students also had a greater disparity between Hispanic and White students' risk of receiving an expulsion. Details on the regression analysis for Hispanic students' risk of not receiving an expulsion are presented in below.

Table 19

Regression Summary Table: Hispanic Non-Expulsions

	<i>R</i> ²	ΔR^2	<i>z</i>	<i>p</i>
Block 1 (Research Question 2) Percent Minority Students Variables: Percent All Minorities, Percent Hispanics	0.002	--	4.607	.000
Block 2 (Research Question 3) Level and Typology Variables: Percent All Minority Students, Middle, High, Urban, Rural, Middle x Urban, Middle x Rural, High x Urban, High x Rural	0.003	0.001	5.315	.000
Block 3 (Research Question 4) Teacher Experience and Student: Teacher Ratio Variables: Percent All Minorities, Rural, Percent New Teachers (PNT), Student: Teacher Ratio (STR), PNT x STR	0.002	-0.001	3.040	.002
Block 4 (Research Question 5) Enrollment, Percent FARMs, and SRO Presence Variables: Percent All Minorities, Total Enrollment, Percent FARMs, SRO Presence	0.002	0.000	4.664	.000

* $p < .05$, ** $p < .01$, *** $p < .001$

Table 20

Regression Analysis: Hispanic Non-Expulsions

	β	<i>b</i>	S.E	<i>p</i>
Block 1 (Research Question 2) Percent Minority Students				
Percent All Minorities	0.033	0.002	0.001	.000***
Percent Hispanics	0.013	0.001	0.001	.243
Block 2 (Research Question 3) School Level and Typology				
Percent All Minorities	0.040	0.002	0.001	.000***
Middle	-0.004	0.000	0.000	.613
High	-0.043	-0.002	0.001	.109
Urban	0.004	0.000	0.000	.461
Rural	0.013	0.001	0.000	.002**
Middle x Urban	-0.012	-0.001	0.001	.136
Middle x Rural	-0.006	0.000	0.000	.175
High x Urban	0.013	0.001	0.001	.496
High x Rural	0.004	0.000	0.001	.593
Block 3 (Research Question 4) Teacher Experience and Student-Teacher Ratio				
Percent All Minorities	0.043	0.003	0.001	.001**
Rural	0.009	0.000	0.000	.115
Percent New Teachers (PNT)	0.034	0.004	0.005	.330
Student: Teacher Ratio (STR)	0.002	0.000	0.000	.745
PNT x STR	-0.028	0.000	0.000	.394
Block 4 (Research Question 5) Enrollment, Percent FARMs, and SRO Presence				
Percent All Minorities	0.041	0.003	0.001	.011*
Total Enrollment	-0.019	0.000	0.000	.062
Percent FARMs	0.001	0.000	0.001	.880
SRO Presence	-0.002	0.000	0.000	.682

* $p=.05$, ** $p<.01$, *** $p<.001$

Hispanic Out-of-School Suspensions.

In Block 1 (Research Question 2: Percentage of Minorities), Percent All

Minorities and Percent Hispanics predicted 6.4 percent of the variance in Hispanic non-

out-of-school suspension risk ratios, a significant amount of variance. Both Percent All Minorities ($\beta = 0.167$, $b = 0.048$, $p < .001$) and Percent Hispanic ($\beta = 0.106$, $b = 0.035$, $p < .001$) were retained in the model.

Block 2 (Research Question 3: Level and Typology) accounted for 9.0% variance in the non-out-of-school suspension risk ratios for Hispanic students, a significant amount of variance and descriptively an increase of 0.026 from Block 1. In addition to the Percent All Minorities and Percent Hispanic Students, this block included the Level, Typology, and interaction variables. Within this block, Percent All Minorities ($\beta = 0.158$, $b = 0.046$, $p < .001$), Percent Hispanic ($\beta = 0.106$, $b = 0.035$, $p < .001$), Middle ($\beta = -0.108$, $b = -0.020$, $p < .001$), High ($\beta = -0.147$, $b = -0.027$, $p < .001$), and Rural ($\beta = 0.035$, $b = 0.007$, $p < .001$) were significant and retained in the model. All other variables were removed.

Block 3 (Research Question 4: Teacher Variables) accounted for 9.1% of the variance in non-out-of-school suspension risk ratios, descriptively a significant amount of variance and descriptively an increase 1/10 of a percent with additional variables, Percent New Teachers, Student: Teacher Ratio, and Percent New Teachers x Student: Teacher Ratio. Within this block, Percent All Minorities ($\beta = 0.100$, $b = 0.045$, $p < .001$), Percent Hispanic ($\beta = 0.155$, $b = 0.033$, $p < .001$), Middle ($\beta = -0.118$, $b = -0.022$, $p < .001$), High ($\beta = -0.146$, $b = -0.027$, $p < .001$), Rural ($\beta = 0.039$, $b = 0.007$, $p < .001$), and Student: Teacher Ratio ($\beta = 0.027$, $b = 0.000$, $p = .048$) were significant and retained in the model.

Block 4 (Research Question 5: Enrollment, Percent FARMS, SRO Presence) accounted for 9.2% of the variance, with descriptively an additional 1/10th of a percent of

variance accounted for by the new variables, Total Enrollment, Percent FARMS, and SRO Presence. This was a significant amount of variance. Within this final model, Percent All Minorities ($\beta = 0.133$, $b = 0.039$, $p < .001$), Percent Hispanic ($\beta = 0.098$, $b = 0.032$, $p < .001$), Middle ($\beta = -.112$, $b = -0.021$, $p < .001$), High ($\beta = -.132$, $b = -0.024$, $p < .001$), Rural ($\beta = 0.030$, $b = 0.006$, $p = .007$), Student: Teacher Ratio ($\beta = 0.030$, $b = 0.001$, $p < .001$), and Percent FARMs ($\beta = 0.042$, $b = 0.012$, $p = .031$) were significant.

The greater the percentage of Hispanic students as well as the percentage of minority students overall in a school, the less of a disparity between Hispanic and White students' risk of receiving an out-of-school suspension at that school. This suggests that Hispanic students are given out-of-school suspensions at higher rates in schools with less racial/ethnic minority students and in schools with smaller percentages of Hispanic students. The disparity between Hispanic and White students' non-out-of-school suspensions risk increases when they are in middle schools or high schools, suggesting there are greater disparities between Hispanic and White students' out-of-school suspension rates at middle schools compared to elementary schools, and high schools compared to elementary schools. This disparity decreases when students are in rural schools, suggesting that there are greater disparities in suburban schools compared to rural schools. The student-teacher ratio and the percentage of FARM-eligible students at a school are also associated with lower suspension disparities, with schools that have a higher student-teacher ratio or greater percentage of FARM-eligible students having lower relative risk of receiving an out-of-school suspension between Hispanic and White students.

Details on the regression analysis for Hispanic students' risk of not receiving an out-of-school school suspension are presented in below.

Table 21

Regression Summary Table: Hispanic Non-Out-of-School Suspensions

	R^2	ΔR^2	z	p
Block 1 (Research Question 2) Percent Minority Students Variables: Percent All Minorities, Percent Hispanics	0.064	--	7.120	.000
Block 2 (Research Question 3) Level and Typology Variables: Percent All Minorities, Percent Hispanics, Middle, High, Urban, Rural, Middle Urban, Middle Rural, High Urban, High Rural	0.090	0.026	10.634	.000
Block 3 (Research Question 4) Teacher Experience and Student: Teacher Ratio Variables: Percent All Minorities, Percent Hispanics, Middle, High, Rural, Percent New Teachers (PNT), Student: Teacher Ratio (STR), PNT x STR	0.091	0.001	10.588	.000
Block 4 (Research Question 5) Enrollment, Percent FARMs, and SRO Presence Variables: Percent All Minorities, Percent Hispanics, Middle, High, Rural, Student: Teacher Ratio, Total Enrollment, Percent FARMs, SRO Presence	0.092	0.001	10.684	.000

* $p=.05$, ** $p<.01$, *** $p<.001$

Table 22

Regression Analysis: Hispanic Non-Out-of-School Suspensions

	β	<i>b</i>	S.E	<i>p</i>
Block 1 (Research Question 2) Percent Minority Students				
Percent All Minorities	0.167	0.048	0.006	.000***
Percent Hispanics	0.106	0.035	0.006	.000***
Block 2 (Research Question 3) School Level and Typology				
Percent All Minorities	0.158	0.046	0.006	.000***
Percent Hispanic	0.106	0.035	0.006	.000***
Middle	-0.108	-0.020	0.003	.000***
High	-0.147	-0.027	0.003	.000***
Urban	0.002	0.000	0.001	.806
Rural	0.035	0.007	0.002	.000***
Middle x Urban	-0.015	-0.004	0.004	.214
Middle x Rural	-0.003	-0.001	0.005	.840
High x Urban	0.002	0.001	0.003	.837
High x Rural	0.006	0.002	0.004	.570
Block 3 (Research Question 4) Teacher Experience and Student-Teacher Ratio				
Percent All Minorities	0.100	0.045	0.006	.000***
Percent Hispanics	0.155	0.033	0.006	.000***
Middle	-0.118	-0.022	0.003	.000***
High	-0.146	-0.027	0.003	.000***
Rural	0.039	0.007	0.002	.000***
Percent New Teachers (PNT)	0.029	0.018	0.023	.422
Student: Teacher Ratio (STR)	0.027	0.000	0.000	.048*
PNT x STR	-0.011	0.000	0.001	.741
Block 4 (Research Question 5) Enrollment, Percent FARMs, and SRO Presence				
Percent All Minorities	0.133	0.039	0.006	.000***
Percent Hispanics	0.098	0.032	0.005	.000***
Middle	-0.112	-0.021	0.003	.000***
High	-0.132	-0.024	0.003	.000***
Rural	0.030	0.006	0.002	.007**
Student: Teacher Ratio	0.030	0.001	0.000	.001**
Total Enrollment	-0.014	0.000	0.000	.222
Percent FARMs	0.042	0.012	0.006	.031*
SRO Presence	-0.003	0.000	0.002	.799

* $p=.05$, ** $p<.01$, *** $p<.001$

Hispanic In-School Suspensions.

In Block 1 (Research Question 2: Percentage of Minority Students) Percent All Minorities and Percent Hispanics predicted 2% of a percent of the variance in non-in-school suspensions for Hispanic students, a significant amount of variance. Both Percent All Minorities ($\beta = 0.115$, $b = 0.030$, $p < .001$) and Percent Hispanic ($\beta = 0.036$, $b = 0.011$, $p = .002$) were retained in the model.

Block 2 (Research Question 3: Level and Typology) accounted for 6.5% variance in the non-out-of-school suspension risk ratios for Hispanic students, a significant amount of variance. The additional Level, Typology, and interaction variables descriptively accounted for an additional 4.5% of the variance. Within this block, Percent All Minorities ($\beta = 0.099$, $b = 0.026$, $p = .007$), Percent Hispanic ($\beta = 0.035$, $b = 0.011$, $p < .001$), Middle ($\beta = -0.147$, $b = -0.025$, $p < .001$), High ($\beta = -0.181$, $b = -0.031$, $p < .001$), and Rural ($\beta = 0.036$, $b = 0.006$, $p < .001$) were significant and retained in the model. All other variables were removed.

Block 3 (Research Question 4: Teacher Variables) accounted for 6.7% of the variance in non-in-school suspension risk ratios for Hispanic students, a significant amount of variance. Descriptively, an additional 2/10th of a percent of the variance were accounted for by the added variables, Percent New Teachers and Student: Teacher Ratio. Within this block, Percent All Minorities ($\beta = 0.094$, $b = 0.025$, $p < .001$), Percent Hispanic ($\beta = 0.026$, $b = 0.008$, $p = .040$), Middle ($\beta = -0.154$, $b = -0.027$, $p < .001$), High ($\beta = -0.193$, $b = -0.033$, $p < .001$), Rural ($\beta = 0.033$, $b = 0.006$, $p = .010$), Percent New Teachers ($\beta = 0.039$, $b = 0.022$, $p = .027$), and Student: Teacher Ratio ($\beta = 0.039$, $b =$

0.001, $p=.001$) were significant and retained in the model. All other variables were removed.

Block 4 (Research Question 5: Research Question 5: Enrollment, Percent FARMS, SRO Presence) accounted for 6.9% of the variance, with an additional 2/10th of a percent of variance descriptively accounted for by the new variables, Total Enrollment and Percent FARMS. This was a significant amount of variance. Within this final model, the following variables were significant: Percent All Minorities ($\beta = 0.133$, $b = 0.017$, $p < .001$), Percent Hispanic Students ($\beta = 0.026$, $b = 0.008$, $p = .030$), Middle ($\beta = -.142$, $b = -0.024$, $p < .001$), High ($\beta = -.155$, $b = -0.026$, $p < .001$), Percent New Teachers ($\beta = 0.028$, $b = 0.016$, $p < .001$), Student: Teacher Ratio ($\beta = 0.050$, $b = 0.001$, $p < .001$), Total Enrollment ($\beta = -0.045$, $b = 0.000$, $p = .012$), and Percent FARMS ($\beta = .049$, $b = 0.013$, $p = .007$).

The greater the percentage of minorities students in a school and the greater the percentage of Hispanic students in a school, the less of a disparity between Hispanic and White students' non-in-school suspensions risk. This finding suggests that Hispanic students are given in-school suspension at lower rates in schools with more racial/ethnic minority students and in schools with higher percentages of Hispanic students. Hispanic students' increased risk of receiving an in-school suspension relative to White students' increases when they are in middle schools or high schools, compared to elementary schools. Schools with a higher the percentage of 1st and 2nd year teachers, a greater student: teacher ratio, a greater the number of students in the school, and a greater the percentage of FARM-eligible students, are less likely to have a greater disparity between Hispanic and White students risk of receiving an in-school suspension. This suggests that

schools with a higher percentage of 1st and 2nd year teachers, with higher student: teacher ratios and with a greater percentage of FARMs eligible students, the smaller the disparity between Hispanic and White in-school suspension rates. Regarding the size of the school, larger schools had greater disparities between Hispanic and White in-school suspension rates.

Details on the regression analysis for Hispanic students’ risk of not receiving an in-school suspension are presented in Tables 23 and 24.

Table 23

Regression Summary Table: Hispanic Non-In-School Suspensions

	<i>R</i> ²	ΔR^2	<i>z</i>	<i>p</i>
Block 1a (Research Question 2) Percent Minority Students Variables: Percent Minorities, Percent Hispanics	0.020	--	4.695	.000
Block 2 (Research Question 3) Level and Typology Variables: Percent Minority Students, Percent Hispanics, Middle, High, Urban, Rural, Middle x Urban, Middle x Rural, High x Urban, High x Rural	0.065	0.045	5.480	.000
Block 3 (Research Question 4) Teacher Experience and Student: Teacher Ratio Variables: Percent Minority Students, Percent Hispanics, Middle, High, Rural, Percent New Teachers (PNT), Student: Teacher Ratio (STR), PNT x STR	0.067	0.002	5.385	0.000
Block 4 (Research Question 5) Enrollment, Percent FARMs, and SRO Presence Variables: Percent All Minorities, Percent Hispanics, Middle, High, Rural, PNT, STR, Total Enrollment, Percent FARMs, SRO Presence	0.069	0.002	5.260	.000

* *p*=.05, ** *p*<.01, *** *p*<.001

Table 24

Regression Analysis: Hispanic Non-In-School Suspensions

	β	<i>b</i>	S.E	<i>p</i>
Block 1 (Research Question 2) Percent Minority Students				
Percent All Minorities	0.115	0.030	0.005	.000***
Percent Hispanics	0.036	0.011	0.004	.002**
Block 2 (Research Question 3) School Level and Typology				
Percent All Minorities	0.099	0.026	0.004	.007**
Percent Hispanics	0.035	0.011	0.005	.000***
Middle	-0.147	-0.025	0.004	.000***
High	-0.181	-0.031	0.005	.000***
Urban	0.001	0.000	0.001	.936
Rural	0.036	0.006	0.002	.000***
Middle x Urban	-0.011	-0.003	0.003	.356
Middle x Rural	0.000	0.000	0.004	.993
High x Urban	-0.002	-0.001	0.004	.860
High x Rural	-0.014	-0.004	0.005	.386
Block 3 (Research Question 4) Teacher Experience and Student-Teacher Ratio				
Percent All Minorities	0.094	0.025	0.004	.000***
Percent Hispanics	0.026	0.008	0.004	.040*
Middle	-0.154	-0.027	0.004	.000***
High	-0.193	-0.033	0.005	.000***
Rural	0.033	0.006	0.002	.010*
Percent New Teachers (PNT)	0.039	0.022	0.010	.027*
Student: Teacher Ratio (STR)	0.039	0.001	0.000	.001**
PNT x STR	-0.008	0.000	0.000	.571
Block 4 (Research Question 5) Enrollment, Percent FARMs, and SRO Presence				
Percent All Minorities	0.133	0.017	0.004	.000***
Percent Hispanics	0.026	0.008	0.004	.030*
Middle	-0.142	-0.024	0.004	.000***
High	-0.155	-0.026	0.003	.000***
Rural	0.019	0.003	0.003	.190
PNT	0.028	0.016	0.004	.000***
Student: Teacher Ratio	0.050	0.001	0.000	.000***
Total Enrollment	-0.045	0.000	0.000	.012*
Percent FARMs	0.049	0.013	0.005	.007**
SRO Presence	-0.008	-0.001	0.001	.426

p*=.05, *p*<.01, ****p*<.001

Summary of Research Questions 1 Results (Descriptive Analyses)

Regardless of school level or typology, expulsions were the least common form of disciplinary consequence and used, on average across all schools, to discipline less than 1% of African American and White students, and less than 2% of Hispanic students during the 2013-14 school year. On average, higher percentages of African American students were expelled and suspended at all school levels and all typological environments compared to Hispanic students, who were expelled and suspended at higher percentages than White students. Elementary schools had the lowest average percentages of expulsions and suspensions. Middle schools, on average, had higher percentages of in-school suspensions while high schools had higher percentages of out-of-school suspensions. Suburban schools had lower percentages of suspensions and expulsions compared to urban and rural schools. For expulsions and both types of suspensions, and for each level and typological environment, there was at least one school that had a much higher percentage of African American and/or Hispanic students who were disciplined compared to the average school of that level or typological environment.

Summary of Research Questions 2 through 5 Results

Across all analyses, the following variables never significantly predicted risk of use of harsh discipline: Percentage of African American Students, Urban Typology, Level X Typology interactions (with the exception of High X Rural), and SRO presence. The interaction between the Percentage of New Teachers and the Student: Teacher Ratio was also never significant. The high multicollinearity of this variable may have made it difficult to detect this variable's significance, particularly in models when Percentage of New Teachers and Student: Teacher Ratio were significant.

There were many more significant predictors for disparities in Hispanic discipline than African American discipline. The models of African American expulsion risk as well as Hispanic risk for all three forms of discipline demonstrated statistically significant predictive power. The most predictive model, which was the final model of the Hispanic out-of-school suspension analysis, accounted for 9.2% of the variance in the disparities between Hispanic and White student out-of-school suspension rates.

For the analyses of African American disciplinary outcomes, the final models for both in-school and out-of-school suspensions were not significant, and there were no significant variables for either of the final models. Although Middle and High were both significant variables in both analyses at Block 2, these variables were no longer significant once teacher variables were added.

For the analyses of Hispanic disciplinary outcomes, Percentage of All Minority Students was a significant predictor for every block and for every disciplinary outcome. Additionally, for in- and out-of-school suspensions, the following variables were always significant: Percentage of Hispanic Students, Middle School, High School, Student-Teacher Ratio, and Percentage of FARMs Students.

Chapter V

Discussion

Consistencies with Previous Literature

The current study found that African American students were suspended and expelled during the 2013-14 school year at notably higher rates than both Hispanic and White students. Previous research has produced mixed results regarding the discipline risk for Hispanic students compared to White students (Cooley, 1995; Finn & Servoss, 2014; Krezmien et al., 2006; Rausch & Skiba, 2004) but in the current study, Hispanic students were suspended and expelled at greater rates than White students. These results build also upon previous studies that have found discipline rates increase from elementary to secondary school (Arcia, 2007b; Losen & Martinez, 2013; Wauchope, 2009), and clarifies that not only do the overall rates increase but for certain at-risk groups the disproportionality may increase as well.

Noltemeyer and Mcloughlin (2010b) have argued that school level and typology may be greater predictors of exclusionary discipline than student variables. Although the current study cannot investigate the specific effects of individual- versus school-level factors, school-level variables were found to be significant predictors for Hispanic suspensions. In line with previous research, middle schools tended to have higher rates of in-school suspensions and high schools tended to have higher rates of out-of-school suspensions.

At various points during multiple analyses, typological variables were significant, but none retained significance at the final level of any analyses. This is inconsistent with previous studies, including Noltemeyer and Mcloughlin (2010b), which have found that

there are greater discipline disparities in suburban schools compared to urban or rural schools. Noltemeyer and Mcloughlin's conceptualization of typology was derived from definitions provided by the Ohio Department of Education, which considered both population and community poverty levels surrounding each school, and analysis only included schools from Ohio, whereas the current study utilized national census data to determine typology for a nation-wide set of schools. If the typological categories from the Ohio Department of Education had been available for the schools in the current study, the current analysis may have found results more consistent with previous research.

Unique Study Findings

African American versus Hispanic Predictors.

Results of the current study suggest some interesting differences between disparities in African American versus Hispanic discipline, as compared to the discipline of White students, which may be avenues for future research. This study sought to determine, in part, if different variables predicted disparities in African American suspensions and expulsions versus disparities in Hispanic suspensions and expulsions. Despite the limited number of significant variables in the current study, descriptively there were differences between the two groups. Few of the variables in the current study predicted discipline disparities for African American students, and the variables included in the study are therefore likely not the factors that would most impact discipline for this group of students. On the other hand, there were many variables that predicted discipline disparities for Hispanic students, with the percentages of minority students in a school being a consistently significant predictor. However, there are likely other more important variables that need to be considered regarding the discipline of Hispanic students versus

White students, which are discussed in greater depth in the Future Directions section below.

As for specific predictor variables, the percentage of all minority students enrolled at the school and the percentage of either African American or Hispanic students were both included in the analyses, due to limited information in the literature to suggest which variable would be most predictive. For African American students, neither variable was predictive in the final models, while for Hispanic students the percentage of all minority students and percentage of Hispanic students were predictive at various points for all three discipline models. Although the diversity of the student body does not appear to have an impact on discipline disparities for African American students, student body diversity is related to a decreased discipline risk for Hispanic students as they are more at-risk for all three types of discipline in schools with smaller percentages of racial/ethnic minority students and a small percentage of Hispanic students.

As previously discussed, both middle and high school levels were significant predictors, by comparison to the elementary school level, for African American expulsions and were initially predictive in the in-school and out-of-school suspension models but were no longer significant in the final model. On the other hand, middle and high school levels were never significant in the analyses for Hispanic expulsion, but were significant predictors in the final models for in-school and out-of-school suspensions. The patterns for typology were more consistent between the two groups of students. The Middle X Urban interaction was initially significant in the African American expulsion model and while rural schools were initially significant for the all three Hispanic discipline models, both variables were no longer significant in the final models. Although

more research needs to be done to better understand the varying relationships between school level, typology, and the discipline of students in different racial/ethnic groups, the current results suggest that these groups' discipline risk are not uniformly impacted by the types of schools they are enrolled in.

The teacher variables (i.e., student-teacher ratio, teacher experience, and the interaction between these variables) were never significant for any model of African American student discipline. Although teacher variables may impact discipline disparities for African American students, other teacher variables not included in the current study are likely far more impactful, such as student-teacher match, which has been proposed in previous research (e.g., Blake & Butler, 2010) or teachers training in and adherence to Positive Behavior Interventions and Supports (PBIS, 2018)

The student: teacher ratio was a significant for Hispanic out-of-school suspensions, and student: teacher ratio and the percentage of new teachers was significant for Hispanic in-school suspensions. These results suggest that for Hispanic students at least, being in schools with smaller class sizes and more experienced teachers is related to a decreased risk for receiving an in-school suspension. However, the exact mechanisms by which this relationship works is unclear. Perhaps being smaller classes allows more experienced teachers to better know their Hispanic students and therefore better allows them to address any misbehavior before it gets to the point of warranting a suspension. Similarly, total enrollment and the percentage of FARMs students within a school were never predictive variables for any of the African American disciplinary outcomes, but the percentage of FARMs students was predictive for Hispanic out-of-school suspensions while the total student enrollment was predictive for Hispanic in-school suspensions.

The precise reason why these variables were only significant for Hispanic students and even then only significant for one discipline disparity model is unclear. More research will be needed to verify and further investigate these relationships.

Significant Predictors of Hispanic Discipline.

Across disciplinary outcomes, the current study results suggest that the lower the percentage of racial/ethnic minorities in a school, the greater the risk that a Hispanic student will receive exclusionary discipline. Regarding suspensions, Hispanic students are at greater risk in schools with lower percentages of both racial/ethnic minority enrollment and overall Hispanic enrollment, middle and high schools, schools with greater student: teacher ratios, and schools with a greater percentage of students eligible for free and reduced price meals. For out of school suspensions, Hispanic students are also at greater risk in rural schools, and for in-school suspensions they are at greater risk in schools with a higher percentage of new teachers and higher overall student enrollment.

It is notable that the percentage of Hispanic students enrolled at a school remained significant for every model and all disciplinary outcomes, but the exact reason for this is unknown. Schools and communities with a higher percentage of Hispanic students may function differently than schools with a higher percentage of African American students. The relationship between study body diversity and disproportionality may be explained by another variable that has not been included in the current study. One popular theory for the cause of discipline disparities for African American students is lack of student-teacher racial match. Given that Hispanic teachers make up only 7.8% of the current (USDE, 2019), it seems unlikely that reduced disproportionality at schools with a high

percentage of Hispanic students would be due to student-teacher racial match.

Furthermore, such an argument assumes that Hispanic students (or even African American students) are a monolithic group and fails to recognize cultural differences based on ethnic heritage, families' countries of origins and generational status of individual students.

From a racial threat theory perspective, African American students and their misbehavior may be perceived as a greater threat than the misbehavior of Hispanic students. Schools with a greater percentage of African American students may therefore take a more hardline approach to discipline, whereas schools with a higher percentage of Hispanic students may not harden discipline practices due to a limited or lack of perceived threat. Ultimately, more research is needed to understand the mechanisms by which increased study body diversity and the other significant factors found in the current study influence disproportionality and overall discipline rates.

Unique Contributions to the Literature

In addition to the aforementioned findings of significant and differentiated predictors for African American and Hispanic discipline disparities, the current study offers several other unique contributions to the literature.

Sample of Schools.

The current study used a population of schools that is unique to the disproportional discipline literature. Although a national sample of schools was used and all states were included in the analysis, individual schools were only included if they had at least fifteen African American, fifteen Hispanic, and fifteen White students enrolled during the 2013-14 school year. Specific inclusion criteria have been used to select

schools for disproportionality research. This includes a study by Wauchope (2009) where only the largest 25% and smallest 25% of schools were included, and a study by Losen and Gillespie's (2010) that excluded online and distance schools as well as juvenile justice facility schools. However, to this author's knowledge, no study on disproportional discipline has specifically included or excluded schools according to a specific cut-off of racial/ethnic enrollment. Given the relatively high racial/ethnic diversity of the schools included in the analysis and the large number of schools that were excluded because of this cut-off ($n = 56,144$), the results should be interpreted with this in mind as the inclusion of schools with less diverse student bodies may have yielded different results.

State-Level Clustering.

The current study used state-level cluster of schools to control for state-influence (e.g., state disciplinary policies) that may impact discipline disproportionality. Any variance in disproportionality associated with being in a state was partialled out from the analyses of the relationships between school factors and the reverse risk ratios. To this author's knowledge, no other study on disproportional discipline of African American and Hispanic students has used data from a nation-wide sample while controlling for the effects of states. The results of the current study are therefore not due to differences between states, such as different state-level policies regarding discipline and education.

Controlling for states may potentially account for the limited number of significant variables for African American student discipline. The relationship between African American discipline and the non-significant typological variables are inconsistent with previous research; however, previous studies did not control for the effects of states,

which may not only affect discipline policies but also the percentage of schools in each of the typological categories (i.e., urban, suburban, rural).

It may be that the state a school is in has a greater impact on disciplinary outcomes for African American students, particularly compared to Hispanic students, than other variables included in the analysis. Given that states create educational legislation and policies that impact the disciplinary responses schools within that state may use, it is conceivable that overall rates of as well as disparities in discipline may change from state to state. As an example of one such state-level legislation that will likely impact later disciplinary outcomes, the state of Maryland has not allowed schools to suspend or expel students in pre-kindergarten through 2nd grade as of the 2018-19 school year and instead requires that schools use other interventions to address behavior problems (COMAR 13A.08.01.11 (C)).

Limitations of the Current Study

Self-Report Data.

Principals provided reports of all CRDC dataset variables. Because of this, the accuracy of the dataset is dependent on the accuracy of the reporting. Although the Office of Civil Rights does make an effort to ensure that there are no obvious reporting errors (e.g., 6000 students suspended from a school with only 600 students), it is unlikely that smaller reporting errors would be noticed (e.g., 15 reported suspensions when 20 students were actually suspended during the school year). Further, there is the obvious possibility that principals would intentionally misrepresent data in order to appear to be in compliance with federal civil rights law, or that schools that did not report data did so deliberately to mask non-compliance.

Use of Reverse Risk Ratios.

Another limitation specific to the current study was the use of reverse risk ratios in the analyses for Research Questions 2-5, rather than direct risk ratios of the specific disciplinary outcomes. The reverse risk ratios can be interpreted in a way that gives insight into what the results might be for a true risk ratio between African American and White or Hispanic and White suspensions and expulsions. However, it is possible that if further schools were excluded (i.e., schools that did not suspend or expel a single White student) in order to calculate true risk ratios, the results may have been different. There may be difference in the disciplinary cultures of schools that do not suspend or expel any White students (as well as no students of other races or ethnicities), versus those that suspend and expel at least one, that would be reflected in the subsequent analyses results.

Limited Variables.

This current analysis is limited to variables that were collected as part of the 2013-14 CRDC survey; however, there are likely many other factors that influence disproportionate use of harsh discipline. These include student factors, which are not collected as part of the CRDC, as well as additional teacher, school, and school district factors that were also not collected for this survey. Significant variables that may impact discipline but were not included in this analysis include: state- and district-level discipline policies, administrators' perspective on the severity of behavior, and teacher training in alternatives to harsh discipline. There were no variables within the 2013-14 CRDC dataset for teachers' or principals' beliefs or attitudes about discipline. Although teachers' years of experience was used as a proxy for experience with behavior management, a superior variable would have indicated teacher training in and use of

research-based behavior management techniques. Beyond individual staff members, the overall school climate may also affect the likelihood of students engaging in problematic behaviors, thus influencing the need for discipline. Community factors may also affect the need for discipline if stressors from the community (e.g., high poverty, high crime, limited mental health resources) are affecting student, or even school staff, behavior and their ability to successfully interact with the school community.

Future Directions

2015-16 CRDC Data.

The 2015-16 CRDC includes numerous additional variables that were either not included on the 2013-14 CRDC used in the current study or the variables were included but it was not mandatory for principals to report on these variables. Several of these variables offer possible avenues for future research on discipline disparities including: number of violent and serious crimes, number of psychologists and the number of social workers. In the case of violent and serious crimes, this number would likely correlate significantly with the number of expulsions and may not add meaningful information to the disproportionality discussion, although it could provide more insight into the general atmosphere of schools that report an above average number of such crimes on campus.

The number of psychologists and the number of social workers could offer a way to use the CRDC data to look at positive steps schools and school districts are taking to reduce overall discipline rates and disproportionality. The 2015-16 CRDC does not provide any variable that looks at positive behavior supports, alternatives to harsh discipline (i.e., suspensions, expulsion, corporal punishment, or school-based arrests), or other positive responses to behavior. Considering that there are outliers schools with

extremely high disproportionality rates and no disproportionality rates, as well as a large number of schools in between, it would be interesting to investigate if the number of psychologists and social workers were related to school membership in either of these clusters. If these professionals are found more frequently in schools with less or no disproportionality, they may play an important role in addressing student behavior before it becomes a discipline problem, or contributing to a general school climate that is less punitive and harmful to certain groups of students.

Further Identification of Predictors.

Disparities in discipline practices are well established in the literature, but there is a need to look at what schools can do to reduce these disparities and for researchers to investigate practical policies and interventions that can be put in place to make discipline more equitable. One starting point would be to identify factors that predict the disparities, so that schools can address those factors that are changeable (e.g., student: teacher ratio in the case of the current study) while mitigating the impact of factors that cannot be changed. In some cases, unchangeable factors can still be addressed through smart policy decisions. For example, although a school cannot change whether it is an elementary school versus a middle or high school, district officials and administrators in middle schools and high schools may want to look at the aspects of elementary schools that allow them to have lower discipline rates and lower discipline disparities in an attempt to replicate some of these elements in later grades.

Potential predictors that could be the focus of future research include the quantity and quality of teacher training in behavior management techniques, and the degree to which schools use alternatives to suspensions and expulsions. Neither of these variables

were available through the 2013-14 CRDC dataset. Although the percentage of new teachers was used as a proxy for teachers' experience with behavior management techniques, it is likely not a sufficient enough measure of teaching staff knowledge of and comfort and expertise in using strategies to mitigate problem behaviors before they require harsher consequences, like suspensions and expulsions. In the case of alternative discipline practices, it would be value for school systems to know if these practices demonstrate positive results in reducing overall discipline and reducing disproportional discipline, and if such effects are as effective for all vulnerable groups.

Given that there were group differences regarding the predictors that were related to disproportionality, it will also be important for researchers to identify which predictors are most impactful for which at-risk groups. Policy makers may also need to consider how policies that attempt to reduce the disproportional discipline of one group may not help, or could potentially harm, another at-risk group. Ideally, once researchers identify overlapping predictors that positively affect that disciplinary outcomes for a range of student groups, and identify the major predictors that negatively affect those groups, policy makers will have a better understanding of what needs to be done to promote fair and effective discipline practices for all students.

Investigation of Outlier Schools.

Research is also needed to address outlier schools that have overall discipline rates and discipline disparities between racial groups that are very different from the norm. Policy makers and school officials need to understand how these schools are different from comparable schools that utilize fewer suspensions and expulsions in order to determine the solutions that can help reduce the need for discipline and also reduce

discipline disproportionality. In the case of the current study, at least a few schools suspended 100% of their African American students (in-school and out-of-school suspensions) and over 80% of their Hispanic students, while suspending far fewer percentages of White students. Although these numbers appear egregiously high from an outside perspective, it would be informative to investigate whether school staff feel their disciplinary practices are outside of the norm as well as whether they feel their more extreme practices are warranted and effective.

It may also be valuable to compare potential outlier schools over the course of several years to see how their disproportionality changes over time. If they consistently remain outliers, this would suggest that there are school- or district-based policies that promote their more extreme disciplinary outcomes. If their level of disproportionality varies significantly from year to year such that they occasionally fall within the average range, this may suggest that other, less stable factors (e.g., teacher population, student population, administrative staff) have a significant influence on the use of discipline in those schools.

In contrast to the schools with extremely high disproportionality, there were also “positive outliers” that suspended and expelled no students. Understanding how these schools manage student misbehavior without the use of exclusionary discipline can help inform practices at other schools. For example, do these schools have a high use of alternatives to suspensions that they use instead to discipline students, or do they have strong positive behavior supports and pre-intervention strategies that prevent misbehavior before discipline is needed?

Investigation of Schools with Limited Student Diversity.

There is also a need to look at disparities in schools that are outliers in terms of their lack of racial/ethnic minority students. As previously mentioned, excluded schools with a limited number of enrolled African American and Hispanic students may have different approaches to disciplining these students compared to schools with greater percentages of these groups of students, or minority students overall. Research is needed to determine what policies, procedures, and attitudes toward racial/ethnic minority students lead to lesser risk in schools that are more racially/ethnically diverse, in order to create fairer and more equitable disciplinary policies for these currently at-risk students.

The current study removed schools for a number of reasons, with the majority of schools removed due to an insufficient number of African American, Hispanic or White students enrolled. These schools may potentially have different disciplinary outcomes, at least for their Hispanic students, compared to schools with a greater number of minority students. Having too few minority students enrolled at a school may reflect that the school overall is very small (i.e., they may have also had fewer than 15 White students). For schools with a large number of White students but fewer than 15 African American or Hispanic students, the percentage of minority students and Hispanic students would likely be low, which may put Hispanic students at greater risk based on the current study results. It seems conceivable that schools with less diverse student bodies may have school cultures that are less tolerant or understanding of cultural differences in student behavior, which could contribute to perceived student misbehavior and the need for discipline. However, without additional research in this area, such a thought remains purely hypothetical.

Appendix A.

Table 25

Variables Available through the 2013-14 Civil Rights Data Collection

Categories from the 2013-14 CRDC	Variables in this Category (Underlined items were optional for the reporter)
School and District Characteristics	<ul style="list-style-type: none"> • Number of public schools (<i>LEA</i>) • Grades offered (PS-12) (<u>PS refers to preschool and excludes birth-2</u>) • <u>Whether ungraded school has mainly elementary school age students; middle school age students; high school age students; elementary and middle school age students; middle and high school age students; elementary middle, and high school age students</u> • Number of students (PS through grade 12) served in LEA and non-LEA facilities (<i>LEA</i>) (<i>for 2013–14 only</i>) • <u>Number of students (PS through grade 12) enrolled in LEA and served in non-LEA facilities only (<i>LEA</i>)</u> • Total number of students (preschool through grade 12) enrolled in school (disaggregated by race, sex, disability-IDEA, disability-504 only, LEP) • Number of students with disabilities (disaggregated by race, sex, LEP) • Number of LEP students and number of students enrolled in LEP programs (disaggregated by race, sex, disability-IDEA) • Whether the school is operating a magnet program for all students or some students within the school (and if so, whether entire school population participates in the magnet program) • Whether the school is an alternative school (and if so, for academic or discipline or both) • Whether the school is focused primarily on serving students with disabilities • Whether the school is a charter school • <u>For justice facility only:</u> <ul style="list-style-type: none"> ○ <u>Type of facility (pre- or post-adjudication/conviction or both)</u> ○ <u>Number of days that makeup the justice facility’s regular school year</u> ○ <u>Total number of hours per week that educational program is offered during regular school year</u>

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- Number of students who participated in educational program for less than 15 calendar days; 15-30 calendar days; 31-90 calendar days; 91-180 calendar days; more than 180 calendar days.
 - Number of single-sex academic classes (with males only; with females only) in the following courses/subject areas:
 - Algebra I, Geometry, and/or Algebra II
 - Other mathematics
 - Science
 - English/reading/language arts
 - Other academic subjects
 - Whether LEA has civil rights coordinators for discrimination against students on basis of sex, race, and disability (and contact information) (LEA)
 - Whether LEA is covered by desegregation order or plan (LEA)

 Discipline

- Students (K-12) who received one or more in-school suspension:
 - Number of K-12 students without disabilities who received one or more in-school suspension (disaggregated by race, sex, LEP)
 - Number of K-12 students with disabilities who received one or more in-school suspension (disaggregated by race, sex, disability-504 only, LEP)
 - Students who received one out-of-school suspension:
 - Number of preschool students who received one out-of-school suspension (disaggregated by race, sex, disability-IDEA, LEP)
 - Number of K-12 students without disabilities who received one out-of-school suspension (disaggregated by race, sex, LEP)
 - Number of K-12 students with disabilities who received one out-of-school suspension (disaggregated by race, sex, disability-504 only, LEP)
 - Students who received more than one out-of-school suspension:
 - Number of preschool students who received more than one out-of-school suspension (disaggregated by race, sex, disability-IDEA, LEP)
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- Number of K-12 students without disabilities who received more than one out-of-school suspension (disaggregated by race, sex, LEP)
 - Number of K-12 students with disabilities who received more than one out-of-school suspension (disaggregated by race, sex, disability-504 only, LEP)
 - Number of preschool students who were expelled (disaggregated by race, sex, disability-IDEA, LEP)
 - Students (K-12) who were expelled (with educational services; without educational services; because of zero-tolerance policies):
 - Number of K-12 students without disabilities who were expelled (with educational services; without educational services; because of zero-tolerance policies) (disaggregated by race, sex, LEP)
 - Number of K-12 students with disabilities who were expelled (with educational services; without educational services; because of zero-tolerance policies) (disaggregated by race, sex, disability-504 only, LEP)
 - Students (K-12) who were transferred for disciplinary reasons (to alternative school; to regular school):
 - Number of K-12 students without disabilities who were transferred for disciplinary reasons (to alternative school; to regular school) (disaggregated by race, sex, LEP)
 - Number of K-12 students with disabilities who were transferred for disciplinary reasons (to alternative school; to regular school) (disaggregated by race, sex, disability-504 only, LEP)
 - Students (K-12) who were referred to law enforcement agency or official:
 - Number of K-12 students without disabilities who were referred to law enforcement agency or official (disaggregated by race, sex, LEP)
 - Number of K-12 students with disabilities who were referred to law enforcement agency or official (disaggregated by race, sex, disability-504 only, LEP)
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- Students (K-12) who were arrested for school-related activity:
 - Number of K-12 students without disabilities who were arrested for school-related activity (disaggregated by race, sex, LEP)
 - Number of K-12 students with disabilities who were arrested for school-related activity (disaggregated by race, sex, disability-504 only, LEP)
 - Students who received corporal punishment:
 - Number of preschool students who received corporal punishment (disaggregated by race, sex, disability-IDEA, LEP)
 - Number of K-12 students without disabilities who received corporal punishment (disaggregated by race, sex, LEP)
 - Number of K-12 students with disabilities who received corporal punishment (disaggregated by race, sex, disability-504 only, LEP)
 - Number of instances of corporal punishment that preschool students received (disaggregated by all preschool students, students with disabilities-IDEA)
 - Number of instances of corporal punishment that K-12 students received (disaggregated by students without disabilities, students with disabilities)
 - Number of instances of out-of-school suspensions that preschool students received (disaggregated by all preschool students, students with disabilities-IDEA)
 - Number of instances of out-of-school suspensions that K-12 students received (disaggregated by students without disabilities, students with disabilities-IDEA, students with disabilities-504 only)
 - Number of school days missed by K-12 students who received out-of-school suspensions (disaggregated by race, sex, disability-IDEA, disability-504 only, LEP)
 - Documented incidents that occurred at the school that would trigger discipline, including referrals to law enforcement and arrests:
 - Number of incidents of robbery with a weapon
 - Number of incidents of robbery with a firearm or explosive device
 - Number of incidents of robbery without a weapon
 - Number of incidents of physical attack or fight with a weapon
-

	<ul style="list-style-type: none"> ○ <u>Number of incidents of physical attack or fight with a firearm or explosive device</u> ○ <u>Number of incidents of physical attack or fight without a weapon</u> ○ <u>Number of incidents of threats of physical attack with a weapon</u> ○ <u>Number of incidents of threats of physical attack with a firearm or explosive device</u> ○ <u>Number of incidents of threats of physical attack without a weapon</u> ○ <u>Number of incidents of rape or attempted rape</u> ○ <u>Number of incidents of sexual battery (other than rape)</u> ○ <u>Number of incidents of possession of a firearm or explosive device</u> ○ <u>Whether any of the school's students, faculty, or staff died as a result of a homicide committed at the school</u> ○ <u>Whether there has been at least one incident at the school that involved a shooting (regardless of whether anyone was hurt)</u>
<hr/> Harassment and Bullying	<ul style="list-style-type: none"> ● Number of reported allegations of harassment or bullying of K-12 students on the basis of: sex; race, color, or national origin; disability; <u>sexual orientation</u>; <u>religion</u> ● Number of K-12 students reported as harassed or bullied on the basis of: sex; race, color, or national origin; disability (disaggregated by race, sex, disability-IDEA, disability-504 only, LEP) ● Number of K-12 students disciplined for engaging in harassment or bullying on the basis of: sex; race, color, or national origin; disability (disaggregated by race, sex, disability-IDEA, disability-504 only, LEP) ● Existence of harassment or bullying policy on the basis of race, sex, or disability
<hr/> Restraint and Seclusion	<ul style="list-style-type: none"> ● Students (K-12) subjected to mechanical restraint: <ul style="list-style-type: none"> ○ Number of non-IDEA K-12 students subjected to mechanical restraint (disaggregated by race, sex, disability-504 only, LEP) ○ Number of K-12 students with disabilities (IDEA) subjected to mechanical restraint (disaggregated by race, sex, LEP) ● Students (K-12) subjected to physical restraint: <hr/>

	<ul style="list-style-type: none"> ○ Number of non-IDEA K-12 students subjected to physical restraint (disaggregated by race, sex, disability-504 only, LEP) ○ Number of K-12 students with disabilities (IDEA) subjected to physical restraint (disaggregated by race, sex, LEP) ● Students (K-12) subjected to seclusion: <ul style="list-style-type: none"> ○ Number of non-IDEA K-12 students subjected to seclusion (disaggregated by race, sex, disability- 504 only, LEP) ○ Number of K-12 students with disabilities (IDEA) subjected to seclusion (disaggregated by race, sex, LEP) ● Number of instances of mechanical restraint, physical restraint, seclusion (disaggregated by students without disabilities, students with disabilities-IDEA, students with disabilities-504 only)
Single Sex Interscholastic Athletics	<ul style="list-style-type: none"> ● Number of single-sex interscholastic athletics high school sports (with males only; with females only) ● Number of single-sex interscholastic athletics high school teams (with males only; with females only) ● Number of student participants on single-sex interscholastic athletics high school sports teams (with males only; with females only)
Early Childhood Education	<ul style="list-style-type: none"> ● Whether LEA’s early childhood program(s) serve non-IDEA children birth-2 (<i>LEA</i>) ● Preschool length offered (full-day, part-day) and <u>cost (free, partial charge, full charge)</u> (<i>LEA</i>) ● <u>Number of students served by LEA in preschool programs in LEA and non-LEA facilities (disaggregated by age – 3, 4, 5)</u> (<i>LEA</i>) ● Whether preschool is provided to: all students, students with disabilities (IDEA), students in Title I schools, students from low income families (<i>LEA</i>) ● Whether preschool serves non-IDEA students age 3; age 4; age 5 (<i>LEA</i>) ● Number of students ages 3-5 enrolled in preschool (disaggregated by race, sex, disability-IDEA, LEP) ● <u>Whether the school’s preschool program serves non-IDEA students (Yes/No by age-- 3, 4, 5)</u> ● Kindergarten length offered (full-day, part-day) <u>and cost (free, partial charge, full charge)</u> (<i>LEA</i>)

 Pathways to College
and Career

- Number of students enrolled in gifted & talented programs (disaggregated by race, sex, disability-IDEA, LEP)
 - Whether LEA has any students enrolled in any distance education courses (Yes/No)
 - Number of students enrolled in distance education courses (disaggregated by race, sex, disability-IDEA, LEP) (LEA)
 - Whether school has any students enrolled in dual enrollment/dual credit program (Yes/No)
 - Number of students enrolled in at least one dual enrollment/dual credit program (disaggregated by race, sex, disability-IDEA, LEP)
 - Whether the school has any students who participate in at least one credit recovery program that allows them to earn missed credit to graduate from high school (Yes/No)
 - Number of students who participate in at least one credit recovery program
 - Number of students absent 15 or more school days (disaggregated by race, sex, disability-IDEA, disability-504 only, LEP)
 - Number of students enrolled in the International Baccalaureate (IB) Diploma Programme (disaggregated by race, sex, disability-IDEA, LEP)
 - Number of different AP courses provided
 - Whether students are allowed to self-select for participation in AP courses
 - Number of students enrolled in at least one AP course (disaggregated by race, sex, disability-IDEA, LEP)
 - Number of students enrolled in at least one AP course in specific subject area (disaggregated by race, sex, disability, LEP)
 - AP math of any kind
 - AP science of any kind
 - Other AP subjects of any kind (including foreign language)
 - Number of students who took one or more AP exams for one or more (which may include all) AP courses enrolled in (disaggregated by race, sex, disability-IDEA, LEP)
 - Number of students who were enrolled in one or more AP courses but who did not take any AP exams (disaggregated by race, sex, disability-IDEA, LEP)
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- Number of students who received a qualifying score on one or more AP exams for one or more (which may include all) AP courses enrolled in (disaggregated by race, sex, disability-IDEA, LEP)
 - Number of students who did not receive a qualifying score on any AP exams for the one or more AP courses enrolled in (disaggregated by race, sex, disability-IDEA, LEP)
 - Number of science classes in grades 9-12 (Biology, Chemistry, Physics)
 - Number of science classes in grades 9-12 taught by teachers with a science certification (Biology, Chemistry, Physics)
 - Number of students enrolled in science classes in grades 9-12 (Biology, Chemistry, Physics) (disaggregated by race, sex, disability-IDEA, LEP)
 - Number of math classes in grades 9-12 (Algebra II, Advanced Math, Calculus)
 - Number of Algebra I classes in grades 7-12 (for 2013–14 only)
 - Number of students enrolled in Algebra I in grades 7-8 (disaggregated by race, sex, disability-IDEA, LEP) (for 2013–14 only)
 - Number of students enrolled in Algebra I in grades: 9-10; 11-12 (disaggregated by race, sex, disability-IDEA, LEP)
 - Number of students who passed Algebra I in grades 7-8 (disaggregated by race, sex, disability-IDEA, LEP) (for 2013–14 only)
 - Number of students who passed Algebra I in grades: 9-10; 11-12 (disaggregated by race, sex, disability-IDEA, LEP)
 - Number of Geometry classes in grades 7-12 (for 2013–14 only)
 - Number of students enrolled in Geometry in grades 7-12 (disaggregated by race, sex, disability-IDEA, LEP) (for 2013–14 only)
 - Number of students enrolled in math courses in grades 9-12 (Algebra II, Advanced Math, Calculus) (disaggregated by race, sex, disability-IDEA, LEP)
 - Number of students who took SAT, ACT, or both, anytime during school year (disaggregated by race, sex, disability-IDEA, LEP)
 - GED preparation program (*LEA*):
-

<hr/>	<ul style="list-style-type: none"> ○ Number of students ages 16-19 who participated in LEA-operated GED prep program (disaggregated by race, sex, disability-IDEA, LEP) ○ Number of students ages 16-19 who participated in LEA-operated GED prep program, succeeded on GED test, and received high school equivalency credential (disaggregated by race, sex, disability-IDEA, LEP) ● Number of students retained in specified grade, by grade (K-12) (disaggregated by race, sex, disability-IDEA; disability-504 only, LEP)
<hr/> School finance	<ul style="list-style-type: none"> ● K-12 personnel FTEs and salaries at the school level (funded with state and/or local funds) <ul style="list-style-type: none"> ○ Number of FTE teachers and amount of their salaries ○ Amount of instructional staff (teachers and aides) salaries (for 2013–14 only) ○ <u>Number of FTE instructional aides and amount of their salaries</u> ○ <u>Number of FTE support services staff (for pupils and for instructional staff) and amount of their salaries</u> ○ <u>Number of FTE school administration staff and amount of their salaries</u> ○ Total amount of instructional and support personnel salaries ● Preschool-12 personnel FTEs and salaries at the school level (funded with federal, state, and/or local funds) <ul style="list-style-type: none"> ○ <u>Amount of teacher salaries</u> ○ <u>Number of FTE instructional aides and amount of their salaries</u> ○ <u>Number of FTE support services staff (for pupils and for instructional staff) and amount of their salaries</u> ○ <u>Number of FTE school administration staff and amount of their salaries</u> ○ <u>Total amount of instructional and support personnel salaries</u> ● Total amount of non-personnel expenditures at the school level <ul style="list-style-type: none"> ○ Amount of non-personnel expenditures (funded with state and/or local funds) <hr/>

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- Amount of non-personnel expenditures (funded with federal, state, and/or local funds)
-

Teachers

- Number of current school year teachers (preschool through grade 12)
 - Number of previous school year teachers (preschool through grade 12)
 - Number of FTE teachers (preschool through grade 12)
 - Number of FTE first-year teachers (preschool through grade 12)
 - Number of FTE second-year teachers (preschool through grade 12)
 - Number of FTE teachers (preschool through grade 12) meeting all state licensing/certification requirements
 - Number of FTE teachers (preschool through grade 12) not meeting all state licensing/certification requirements
 - Number of FTE teachers absent more than 10 school days (excluding professional development) (preschool through grade 12)
 - Number of FTE school counselors (preschool through grade 12)
 - Number of FTE psychologists (preschool through grade 12)
 - Number of FTE social workers (preschool through grade 12)
 - Number of FTE nurses (preschool through grade 12)
 - Number of FTE security guards (preschool through grade 12)
 - Whether a sworn law enforcement officer (including school resource officer) was assigned to the school (Yes/No) (for 2013–14 only)
 - Number of FTE sworn law enforcement officers (including school resource officers) (preschool through grade 12)
-

Appendix B.

Table 26

Correlations between Predictor Variables Based on Level of Average Risk of Non-Discipline for African American Students in the Lowest 10th Percentile of Schools

	Pct. of Minority Students	Pct. of African American Students	Middle School	High School	Urban School	Rural School	Pct. of New Teachers	Student: Teacher Ratio	Pct. of New Teachers X Student: Teacher Ratio	Total Enrollment	Pct. of FARMs Students	Presence of SRO
Pct. of Minority Students	--											
Pct. of African American Students	.494**	--										
Middle School	.108**	.047**	--									
High School	-.139**	.011	-.765**	--								
Urban School	.326**	.150**	.056**	-.087**	--							
Rural School	-.217**	-.033	-.083**	.073**	-.457**	--						
Pct. of New Teachers	.268**	.125**	.041*	-.073**	.086**	-.035*	--					
Student: Teacher Ratio	.096**	-.158**	-.016	-.009	.053**	-.098**	-.041*	--				

	Pct. of Minority Students	Pct. of African American Students	Middle School	High School	Urban School	Rural School	Pct. of New Teachers	Student: Teacher Ratio	Pct. of New Teachers X Student: Teacher Ratio	Total Enrollment	Pct. of FARMs Students	Presence of SRO
Pct. of New Teachers X Student: Teacher Ratio	.270**	.075**	.038*	-.069**	.086**	-.059**	.932**	.213**	--			
Total Enrollment	.031	-.044*	-.298**	.514**	.007	-.173**	-.087**	.237**	.196	--		
Pct. of FARMs Students	.644**	.421**	.077**	-.180**	.226**	.018	.208**	.006	.000	-.182**	--	
Presence of SRO	-.032	.130**	-.020	.220**	.028	.043*	-.005	-.024	.638	.257**	.020	--

* $p=.05$, ** $p<.01$,

Table 27

Correlations between Predictor Variables Based on Level of Average Risk of Non-Discipline for African American Students in the Middle 80th Percentile of Schools

	Pct. of Minority Students	Pct. of African American Students	Middle School	High School	Urban School	Rural School	Pct. of New Teachers	Student: Teacher Ratio	Pct. of New Teachers X Student: Teacher Ratio	Total Enrollment	Pct. of FARMS Students	Presence of SRO
Pct. of Minority Students	--											
Pct. of African American Students	.471**	--										
Middle School	-.043**	-.024**	--									
High School	-.085**	-.032**	-.226**	--								
Urban School	.300**	.121**	-.030**	-.020**	--							
Rural School	-.229**	-.005	.010	.038**	-.346**	--						
Pct. of New Teachers	.174**	.148**	.015*	-.020**	.059**	-.018**	--					
Student: Teacher Ratio	.114**	-.170**	.004	.126**	.058**	-.089**	-.035**	--				

	Pct. of Minority Students	Pct. of African American Students	Middle School	High School	Urban School	Rural School	Pct. of New Teachers	Student: Teacher Ratio	Pct. of New Teachers X Student: Teacher Ratio	Total Enrollment	Pct. of FARMs Students	Presence of SRO
Pct. of New Teachers X Student: Teacher Ratio	.159**	.097**	.018**	.024**	.054**	-.025**	.911**	.230**	--			
Total Enrollment	-.018**	-.125**	.032**	.635**	-.028**	-.086**	-.055**	.267**	.003	--		
Pct. of FARMs Students	.599*	.413**	-.069**	-.159**	.188**	.063**	.171**	-.054**	.124**	-.213**	--	
Presence of SRO	-.073**	.021**	.175**	.361**	-.010	.073**	.038**	.031**	.043**	.365**	-.039**	--

* $p=.05$, ** $p<.01$,

Table 28

Correlations between Predictor Variables Based on Level of Average Risk of Non-Discipline for African American Students in the Highest 10th Percentile of Schools

	Pct. of Minority Students	Pct. of African American Students	Middle School	High School	Urban School	Rural School	Pct. of New Teachers	Student: Teacher Ratio	Pct. of New Teachers X Student: Teacher Ratio	Total Enrollment	Pct. of FARMS Students	Presence of SRO
Pct. of Minority Students	--											
Pct. of African American Students	.501**	--										
Middle School	-.019	-.025	--									
High School	-.075**	-.009	-.120**	--								
Urban School	.350**	.154**	-.050**	-.021	--							
Rural School	-.289**	-.083**	-.007	.059**	-.369**	--						
Pct. of New Teachers	.180**	.180**	.010	.036*	.059**	-.004	--					
Student: Teacher Ratio	.102**	-.213**	.016	.020	.040*	-.117**	-.104**	--				

	Pct. of Minority Students	Pct. of African American Students	Middle School	High School	Urban School	Rural School	Pct. of New Teachers	Student: Teacher Ratio	Pct. of New Teachers X Student: Teacher Ratio	Total Enrollment	Pct. of FARMs Students	Presence of SRO
Pct. of New Teachers X Student: Teacher Ratio	.168**	.117**	.026	.046**	.046**	-.014	.921**	.152**	--			
Total Enrollment	.029	-.129**	.125**	.472**	-.054**	-.074**	-.036*	.284**	.039*	--		
Pct. of FARMs Students	.640**	.420**	-.055**	-.131**	.224**	.003	.178**	-.066**	.129**	-.160**	--	
Presence of SRO	-.022	.034	.154**	.300**	-.023	.093**	.025	-.004	.027	.258**	.029	--

* $p=.05$, ** $p<.01$,

Table 29

Correlations between Predictor Variables Based on Level of Average Risk of Non-Discipline for Hispanic Students in the Lowest 10th Percentile of Schools

	Pct. of Minority Students	Pct. of Hispanic Students	Middle School	High School	Urban School	Rural School	Pct. of New Teachers	Student: Teacher Ratio	Pct. of New Teachers X Student: Teacher Ratio	Total Enrollment	Pct. of FARMS Students	Presence of SRO
Pct. of Minority Students	--											
Pct. of Hispanic Students	.590**	--										
Middle School	.085**	.121**	--									
High School	-.064**	.000	-.733**	--								
Urban School	.324**	.176**	.050**	-.076**	--							
Rural School	-.179**	-.070**	-.039*	.040*	-.396**	--						
Pct. of New Teachers	.247**	.193**	.054**	-.062**	.090**	.005	--					
Student: Teacher Ratio	.011	.043*	-.048**	.058**	.046**	-.054**	.007	--				
Pct. of New Teachers X Student: Teacher Ratio	.230**	.190**	.039**	-.041*	.086**	-.004	.949**	.226**	--			

	Pct. of Minority Students	Pct. of Hispanic Students	Middle School	High School	Urban School	Rural School	Pct. of New Teachers	Student: Teacher Ratio	Pct. of New Teachers X Student: Teacher Ratio	Total Enrollment	Pct. of FARMs Students	Presence of SRO
Total Enrollment	.052**	.146**	-.290**	.540**	.002	-.181**	-.081**	.280**	-.021	--		
Pct. of FARMs Students	.583**	.319**	.048**	-.148**	.236**	.067**	.189**	-.070**	.162*	-.216**	--	
Presence of SRO	.052**	.034	.000	.221**	.075**	.028	.046**	.027	.046*	.281**	.039*	--

* $p=.05$, ** $p<.01$,

Table 30

Correlations between Predictor Variables Based on Level of Average Risk of Non-Discipline for Hispanic Students in the Middle 80th Percentile of Schools

	Pct. of Minority Students	Pct. of Hispanic Students	Middle School	High School	Urban School	Rural School	Pct. of New Teachers	Student: Teacher Ratio	Pct. of New Teachers X Student: Teacher Ratio	Total Enrollment	Pct. of FARMS Students	Presence of SRO
Pct. of Minority Students	--											
Pct. of Hispanic Students	.706**	--										
Middle School	-.032**	-.016*	--									
High School	-.063**	-.027**	-.210**	--								
Urban School	.288**	.172**	-.021**	-.008	--							
Rural School	-.255**	-.149**	.003	.036**	-.340**	--						
Pct. of New Teachers	.164**	.113**	.022**	-.005	.045**	-.013**	--					
Student: Teacher Ratio	.119**	.209**	.018**	.135**	.059**	-.091**	-.046**	--				
Pct. of New Teachers X Student: Teacher Ratio	.154**	.129**	.027**	.041**	.042**	-.023**	.917**	.212**	--			

	Pct. of Minority Students	Pct. of Hispanic Students	Middle School	High School	Urban School	Rural School	Pct. of New Teachers	Student: Teacher Ratio	Pct. of New Teachers X Student: Teacher Ratio	Total Enrollment	Pct. of FARMs Students	Presence of SRO
Total Enrollment	.001	.072**	.053**	.633**	-.023**	-.079**	-.041**	.276**	.020**	--		
Pct. of FARMs Students	.584**	.458**	-.060**	-.135**	.176**	.073**	.170**	-.057**	.124**	-.189**	--	
Presence of SRO	-.056**	-.039**	.179**	.360**	-.006	.074**	.045**	.039**	.052**	.365**	-.010	--

* $p=.05$, ** $p<.01$,

Table 31

Correlations between Predictor Variables Based on Level of Average Risk of Non-Discipline for Hispanic Students in the Highest 10th Percentile of Schools

	Pct. of Minority Students	Pct. of Hispanic Students	Middle School	High School	Urban School	Rural School	Pct. of New Teachers	Student: Teacher Ratio	Pct. of New Teachers X Student: Teacher Ratio	Total Enrollment	Pct. of FARMS Students	Presence of SRO
Pct. of Minority Students	--											
Pct. of Hispanic Students	.620**	--										
Middle School	-.134**	-.094**	--									
High School	-.216**	-.176**	-.257**	--								
Urban School	.377**	.245**	-.099**	-.085**	--							
Rural School	-.456**	-.327**	.061**	.122**	-.486**	--						
Pct. of New Teachers	.161**	.084**	-.024	-.038*	.116**	-.072**	--					
Student: Teacher Ratio	.144**	.266**	-.058**	-.027	.032	-.130**	-.063**	--				
Pct. of New Teachers X Student: Teacher Ratio	.143**	.109**	-.021	-.042*	.095**	-.074**	.870**	.296**	--			

	Pct. of Minority Students	Pct. of Hispanic Students	Middle School	High School	Urban School	Rural School	Pct. of New Teachers	Student: Teacher Ratio	Pct. of New Teachers X Student: Teacher Ratio	Total Enrollment	Pct. of FARMs Students	Presence of SRO
Total Enrollment	.028	.140**	.033	.468**	-.034	-.100**	-.092**	.198**	-.047**	--		
Pct. of FARMs Students	.539**	3.25**	-.061**	-.293**	.220**	-.164**	.085**	-.015	.028	-.183**	--	
Presence of SRO	-.211**	-.198**	.226**	.302**	-.088**	-.131**	-.029	-.090**	-.042*	.257**	-.159**	--

* $p=.05$, ** $p<.01$,

Appendix C.

Table 32

Percentage of Students Receiving an Expulsion (Level X Typology)

African American				Hispanic				White			
Mean	S.D.	Min.	Max	Mean	S.D.	Min.	Max	Mean	S.D.	Min.	Max
Expulsions – All Schools											
0.40	2.32	0.00	80.00	0.19	1.44	0.00	82.00	0.16	1.00	0.00	35.00
Expulsions – Urban Elementary Schools											
7.20	13.49	0.00	31.00	0.06	0.57	0.00	14.00	0.09	0.81	0.00	22.00
Expulsions – Urban Middle Schools											
0.79	2.63	0.00	43.00	0.36	1.34	0.00	27.00	0.29	1.29	0.00	21.00
Expulsions – Urban High Schools											
0.83	2.88	0.00	74.00	0.40	1.64	0.00	50.00	0.34	1.43	0.00	32.00
Expulsions – Suburban Elementary Schools											
0.14	1.74	0.00	68.0	0.06	10.48	0.00	64.00	0.06	0.65	0.00	28.00
Expulsions – Suburban Middle Schools											
0.54	2.64	0.00	62.00	0.27	1.68	0.00	50.00	0.24	12.34	0.00	35.00

African American				Hispanic				White			
Mean	S.D.	Min.	Max	Mean	S.D.	Min.	Max	Mean	S.D.	Min.	Max
Expulsions – Suburban High Schools											
0.83	3.72	0.00	80.00	0.49	2.58	0.00	58.00	0.32	1.47	0.00	30.00
Expulsions – Rural Elementary Schools											
0.18	1.81	0.00	37.00	0.05	0.75	0.00	21.00	0.06	7.25	0.00	31.00
Expulsions – Rural Middle Schools											
0.70	2.84	0.00	44.0	0.30	1.49	0.00	32.00	0.25	1.07	0.00	20.00
Expulsions – Rural High Schools											
0.88	3.21	0.00	68.00	0.43	2.73	0.00	82.00	0.36	1.06	0.00	17.00

Table 33

Percentage of Students Receiving an Out-of-School Suspension (Level X Typology)

Mean	African American			Hispanic				White			
	S.D.	Min.	Max	Mean	S.D.	Min.	Max	Mean	S.D.	Min.	Max
Out-of-school suspensions – All Schools											
10.40	11.43	0.00	100.00	4.97	6.89	0.00	84.00	4.53	6.23	0.00	81.00
Out of-school suspensions – Urban Elementary Schools											
7.20	8.41	0.00	77.00	2.88	4.33	0.00	38.00	3.87	5.75	0.00	75.00
Out of-school suspensions – Urban Middle Schools											
20.41	15.29	0.00	100.00	10.59	9.34	0.00	67.00	0.29	1.29	0.00	21.00
Out of-school suspensions – Urban High Schools											
15.52	13.22	0.00	96.00	8.27	8.39	0.00	79.00	6.78	7.85	0.00	81.00
Out of-school suspensions – Suburban Elementary Schools											
5.26	6.90	0.00	88.00	0.06	10.48	0.00	64.00	2.34	3.75	0.00	50.00
Out of-school suspensions – Suburban Middle Schools											
0.54	2.64	0.00	62.00	8.03	7.20	0.00	50.00	6.22	6.59	0.00	56.00
Out of-school suspensions – Suburban High Schools											
14.94	11.90	0.00	95.00	8.28	7.71	0.00	74.00	5.67	5.75	0.00	63.00

African American				Hispanic				White			
Mean	S.D.	Min.	Max	Mean	S.D.	Min.	Max	Mean	S.D.	Min.	Max
Out of-school suspensions – Rural Elementary Schools											
6.63	7.93	0.00	85.00	2.54	4.57	0.00	51.00	2.87	4.17	0.00	57.00
Out of-school suspensions – Rural Middle Schools											
17.70	13.25	0.00	91.00	8.98	9.13	0.00	75.00	7.34	7.19	0.00	73.00
Out of-school suspensions – Rural High Schools											
16.22	12.31	0.00	84.00	8.77	8.83	0.00	84.00	6.68	5.93	0.00	63.00

Table 34

Percentage of Students Receiving an In-School Suspension

Mean	African American			Hispanic				White			
	S.D.	Min.	Max	Mean	S.D.	Min.	Max	Mean	S.D.	Min.	Max
In-school suspensions – All Schools											
9.70	13.56	0.00	100.00	5.16	8.48	0.00	88.00	4.44	7.12	0.00	97.00
In-school suspensions – Urban Elementary Schools											
4.70	7.61	0.00	89.00	1.87	3.65	0.00	43.00	2.37	4.46	0.00	65.00
In-school suspensions – Urban Middle Schools											
19.06	17.55	0.00	87.00	10.50	0.85	0.00	73.00	2.37	4.46	0.00	65.00
In-school suspensions – Urban High Schools											
13.35	15.57	0.00	99.00	8.37	10.99	0.00	88.00	6.26	8.69	0.00	74.00
In-school suspensions – Suburban Elementary Schools											
3.63	6.56	0.00	89.00	1.45	3.29	0.00	44.00	1.60	3.34	0.00	62.00
In-school suspensions – Suburban Middle Schools											
16.80	15.22	0.00	93.00	9.14	9.30	0.00	73.00	1.60	3.34	0.00	62.00
In-school suspensions – Suburban High Schools											
14.15	14.84	0.00	90.00	9.15	10.34	0.00	72.00	6.47	8.04	0.00	65.00

African American				Hispanic				White			
Mean	S.D.	Min.	Max	Mean	S.D.	Min.	Max	Mean	S.D.	Min.	Max
In-school suspensions – Rural Elementary Schools											
6.55	10.07	0.00	89.00	2.52	4.79	0.00	45.00	2.95	5.06	0.00	62.00
In-school suspensions – Rural Middle Schools											
24.45	17.24	0.00	100.00	12.95	10.87	0.00	74.00	11.11	9.30	0.00	97.00
In-school suspensions – Rural High Schools											
21.15	17.17	0.00	95.00	13.38	12.26	0.00	76.00	10.85	9.78	0.00	88.00

Appendix D.

Table 35

Descriptives of the Reverse Risk Ratio

Reverse Risk Ratios	Mean	Min	Max
African American non-Expulsions	-.0027	-1.24	.24
African American non-Out-of-School Suspensions	-.0713	-2.84	1.42
African American non-In-School Suspensions	-.0683	-4.42	.83
Hispanic non-Expulsions	-.0004	-1.52	.35
Hispanic non-Out-of-School Suspensions	-.0051	-1.66	1.51
Hispanic non-In-School Suspensions	-.0090	-1.37	2.23

Appendix E.

Table 36

Literature Review Summary Table

Study	Details	Relevance to Study
Allman & Slate (2011)	Review of the literature on school disciplinary practices including zero-tolerance policies, suspensions, out of-school suspensions, and alternative education programs,	Students given out-of-school suspensions often miss instruction and upon returning to school fall behind academically. Although developed as an alternative to out-of-school suspensions, in-school suspension have been found to negatively impact student academic performance while not reducing misbehavior. Similar to out-of-school suspensions, students given in-school suspensions miss educational opportunities, including opportunities to ask questions or getting teacher assistance in a classroom setting.
Arcia (2007a)	<p>Examined the percentage of suspension among students in three different types of middle school enrollment groups to determine the impact of grade level on discipline</p> <p>Sample: Suspension data for three different student groups: 1) students who attended a K-8 in 6th and 7th grade, 2) students who attended a K-8 in 6th grade and a middle school in 7th grade, and 3) students who attended a middle school for 6th and 7th grade</p> <p>Methodology: Chi-squares were used to test differences between grades and between types of schools</p>	Results showed that suspensions increased with grade level and that enrollment in a middle school building, rather than enrollment in a traditionally middle school grade, was associated with an increase in suspensions

Study	Details	Relevance to Study
Arcia (2007b)	<p>Examined the variability of suspensions for African American students in secondary school</p> <p>Sample: Suspension and school data for all general education middle and high school students in a large, urban school district in the southeastern United States</p> <p>Methodology: Hierarchical backward regression of suspensions were used to determine the impact of reading achievement, enrollment percentages, and staff demographics on suspensions</p>	<p>Results showed that African American students were more likely to be suspended in schools where a high percentage of suspensions of non-African American students , in schools with significant disparities in reading achievement between racial groups, and in schools where the average years of experience of the instructional staff was low</p>
Atkins et al. (2002)	<p>Examined students’ responses to discipline practices</p> <p>Sample: Disciplinary records for 136 3rd through 8th graders in an urban school setting across an entire school year. Teachers also completed the Social Skills Rating System and the Antisocial Behavior Scale for each student</p> <p>Methodology: MANCOVAs were used to determine differences between students discipline in the Fall vs. student disciplined in the Spring and the Fall vs students who never received a disciplinary referral</p>	<p>Results indicated that students who were referred only in the Fall demonstrated similar rates of aggressive and rule violations over the course of the year compared to students who received no discipline. The authors interpret this as their punishment deterred later misbehavior. For students who were referred in the Fall and Spring, disciplinary referrals increased over the school year, suggesting that disciplinary punishment was not an effective deterrent for this group of students.</p>
Bear (2012)	<p>Review of literature on the use of suspension to punish and deter misbehavior</p>	<p>The author argues that although suspensions should not be the primary disciplinary consequence in a school, they can act as a clear sanction for misbehavior and can be effective for certain students. The author suggests an approach to discipline approach to discipline that combines evidence-based disciplinary techniques that are both positive and</p>

Study	Details	Relevance to Study
		<p>punitive, when appropriate, in order to prevent misbehavior while encouraging self-discipline and a positive school climate</p>
<p>Bowman-Perrott, Benz, Hsu, Kwok, Eisterhold, & Zhang (2011)</p>	<p>Examined patterns in and predictors of exclusionary discipline over time</p> <p>Sample: Disciplinary data from the Special Education Elementary Longitudinal Study (SEELS) for students ages 6 through 12 ($n=9,824$) with a focus on data for students with a learning disability, behavioral/emotional disability, or Attention Deficit-Hyperactivity Disorder</p> <p>Methodology: Structural equation modeling was used to determine odds of receiving discipline based on predictor variables. Predictor variables were 1) student characteristics (including disability status), 2) family characteristics, 3) student academic and social skills, and 4) school characteristics.</p>	<p>Results demonstrated that early disciplinary exclusions is related to later disciplinary exclusion, and that students with behavioral/emotions disabilities were at greatest risk of expulsions followed by students with ADHD and students with a learning disability.</p>
<p>Bradshaw, Mitchell, O’Brennan, & Leaf (2010)</p>	<p>Examined the relationship between student- and teacher/classroom-level factors associated and overrepresentation of minority students in office disciplinary referrals</p> <p>Sample: Discipline data from 6,988 students in 381 classroom at 21 elementary schools, who were participating in a randomized trial of School-Wide Positive Behavioral Interventions and Supports (SWPBIS)</p>	<p>Results indicated that African American students were at greater risk of office disciplinary referrals. The study also found that there was no relationship between the student and teacher ethnic match and the risk of receiving a disciplinary referral.</p>

Study	Details	Relevance to Study
	<p>Methodology: Hierarchical linear modeling was used to determine the impact of student- and teacher/classroom-factors on referrals</p>	
<p>Brown & Di Tillio (2013)</p>	<p>Examined the risk of disproportional discipline for Native American and Latinx students.</p> <p>Sample: Discipline data from the Arizona Department of Education for the 2010-2011 school year, encompassing 285,329 incidents</p> <p>Methodology: Logistic regression was used to determine the relative risk of receiving a disciplinary referral, in-school suspension, out-of-school suspension, or expulsion for Native American and Hispanic students compared to White students</p>	<p>Results indicated that Native American and Latinx students are at-risk for disproportional discipline (i.e., initial referrals, ISS, OSS and expulsion) compared to White students</p>
<p>Brown (2007)</p>	<p>Aimed to show how school exclusion impacts students' academic, social, and emotional well-being</p> <p>Sample: Thirty-seven students who were suspended or expelled from their home school and were attending an urban, public alternative high school</p> <p>Methodology: Data collection via anonymous questionnaires with results tallied or transcribed for frequency of experiences (e.g., number of school transfers, length of absences)</p>	<p>Results indicated that disciplinary exclusion was associated with later absences, failing classes, grade retention, and other negative academic outcomes.</p>

Study	Details	Relevance to Study
Cooley (1995)	<p>Examined whether acts leading to exclusionary discipline of student with disabilities differed from those committed by peers without disabilities</p> <p>Sample: Data from 1,094 disciplinary incidents were collected via a survey of 441 Kansas public school principals</p> <p>Methodology: Chi-squares</p>	<p>Results indicated that there were no differences in behaviors that prompted suspensions between students with and without disabilities</p>
Christle, Nelson, & Jolivette (2004)	<p>Examined suspension rates in Kentucky middle schools</p> <p>Sample: Discipline data from the 20 middle schools with the high suspensions rates and 20 middle schools with the lowest suspension rates</p> <p>Methodology: MANOVAs were used to determine if the two school groups differed based on school, staff, student, and environmental characteristics</p>	<p>Results indicated significant differences between the schools with the lowest versus highest suspensions rates. Schools with lower suspension rates had more positive school environments (e.g., cleaner, brighter) reported using successful incentive programs and had more rigorous academic programs. School size was not related to suspension rates.</p>
Eitle & Eitle (2004)	<p>Examined the relationship between school segregation and the disproportionate suspension of African American students</p> <p>Sample: Discipline data from public middle and high schools for the 1999-2000 school year</p> <p>Methodology: OLS regression analysis was used to determine the influence of school- and district-level variables on disproportional discipline</p>	<p>Results indicated that higher levels of school district segregation were related to lower levels of disproportional discipline. Schools with a weaker academic culture (e.g., greater absenteeism and dropout rates, average academic performance) and have fewer resources had higher levels of disproportional discipline.</p>

Study	Details	Relevance to Study
<p>Finn & Servoss (2014)</p>	<p>Examined the relationship between student behavior, suspensions, and security measures</p> <p>Sample: Data from 500 public schools that participated in the Educational Longitudinal Study of 2002 with supplemental data from Common Core of Data and additional discipline data from the Civil Rights Data Collection</p> <p>Methodology: To determine the types of schools with the most invasive security measures and the types of schools with the greatest percentage of suspended students, <i>t</i>-tests and chi-square tests were conducted.</p> <p>To determine the racial/gender groups most at-risk for suspensions and whether differences in suspension rates reflect differences in the degree of students' misbehavior, logistic regression analysis was used.</p>	<p>Results indicated that highest rates of suspensions and higher security were found in larger schools and schools with a higher proportion of African American students and students receiving free lunches.</p> <p>Results also found that males were suspended at higher rates than females. African American students were suspended at higher rates than Latinx students who were suspended at higher rates than non-Latinx White students. African American males were at greatest risk compared to every other gender/racial group combination.</p> <p>Results indicated that males were still more likely to be suspended than females even after controlling for the severity of behavior. African American and Latinx students were more likely to be suspended than other groups even after controlling for the severity of behavior.</p>
<p>Gregory, Skiba, & Noguera (2010)</p>	<p>Review of the literature on racial/ethnic discipline disparities and the relation to the achievement gap for students of color</p>	<p>The authors points out that despite decades of literature on existence and negative impact of the disproportional discipline, there is limited research on reasons for disproportionality or why disproportionality is increasing, particularly for certain groups such as African American females. The authors also observed that research into disproportional discipline of Latinx students have produced inconsistent results. Due to the complex nature of this phenomenon, there are likely many</p>

Study	Details	Relevance to Study
		factors need to explain, and eliminate, disproportionality.
Gregory & Weinstein (2008)	<p>Study 1: Examined a single high school’s discipline data for students referred for defiance</p> <p>Sample: Discipline data from an urban high school from the 2002-2003 school year</p> <p>Methodology: Chi-square tests were used to determine differences in African American and White student referral rates</p> <p>Study 2: Examined the specific situational contexts of defiance referrals</p> <p>Sample: 30 African American students whose discipline data had been used as part of Study 1</p> <p>Methodology: T-tests were used to compare student reports of 1) defiance and cooperation with referring teacher, 2) perception of referring teachers’ caring and academic expectations, and 3) perceptions of trust in and obligation to authority.</p> <p>Hierarchical liner modeling was used to assess teacher characteristics as predictors of students’ reports of trust in teacher authority.</p>	<p>Results of study 1 indicated that African American students were overrepresented as a proportion of the disciplinary referrals for defiant behavior. For the majority of African American student who received defiance referrals, referrals came from one or a few teachers rather than all teachers.</p> <p>Results of study 2 indicated that defiance and cooperative behaviors differed across classroom settings. Teacher qualities (i.e., more caring and higher academic expectations) predicted students’ willingness to trust and cooperate with their teachers.</p>
Hinojosa (2008)	Examined the role of teacher behavior and expectations in student discipline	Results indicated that African American students’ odds of receiving an out-of-school suspension were at

Study	Details	Relevance to Study
	<p>Sample: 6th and 8th grade teachers from a large, urban school district in the Midwest in 1997, as well as their African American and White students. Data was collected from a subset of schools via surveys of teachers and students.</p> <p>Methodology: One-way ANOVAs were used to investigate racial group differences in students' reports of teacher expectations, fairness, and school engagement.</p> <p>Logistic regression analysis was used to determine the odds of in- and out-of-school suspensions using student characteristics, home characteristics, school engagement, student misbehavior, and students' beliefs about teacher expectations and fairness/caring as predictors</p>	<p>greater than White students. When controlling for home characteristics (e.g., number of siblings, perception of parent fairness), beliefs of teacher fairness, student race and gender, and misbehavior, African American were still more likely to have received an out-of-school suspension. Although teachers' reported expectations were related to a decreased risk for out-of-school suspensions, students' perceptions of these expectations were unrelated.</p>
<p>Krezmien, Leone, & Achilles (2006)</p>	<p>Examined trends in the state-wide suspension data from 1995 to 2003 in Maryland schools</p> <p>Sample: All public school students in Maryland schools from 1995 to 2003, with data drawn from state-reported records of enrollment, suspensions, and special education services</p> <p>Methodology: Logistic regression model was used to determine disproportionate suspension rates for students by race</p>	<p>Results indicated that for students with disabilities, suspension risk varied based on a student's specific disability category and race. Students with disabilities were typically at greater risk for suspension than their non-disabled peers. Students with behavioral and emotional disabilities were at greatest risk, particularly for African American students and this risk increased with each year of data.</p>
<p>Larson, Pas, Bradshaw, Rosenberg, Day-Vines, Gregory (2018)</p>	<p>Examined the relationship between student behavior and the use of culturally responsive teaching practices and proactive behavior management techniques</p>	<p>Results indicated that the introduction of culturally responsive teaching improved observable positive student behavior, beyond the effect of positive</p>

Study	Details	Relevance to Study
	<p>Sample: 274 teachers in 9 elementary and 9 middle schools, with data collected via teacher surveys and classroom observations</p> <p>Methodology: Structural equation model was used to assess the association between observations of culturally responsive teacher and proactive behavior management, and observed positive student classroom behavior</p>	<p>behavior management. The study also found that general education teachers reported less self-efficacy in behavior management compared to special educators.</p>
<p>Losen & Gillespie (2012)</p>	<p>A report on the findings of the Civil Rights Project, a study focused on the racial and ethnic inequalities in education</p> <p>Sample: The report focused on suspensions of Kindergarten through 12th grade students in the 2009-2010 school year of the Office of Civil Rights' Civil Rights Data Collection</p> <p>Methodology: Suspension percentages by racial/ethnic group and ability status were calculated by dividing the number of suspended students in each group by total enrollment. These were percentages were compared, as well as used to calculate suspension risk in relation to a target group (i.e., White students or students without disabilities)</p>	<p>The report indicated that African American, Native American, and Latino students are disproportionately suspended relative to their White peers. More specifically, they found that 1 out of every 4 African American K-12 student had been suspended at least once in the 2009-10 school year. African American students with disabilities were at significantly greater risk.</p>
<p>Losen & Martinez (2013)</p>	<p>An executive summary reviewing trends in the use of suspensions in public middle and high schools</p>	<p>The authors highlighted reports of the extensive use of suspensions in middle and high school, including that during the 2009-10 school year 1 out 9 nine secondary school students were suspended at least once. Racial minority students, particularly African American students, were particularly vulnerable to suspensions. The authors point out that not only has the use of</p>

Study	Details	Relevance to Study
		<p>suspensions in secondary schools increased since the 1970's, but the discipline gap between White and racial minority students has widened as well. Since the 1970's, suspension rates have increased by 12.5% for African American students, while increasing by only 1.1% for White students.</p>
<p>Massar, McIntosh, & Eliason (2015)</p>	<p>Examined the pattern of out-of-school suspension use in middle schools as well as the likelihood that a student who receives a suspension early in the school year does not then receive another suspension or office disciplinary referral later in the school year</p> <p>Sample: Data from the School-Wide Information System for the 2009-10 school year, representing 1,840 middle schools with 991,184 students</p>	<p>Results indicated that 6.6% of the students received at least one suspension in the 2009-10 school year, with the number of suspensions ranging from 0 to 38 and the average number of suspensions being 1.85. Of those students, 38.6% received another suspension during the year. Another 28.1% had no further disciplinary involvement for the remainder of the school year, meaning that for 67% of students, suspension did not deter them from misbehavior later in the school year.</p>
<p>Mayer & Leone (2007)</p>	<p>A review of the literature on school violence, safety, and disruptive behaviors in schools</p>	<p>The authors review a range of outcomes associated with suspensions, including school failure, later school dropout, an increase in anti-social behavior. They also review frameworks for reducing violent or disruptive behaviors without the need for suspensions as well as legislation affecting these issues.</p>
<p>McCarthy & Hoge (1987)</p>	<p>Examined</p> <p>Sample: 1,125 students in the 7th, 9th, and 11th grades in six public schools in mid-Atlantic, with data collected via questionnaires over three school years from 1976-1979. 945 students were retained across all three years.</p>	<p>Results indicated that students whom teachers perceived as having a more positive demeanor received lighter punishments for the same misconduct. Students with high grades and White students also received lighter punishment relative to their peers when all other factors were controlled. Past</p>

Study	Details	Relevance to Study
	<p>Methodology: Regression analysis was used to determine relationships between the severity of disciplinary consequences and other variables, including race, grade point average, past disciplinary actions, teacher’s perceptions of students behavior, etc.</p>	<p>misconduct also had a strong influence on receiving a harsher punishment, particularly for misconduct within the last one and two school years.</p>
<p>McFadden, Marsh, Price, & Hwang (1992)</p>	<p>Examined the influences of race, gender, types of misbehavior, on referral rates, frequencies, and types of punishments</p> <p>Sample: 4,931 discipline records across nine schools in Florida where corporal punishment is permitted, for the school months between August 1987 and January 1989</p> <p>Methodology: Chi-squares were used to analyze the differences in punishment of male, African American students with disabilities versus their peers</p>	<p>Results indicated that African American students received a disproportionate number of total punishments compared to White students. For each racial group (i.e., African American, Hispanic, White), males were disproportionately represented in punishments. In this sample, the most common form of punishment was corporal punishment with suspensions being the second most common form. African American and students with disabilities were more likely to receive harsher punishment (i.e., corporal punishment) compared to their peers and were significantly less likely to receive milder forms of punishment. African American male students with disabilities were punished more severely than other groups for the same offenses.</p>
<p>McNeely, Nonnemaker, & Blum (2002)</p>	<p>Examined the relationship between school connectedness and the school environment</p> <p>Sample: Data from school administrator surveys of the National Longitudinal Study of Adolescent Health (Add Health), representing grades 7 through 12. For this study, a random sample of 80 of the 127 school participating in Add Health were used. Additional data was collected from those</p>	<p>Results indicated that higher school connectedness was positively associated with</p> <p>School connectedness was lower in schools with poor classroom management (e.g., teacher not empathic, consistent, or encouraging), strict discipline policies (e.g., expelling students for relatively minor infractions)</p>

Study	Details	Relevance to Study
	<p>80 schools via student surveys to assess school connectedness</p> <p>Methodology: Hierarchical linear models were used to estimate the association between school characteristics and the average level of school connectedness at each school</p>	
<p>McKenna, Martinez-Prather, & Bowman (2016)</p>	<p>Examined how law enforcement officers define their actual versus their perceived roles in educational settings</p> <p>Sample: 26 school-based law enforcement officers in 11 school districts across Texas, with data collected via interview</p> <p>Methodology: Surveys were transcribed and coded for officers' roles in educational settings</p>	<p>Results indicated that the majority of offices (65%) that roles were established through collaboration with school administrators, police command, and others. Officers reported taking on non-traditional roles such as the role of educator (e.g., teaching students in a classroom) and surrogate parent (e.g., providing emotional support as well as tangible items like clothes and school supplies). Although some officers indicated that they felt that the role of school-resource officer should be a mix of law enforcement, mentor, educator and social worker-type roles, not all of these roles were endorsed by all officers.</p>
<p>McLoughlin & Noltemeyer (2010)</p>	<p>Examined the school demographic variables that best predict suspensions rates and disproportional discipline</p> <p>Sample: Discipline and demographic school data gather from the Ohio Department of Education's Power Uses Tool, resulting in the inclusion of 433 school from the 12 major urban, high poverty school districts in Ohio for the 2007-08 school year.</p> <p>Methodology: Relative risk ratios for African American suspensions were calculated and step-wise multiple</p>	<p>Results indicated that the overall best predictors of suspension use were office disciplinary referrals, percentage of African American teachers, percentage of economically disadvantaged students, and percentage of African American students. Office disciplinary referrals were most often made by teachers, and in particular, a small number of teachers accounted for the majority of the referrals made. When disproportionate discipline was examined, the only significant predictor was the percentage of economically disadvantaged students, such that when</p>

Study	Details	Relevance to Study
	<p>regression analyses were used to determine the relationship between predictor variables and relative risk of suspensions. Schools were only included in analyses if they had data for that level of analysis, and therefore schools were dropped as different predictor variables were considered.</p>	<p>the percentage of economically disadvantaged students increased, disproportionality decreased</p>
<p>Mitchell, Armstrong, & Armstrong (2018)</p>	<p>Examined the extent to which two theories, 1) the prisonization of school or 2) the minority threat hypothesis, explained variation in school disciplinary practices</p> <p>Sample: Discipline and school data from 259 Arizona school collected via the 2004 Arizona Youth Survey and the 2004 Safe and Drug Free Schools survey</p> <p>Methodology: Ordinary least squares regression was used to determine the influence of school prisonization (e.g., number of school security measures and/or law enforcement personnel at the school) and minority threat (e.g., percentage of minority student) on disciplinary responses</p>	<p>Results indicated that schools with both higher minority populations and higher rates of prisonization have greater rates of exclusionary discipline practices. Schools with higher populations of minority students also had significantly decreased use of mild and restorative discipline responses.</p> <p>The presence of counselor and mental health professional was related to an increase in the use of mild and restorative disciplinary responses; however, this was also related to an increase in exclusionary discipline, possibly because these professionals were in larger schools.</p>
<p>Na & Gottfredson (2011)</p>	<p>Examined the association between the added presence of police in schools and changes in the levels of school crime and school response to crime</p> <p>Sample: Data from the School Survey on Crime and Safety across three school years (2003-04, 2005-06, 2007-08) with a sample size of 470 schools</p> <p>Methodology: Regression analysis was used to assess the amount of increase in police presence at school, while controlling for the level of crime. A negative binominal</p>	<p>Results indicated that 21.1% of schools reported the presence of a police officer on campus during the 2007-08 school year. The presences of officers varied significantly based on school level and typology with only 5% of rural elementary schools reporting their presences versus 68% of urban high schools. Generally, high schools reported higher numbers than middle schools, which reported higher numbers than elementary schools, and city schools reported higher numbers than town and rural schools. In 76% of the</p>

Study	Details	Relevance to Study
	<p>regression model was used to account for the overdispersion of crimes and the natural log of school enrollment was used to convert the regression model from a model of crime counts to a model of per capita crime rates.</p>	<p>schools, the officers were involved in maintaining school discipline.</p> <p>Results also indicated that schools with officers reported higher rates of offending behaviors when police were present and prior to their placement at the school. When the <i>increase</i> in officers across the study years was examined, results indicated that this increase was specifically related to an increase in weapon/drug crimes but no other offenses. Although an increase in police presence was unrelated to changes in the use of harsh discipline (e.g., suspensions), neither was it related to any change or decrease in crime or offense rates.</p>
<p>Noltmeyer & Mcloughlin (2010a)</p>	<p>Replicated a previous study that examined changes in the use of exclusionary discipline, and disproportional discipline, over time</p> <p>Sample: Discipline data from the Ohio Department of Education website (www.ode.state.oh.us) for the 2000-01 school year through the 2008-09 school year. Data was disaggregated by school year, district, and race. 288 schools were included in the analysis, or 48.4% of all school districts in Ohio.</p> <p>Methodology: Repeated measures MANCOVA was used to assess changes in exclusionary discipline as well as changes in disproportional discipline</p>	<p>Results indicated that there were significant differences between the use of exclusionary discipline between racial/ethnic groups, with ethnicity explain 25.3% of the variance disciplinary outcomes. There were significant changes in the use of suspension over time, with White students receiving an increased number of suspensions over time and African American students receiving a decreased number of suspensions over time. Although the discipline gap appeared to be diminishing, African American students continued to be suspended at disproportionately higher rates.</p>

Study	Details	Relevance to Study
<p>Noltemeyer & Mcloughlin (2010b)</p>	<p>Examined differences in exclusionary discipline rates, whether these rates vary by school typology, and if there is an interaction between typology and ethnicity with regard to discipline rates</p> <p>Sample: Discipline data from 326 schools in Ohio during the 2007-2008 school year</p> <p>Methodology: MANCOVA and univariate ANCOVAs were used to assess exclusionary discipline rates and variations in discipline based on typology.</p>	<p>Results indicated discipline rates varied based on school typology, with typology accounting for 4% of the variability in exclusionary discipline use. Schools identified as “major, urban very-high-poverty schools” had higher mean suspensions compared to other school typologies as well as greater disproportionality. Rural school districts with small student populations and low poverty had the lowest mean suspensions and lowest disproportionality rates. African American students were suspended at 2 to 3 times the rate as their White peers.</p>
<p>Office of Civil Rights (2014)</p>	<p>A summary of the 2011-2012 data from the Office of Civil Rights’ civil Rights Data Collection</p> <p>Sample: 99% of CRDC schools representing approximately 49 million students</p>	<p>Results indicated that during the 2011-2012 school year, African American students were suspended and expelled at rate 3 times greater than their White peers. African American males and females were both suspended at higher rather than their peers of any other race/ethnicity. African American girls were suspended at rates higher than boys of most other races/ethnicities, despite boys being at greater risk than girls of receiving a suspension.</p>
<p>Payne & Welch (2010)</p>	<p>Examined how school racial composition and other factors affects policies related to exclusionary discipline as well as restorative disciplinary practices</p> <p>Sample: Data from 294 public, non-alternative secondary schools in the National Study of Delinquency Prevention in Schools</p>	<p>Results indicated that schools using extreme punitive disciplinary responses (e.g., expulsions, police/court involvement) were also more likely to use punitive discipline practices (e.g., suspensions, detention, loss of privilege) and zero tolerance practices, while schools using milder punishments (e.g., parent contact, student conferencing were more likely to use restitutive practices (e.g., restitution, community service). The relative size of a schools minority</p>

Study	Details	Relevance to Study
	<p>Methodology: Structural equation modeling was used to determine how predictors are related to punitive and restorative discipline practices, and how these practices are related to one another</p>	<p>population was also found to be related to the intensity of school punishment used.</p>
<p>Peguero & Shekarkhar (2011)</p>	<p>Examined the relationship between gender, generational status and disciplinary consequences for Latinx students compared to White students</p> <p>Sample: Demographic and discipline data from the Educational Longitudinal Study of 2002 representing 7,250 Latinx and White students</p> <p>Methodology: Hierarchical Linear Modeling was used to analyze the relationship between gender, generational status, student misbehavior, and consequences</p>	<p>Results indicated that there were no differences between 2nd, and 3rd generation Latinx and White students in regards to misbehavior, while 1st generation Latinx students were less likely to engage in misbehavior compared to other groups. 1st and 2nd generation Latinx students have comparable risks for receiving a school-sanctioned consequence for misbehavior compared to White students, while 3rd generation Latinx students have a greater likelihood. Although increased engagement in school did not decrease the likelihood of misbehavior, it did decrease the likelihood of punishment. Larger, poorer, and urban schools had higher rates of misbehavior.</p>
<p>Rausch & Skiba (2004)</p>	<p>Examined the impact of school characteristics (i.e., typology, level, and achievement) on disciplinary rates and racial discipline disparities</p> <p>Sample: Discipline data for African American, Hispanic, and White students in Indian public schools for the 2002-2003 school year</p> <p>Methodology: Rates of suspensions and expulsions were calculated and summarized</p>	<p>Results indicated that in all typologies (i.e., urban, suburban, town, and rural) both African American and Hispanic students were overrepresented in expulsions and out-of-school suspensions, with disparities greatest in suburban schools. Out-of-school suspensions were used more often in secondary schools; however disproportionate use varied by level and student group. African American out-of-school suspensions were most disproportionate in elementary schools, while for Hispanics they were most disproportionate in high schools.</p>

Study	Details	Relevance to Study
Rocque (2010)	<p>Examined the relationship between student race and office referrals</p> <p>Sample: Office referral data from 45 elementary schools for one Virginia county during the 2005-06 school year, with a total enrollment of 28,634 students. The discipline data of 503 of students was excluded due to errors</p> <p>Methodology: Logistic regression using a fixed effects model to remove any school-level influences was used to analyze the relationship between student race and referrals</p>	<p>Results indicated that African American students received a larger proportion of office referrals and discipline compared to their Hispanic and White peers. When the types of misbehavior as well as school effects were considered, status as an African American student remained a significant predictor of receiving a disciplinary consequence.</p>
Rocque & Paternoster (2011)	<p>Examined the likelihood that African American elementary school students are to receive disciplinary referral while controlling for individual-, classroom-, and school-level factors</p> <p>Sample: 45 elementary (K-5) schools with a total enrollment of over 22,00 students in a large mid-Atlantic school district that contains urban, suburban, and rural schools</p> <p>Methodology: Hierarchical linear modeling was used to assess risk for receiving an office disciplinary referral</p>	<p>Results indicated that African American students were more than 2 times likely to receive at least one disciplinary referral compared to all other races/ethnicities, even after specific referral behavior is controlled for. They were also more likely to receive multiple referrals. Schools with a higher proportion of African American students are more likely to use referrals for punishment.</p>
Shirley & Cornell (2011)	<p>Examined the relationship between student perceptions of school climate and racial differences in school discipline</p> <p>Sample: 400 middle school students in a Virginia suburban school district, who completed the School Climate Bullying Survey, as well as school discipline records</p>	<p>African American students were more likely to receive an office disciplinary referral and more likely to be suspended compared to White students.</p> <p>African American students reported feeling less willing to seek help from teachers and school staff than White students, were more likely to endorse</p>

Study	Details	Relevance to Study
	<p>Methodology: Chi-square tests were used to analysis differences between African American and White students' suspension rates. Hierarchical regression analysis was used to determine if race predicted office disciplinary referrals and suspensions after controlling for school climate</p>	<p>aggressive attitudes toward their peers, and were more likely to report being teased about clothes and physical appearance than their White peers. These factors were all significant related to likelihood of receiving a disciplinary referral. However, only endorsement of aggressive attitudes was found to predict suspension rates, with this factor accounting for some of the predictive power of race as a variable.</p>
<p>Skiba (2002)</p>	<p>A review of literature on the discipline of students receiving special education services, as well as the legal foundations to discipline of students with disabilities and related issues.</p>	<p>Suspensions continue to be one of the most widely used disciplinary practices. Although certain student misbehaviors are more likely to receive a suspension (e.g., bullying, harassment, violent behavior), student behavior alone does not account for differential suspension use. Variations in the use of suspension may also be accounted for by other factors, such as variations in teacher-initiated referrals. Certain groups of students (e.g., racial/ethnic minority students, students with disabilities) are consistently overrepresented in suspension rates. African American students, in particular, are consistently found to be suspended at 2 to 3 times the rate of their White peers, and also are more frequently exposed to harsher punishments and less likely to receive milder consequences.</p> <p>Research suggests that suspensions are not effective in deterring future misbehavior, with around 40% of students receiving multiple suspensions in a school year, leading some to argue that suspensions are a</p>

Study	Details	Relevance to Study
		<p>reinforcer of misbehavior. Suspension are also associated with numerous negative outcomes, such as poor academic performance and greater risk of dropouts.</p>
<p>Skiba & Peterson (2000)</p>	<p>A literature review of disciplinary practices with a focus on preventative, early response practices</p>	<p>The authors argue that there is a gap between research and practice, with studies demonstrating the effectiveness of applied behavior analysis, positive consequences, and classroom management strategies not translating to an effective balance of positive and negative consequences in schools. Current practices, which rely heavily on exclusionary discipline, have not led to decreases in misbehavior or safer schools. Furthermore, there is a significant body of research suggesting that exclusionary discipline is vulnerable to unfair and inconsistent use that disproportionately affects certain groups of students, such as low-income students and racial/ethnic minority students. There are also several negative outcomes associated with suspensions, including school disengagement and dropout.</p>
<p>Skiba & Sprague (2008)</p>	<p>A review of the literature on school discipline</p>	<p>Although there is a wide range in terms of how frequently suspensions are used (e.g., from 9% of the student body in one school to 92% in another found in one study), suspensions are one of the most widely used forms of disciplinary consequence, despite poor outcomes, inconsistent implementation, and unfair application. Not only are racial minority students are more likely to receive a suspension, but they are also more likely to receive a harsher consequences for less</p>

Study	Details	Relevance to Study
		<p>severe and more subjective infractions. Suspension may be used indirectly to remove trouble-makers” from the school, although research has shown that removing such students does not improve the overall school climate.</p>
<p>Skiba & Williams (2014)</p>	<p>A literature review of school discipline and racial differences in behavior</p>	<p>The authors point out that racial discipline disparities would be warranted if they reflected a genuine difference in behavior between students of different racial groups, but research suggests this is not the case. Disparities in discipline cannot be explained by misbehavior alone, as there is little to no difference in the severity of behaviors that lead to office disciplinary referrals for African American versus White students. African American students are also more commonly referred for subjective infractions (e.g., disrespect, defiance) while White students are more commonly referred for observable or objective offenses (e.g., smoking, vandalism). Student race is a significant predictor of the overrepresentation of African American students in suspensions, even after other factors, such as poverty, are controlled for.</p> <p>School characteristic may have a greater impact on the likelihood of receiving a referral or suspension. Schools with a more diverse faculty have lower discipline disparities, while schools with a more diverse student body have higher rates of exclusionary discipline use and lower rates of milder disciplinary practices. Classroom culture and positive school</p>

Study	Details	Relevance to Study
		climate also appear to impact risk for referrals and suspensions.
Sullivan, Klingbeil, & Van Norman (2013)	<p>Examined the influence of sociodemographic characteristics and school policies (e.g., retention policy) on suspension risk</p> <p>Sample: Student- and school-level archival data for 18,000 K-12 students in 39 school in a Midwestern school district</p> <p>Methodology: Multinomial logistic regression was used to estimate suspension risk</p>	<p>Results indicated that male, African American, students receiving special education services, and students who received free/reduced price lunches were significantly more likely to be suspended. Student who were African American or received special education services were more likely to be suspended multiple times. Of the school variables, only schools' rate of referrals were associated with student suspension risk. Student enrollment, student: teacher ratio, the percentage of minority students, the percentage of ELL students, the percentage of White teachers, the percentage of truant or retained students, and the academic achievement of the student body did not affect suspension risk in this study.</p>
Wallace, Goodkind, Wallace, & Bachman (2008)	<p>Examined trends in racial, ethnic, and gender differences in school discipline between 1991 and 2005</p> <p>Sample: Discipline data from the University of Michigan's Monitoring the Future study, which uses a multi-state sampling procedure to gather nationally representative samples of 8th, 10th, and 12th grader from the 48 states (excl. Alaska and Hawai'i). Data is collected annually.</p> <p>Methodology: Logistic regression analysis was used to examine discipline disparities</p>	<p>Results indicated that while there are some differences in violations of zero-tolerance policies between racial groups and genders, these differences are very small. Despite these small differences, Native American, African American, and Hispanic students were significantly and consistently more likely to receive a disciplinary consequence than other groups. The study found relatively small racial differences in the use of office disciplinary referrals, but significant differences in risk for receiving a harsh disciplinary consequence (i.e., suspension or expulsion). African American boys were most likely to be suspended or expelled, followed by Native American boys, and then African</p>

Study	Details	Relevance to Study
		American girls. Asian American girls were least likely to be suspended or expelled.
Wauchope (2009)	<p>A review of school discipline in New Hampshire schools for the 2007-08 school year</p> <p>Sample: Data from the 2006 survey year of the Office of Civil Rights ‘Civil Rights Data Collection, as well as data from the New Hampshire Department of Education’s School Safety Survey were reviewed.</p> <p>The differences in discipline rates of schools based on size (i.e., smallest 25% and largest 25%) were also reviewed</p>	<p>High schools accounted for over half of all suspensions and 83% of the expulsions. High schools and elementary schools reported more out-of-school suspensions while middle school reported more in-school suspensions. Schools with a higher percentage of low-income students reported higher discipline rates. For 60% of the suspensions, the reason for the suspension was listed as “other” rather than a more serious offense (e.g., drug or weapons use, violence or threats of violence).</p> <p>Smaller schools had higher discipline rates for all grade levels (except mixed elementary/middle schools), with the average being almost twice the average of larger schools.</p>

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