

THE DISPROPORTIONATE USE OF DISCIPLINE: AN INVESTIGATION OF THE
POTENTIAL IMPACT OF SCHOOL-WIDE POSITIVE BEHAVIORAL
INTERVENTIONS AND SUPPORTS

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DISSERTATION ABSTRACT

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Title: The Disproportionate Use of Discipline: An Investigation of the Potential Impact of School-wide Positive Behavioral Interventions and Supports

Over the last 35 years, the disproportionate use of discipline by gender, race/ethnicity, and disability status has been consistently documented. Specifically, Black males receive the majority of suspensions and expulsions. Discipline for Native American and Hispanic students, while often showing overrepresentation, is less consistent. There is however consistent evidence of disproportionate discipline for students with disabilities. Experiencing disproportionate discipline often leads to poor academic outcomes, drop out, and involvement in the juvenile justice system.

The literature on disproportionate discipline does point to practices that may mitigate its occurrence. These include: shifting from reactive policies and practices to prevention frameworks, developing consistency for how consequences are delivered, reviewing behavioral data, and using graduated support. School-Wide Positive Behavioral Interventions and Supports (SWPBIS) is a systems approach focusing on whole-school prevention of problem behavior through teaching and acknowledgement of appropriate behavior, consistent consequences, and data for decision-making within graduated levels of support. The purpose of this study was to investigate the extent of

disproportionate discipline in Oregon middle schools and explore the potential impact that SWPBIS may have on discipline rates.

Results from descriptive analysis of discipline data by gender, race/ethnicity, and disability status across 181 middle schools in Oregon showed that Black, Native American, and Hispanic students were overrepresented for suspension and expulsion. Specifically, Black students were 2.58 times more likely to receive out-of-school suspension and 2.79 times more likely to be expelled as all other students. In addition, Native American and Hispanic students were over 1.5 times more likely to be suspended or expelled as all other students. In contrast, White and Asian students were less likely to be suspended and half as likely to be expelled as all other students. Also, students with disabilities were nearly two times more likely to be suspended and 1.55 times more likely to be expelled as students without disabilities. Lastly, ANOVA results for a causal-comparative matched group design with SWPBIS level of implementation as the independent variable showed no statistically significant differences between groups for suspension or expulsion. Possible reasons for these findings are explored and implications for future research and policy are provided.

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CHAPTER I

INTRODUCTION AND LITERATURE REVIEW

Over the last 35 years, school-based research has consistently documented the disproportionate use of discipline by gender and race/ethnicity (Bradshaw, Mitchel, O'Brennan, & Leaf, 2010; Children's Defense Fund, 1975; McCarthy & Hoge, 1987; Raffaele Mendez & Knoff, 2003; Noltemeyer & Mcloughlin, 2010; Skiba et al., 2011; Skiba, Michael, Nardo, & Peterson, 2002; Skiba, Peterson, & Williams, 1997; Wu, Pink, Crain, & Moles, 1982). More specifically, researchers have repeatedly found a gender-by-race interaction with Black males receiving the majority of office referrals (Bradshaw et al., 2010; Kauffman et al., 2010; Skiba et al., 2011; Rocque, 2010; Vincent, Swain-Brady, Tobin, & May, 2011) out of school suspensions and expulsion (CRDC, 2012; McCarthy & Hoge, 1987; Noltemeyer & Mcloughlin, 2010; Skiba et al., 2011; Skiba et al., 1997; Tobin & Vincent, 2011; Vincent & Tobin, 2011; Wallace, Goodkind, Wallace, & Bachman, 2008; Wu et al., 1982), and corporal punishment (Gregory, 1995; McFadden, Marsh, Prince, & Hwang, 1992). The disproportionate use of discipline however, is not limited to Black males. Evidence exists for over representation in both referrals and suspensions for Native American and Hispanic populations and for students with disabilities. (Krezmien, Leone & Achilles, 2006; Rocque, 2010; Skiba et al., 2011; Vincent et al., 2011; Wallace et al., 2008). For students with and without a disability, experiencing suspension has a negative impact on students' perception of the school environment and often leads to negative outcomes for those experiencing it.

Students who are already performing poorly in school are the most likely to be suspended, forcing them to miss out on instruction and causing them to fall further

behind (Arcia, 2006; Brown, 2007; Cartledge & Kourea, 2008; Gordon, Della Piana, & Keleher, 2000; Losen & Skiba, 2010; Skiba & Rausch, 2006; Townsend, 2000).

Exclusion through suspension and expulsion is also associated with disengagement (Reschly & Christenson, 2006), drop out (Christle, Jolivette, & Nelson, 2005; Raffaele Mendez, 2003; Skiba, 2000; Townsend, 2000; Wehlage & Rutter, 1986) and ultimately, involvement in the juvenile justice system (CRDC, 2012; Balfanz, et al., 2003; Leone et al., 2003; Monroe, 2005; Wald & Losen, 2003).

In a study of over one million seventh and eighth graders in Texas, Febelo et al. (2011) found that of the students who were suspended or expelled, 31% repeated their grade at least once compared to 5% for students not suspended or expelled. This study also found that roughly 10% of students who were suspended or expelled in seventh or eighth grade dropped out, and students who were suspended or expelled for discretionary reasons were nearly three times as likely to be involved with the juvenile justice system the following year (Febelo, et al. 2011). In addition to the many negative outcomes for students disproportionately suspended and expelled, the economic impact is considerable. Marchbanks III et al., (2013) in a study of extant data from the public school system in Texas found that 75% of Black students and 65% of Hispanic students experienced discipline during middle and high school. Using grade retention and dropout rates from their sample, these researchers estimated the economic impact of drop outs to be \$711 million per year, and additional costs for educating students that were retained to be \$41 million (Marchbanks III, et al., 2013). While documentation of the disproportionate use of discipline by gender, race/ethnicity, and disability status is extensive, spanning over three decades, research also indicates the problem is worsening (Civil Rights Discipline

Collection, 2012; Krezmien et al., 2006; Losen, 2011; Losen & Skiba, 2010; Raffael Mendez & Knoff, 2003; Wallace et al., 2008, Wu et al., 1982).

Review of Literature on Disproportionality by Race/ethnicity and Disability Status

In 1975, the Children's Defense Fund documented that Black students were two to three times as likely as their peers to be suspended (Children's Defense Fund, 1975). In a recent review of state reported data, Losen (2011) documented that discipline rates for students of all races have increased, and that K-12 suspension rates have more than doubled since the early 1970s for students of color. This same report based on 2007-2008 national data, showed a gap of 9.97% for suspensions between White and Black students with disabilities, and further identified 10 states that suspended more than 20% of their Black students with disabilities. The 2012 Office of Civil Rights Data Collection (CRDC) report, using 2009-2010 school year data from over 7,000 school districts with over 72,000 schools, documented that Black students were 3.5 times as likely to be suspended or expelled as their White peers. Additionally, the CRDC report found that while Black students made up 18% of students in the sample, they made up 35% of students suspended once, 46% of those suspended more than once, and 39% of students expelled.

Documentation also exists for disproportionate use of discipline for Hispanic and Native American students, but the evidence is less consistent. Rabrenovic and Levin (2003) using 2000-2001 data from the state of Massachusetts found that Hispanic and Black students combined made up only 19.4% of the student population, yet they accounted for 56.7% of school exclusions. Using data from the state of Maryland, Krezmien et al. (2006) reported that Hispanic students had similar or lower odds of being suspended than White students from 1995-2003. This same study concluded that while

Native American students had a similar chance as White students of being suspended for the first three years of the study, the odd ratios for Native Americans exceeded those of White students for the remaining years (1998-2003). In a more recent study Skiba et al. (2011) reported under representation for referrals for Hispanic students at the K-6 level and roughly proportionate representation for referrals in middle schools, but over representation for suspension and expulsion for similar problem behaviors emitted by their White peers. In addition to gender-by-race interactions, disability status has been identified as a predictor of disproportionate discipline.

The Individuals with Disabilities Education Act (IDEA) reauthorized in 2004, placed extensive requirements on states to annually report on the frequency, type of infraction, and discipline consequence disaggregated by race, ethnicity and disability status in an effort to shed light on the disproportionate use of discipline for students with disabilities. In spite of this, there is consistent evidence of higher rates of suspension for students with disabilities than their peers without disabilities (Achilles, McLaughlin, & Croninger, 2007; Bowman-Perrott et al., 2011; CRDC, 2012; Krezmien et al., 2006; Losen, 2011; Rausch & Skiba, 2006; Rocque, 2010; Skiba & Rausch, 2006; Wagner, Newman, & Cameto, 2004; Zhang, Katsiyannis, & Herbst, 2004). More specifically, researchers have identified that Black race and male gender positively predicted exclusion for students with disabilities (Achilles, et al., 2007; Bowman-Perrott et al., 2011; Losen, 2011; Losen & Skiba, 2010). This trend is not limited to Black students with disabilities however.

In a national sample, Zhang et al. (2004) documented over representation with suspension for Native American and Black students with disabilities compared to their

White peers with disabilities. Losen (2011) reported that in 2008, at least 10 states suspended over 20% of their Black students with disabilities. These same states reported suspension rates between 10% and 39% for Native American students with disabilities. Wagner et al. (2004) documented a 13% increase in suspension rates for students with emotional behavioral disorders and a 15% increase for students with other health impairment since the 1980s. More recent data revealed that students with disabilities were over twice as likely to receive out of school suspension as students without disabilities (CRDC, 2012). In addition to documenting the longstanding trend of disproportionate discipline by gender, race/ethnicity, and disability status, many researchers have sought to identify the causes of it.

Predictors of Disproportionate Discipline

Researchers trying to understand the causes of disproportionate use of discipline have largely focused on student characteristics, a cultural mismatch between administrators and teachers and their students, and the application of zero tolerance policies (Gregory, Skiba, & Noguera, 2010; Rocque, 2010; Skiba, Eckes, & Brown, 2009; Theriot, Craun, & Dupper, 2010; Wallace et al., 2008). While these mechanisms are not independent of one another, a targeted review of the literature is helpful to understand their potential to contribute to the disproportionate use of discipline by gender, race/ethnicity and disability status.

Student characteristics. The fact that males are disproportionately referred, suspended, and expelled from school compared to females is well established (Kaufman et al., 2010; KewelRamani, Gilbertson, Fox, & Provasnik, 2007; Vincent et al., 2011; Wu et al., 1982). Several studies have concluded that male students, across all school

locations, grade levels, and category of behavior are more likely to be referred to the office, suspended, and expelled than females (Bowman-Perrott et al., 2011; Kaufman et al., 2010; McFadden, et al., 1992; Rocque, 2010; Skiba et al., 1997; Skiba et al., 2000; Skiba et al., 2011; Tobin, Sugai & Colvin, 1996; Vincent & Tobin, 2011). The fact that males account for the majority of referrals and exclusionary consequences may be a function of the use of office discipline referrals as a measure and the types of behaviors male students engage in. Research on types of referrals by gender showed that males engaged in much more aggression related behaviors (e.g. fighting, use of weapons) that are more likely to draw adult attention and result in exclusionary discipline (Kaufman et al., 2010; Spaulding, Irving, Horner et al., 2010, Wright & Dusek, 1998). Researchers have also identified differences in behavior type by grade level that may be tied to developmental levels (Kaufman et al., 2010). This study found that referrals occurred more for aggression in grades K-6, disrespect for middle schools students and attendance problems for high school students. Finally, in addition to being male, several studies established low socioeconomic status (SES) to be a risk factor for suspension (Brantlinger, 1991; Gregory, Skiba, & Noguera, 2010; Skiba et al., 2002; Skiba et al., 1997; Theriot, Craun, & Dupper, 2010; Wu et al., 1982).

The majority of poor children in the U.S. are White, but children of color make up a greater proportion of students in poverty (Salend, 2005). A survey involving 116 schools across Delaware, Maryland, Pennsylvania, Virginia, and West Virginia confirmed that poor students were four to five times more likely than those who were not poor to receive corporal punishment (Ratcliff, 1980). More recently, Blackorby et al. (2007) found that family income levels successfully predicted the amount of discipline a

student would receive, with students from a household income of over \$50,000 receiving fewer disciplinary actions.

While race and SES are closely linked in American society and the link between low SES and disproportionate discipline is well documented, studies that controlled for SES continued to identify race/ethnicity as a key predictor of referrals and suspension (McCarthy & Hoge, 1987; Noltemeyer & Mcloughlin, 2010; Rafael Mendez, et al., 2002; Rocque, 2010; Skiba et al., 2002; Wallace et al., 2008; Wu et al., 1982). These studies, while showing an increased risk of discipline for students from low income families and students in schools with high poverty levels, demonstrated that there is more to disproportionate discipline than poverty alone.

Cultural mismatch. National data from 2007–08 showed that 83.5% of public school teachers were White, 76% were female, 44% were under the age of 40, and 52% had a master’s degree or higher (NCES, 2011). Differences in culture and experiential backgrounds of school administrators and teachers and the students they served, and a lack of training on how to work with students of color led to practices that created dissimilar impact for students of color (Artiles et al., 2000). Other researchers found that a mismatch between teacher and student values, norms, and belief systems made students of color more susceptible to discipline (Irvine 1990; Ladson-Billings, 1995; Monroe, 2005; Townsend, 2000). Some researchers have suggested that cultural differences created communication tensions and White female teachers’ interpretation of Black student communication as misbehavior could contribute to disproportionate discipline (Gay, 2006; Weinstein, Tomlinson-Clarke, & Curran, 2004). Regardless of SES, students of color perceived bias in discipline practices by teachers and administrators (Sheets,

2002; Skiba et al., 1997; Verdugo, 2002). When asked, students from both high and low SES backgrounds reported that they perceived discipline practices disproportionately targeted low SES students (Brantlinger, 1991). Green and Brydon (1975) found that in urban schools, students from low SES backgrounds were often perceived as intellectually deprived and unlikely to achieve, and that the racial views and middle class backgrounds of many teachers may have resulted in students of low SES being disciplined more often. In another study, administrators and teachers justified harsh treatment of low SES students by claiming that they come from an undisciplined and unstructured home life and disrespected authority figures (Irvine, 1990). While cultural mismatch between administrators and teachers may contribute to disproportionate discipline, there are additional factors such as differential treatment and school policies that also contribute to this problem.

Differential treatment. Several studies have documented that the majority of suspensions were for minor offenses including noncompliance, disrespect and disruption, while the fewest were for behaviors that involved safety (Imich, 1994; McFadden, et al., 1992; Raffaele Mendez & Knoff, 2003; Skiba, 2002; Skiba et al., 1997). Similar studies showed that Black students were more often referred for subjective behaviors, such as defiance and noncompliance, than their White peers (Gregory & Weinstein, 2008; Skiba et al., 2000; Skiba et al., 2011). Using a combination of self-report, teacher report, and extant referral and discipline data, several researchers concluded that despite a lack of evidence supporting claims that Black males display higher levels of disruptive behavior, as a group, they tend to receive more office referrals and are suspended and/or expelled at higher rates (Lewis, Butler, Bonner III, & Joubert, 2010; McCarthy & Hoge, 1987; Skiba,

Michael, Nardo & Peterson, 2002; Townsend, 2000; Wu et al., 1982). Fewer studies compared the behavior of students with disabilities to students without disabilities and the results have been mixed (Cooley, 1995; GAO, 2001; McFadden et al., 1992; Zhang et al., 2004). The issue of differential behavior by race/ethnicity was summed up by Losen (2011) when he stated:

It appears that White students are engaging more often in those behavioral transgressions that can be documented and counted without much subjectivity or discretion coming into play. However, for those offenses that require a judgment call by teachers, administrators and others, Black students are disproportionately called out. This suggests two possibilities: perhaps Black students focus their misbehavior on those types of activities that call for a subjective judgment of such misbehavior, or perhaps Black students are being unfairly singled out when it comes to prosecuting such behavior. (p. 7)

In summary, while it is well documented that males engage in more observable problem behaviors than females, the differential rate of serious behavior by race/ethnicity is not supported by existing research. This highlights the cultural mismatch between teachers and their students and differential selection that contributes to the disproportionate discipline of students by race/ethnicity (Gregory and Weinstein, 2008; Skiba et al. 2002; Skiba et al., 2011; Wallace et al., 2008). Unfortunately, at the same time researchers are attempting to understand the causes of disproportionate discipline, a majority of schools continue to turn to unsystematic and overly punitive practices in an attempt to manage student behavior (APA, 2008; Skiba & Rausch, 2006).

Zero tolerance policies and punitive practices. Adapted from the war on drugs during the 1980s and 1990s, the philosophy of zero tolerance has been increasingly implemented in schools across the country for a broad range of behaviors (APA, 2008; Losen 2011; Skiba, 2000; Skiba & Rausch, 2006; Wallace et al., 2008). With a series of high profile school shootings during the 1990s, many schools turned to punitive approaches to prevent school violence (Skiba et al., 1997; Skiba, 2004, Verdugo, 2002). While schools have a responsibility to create safe environments that are conducive to learning, research on the use of suspension has identified it as a predictor of further suspension (Gottfredson, Gottfredson, & Hybl, 1993; Mayer & Leone, 1999; Raffaele Mendez, 2003; Tobin, Sugai, & Colvin, 1996) and increased likelihood of incarceration (Balfanz, Spridakis, Neild, & Legters, 2003; Fowler, 2011; Wald and Losen, 2003). In a study on the use of suspension across several middle schools in a large district, Skiba and colleagues (1997) found that suspension was used in response to 33% of referrals district wide, but that it varied greatly by school. The inconsistent application of zero tolerance policies by race/ethnicity, and overuse for a broad range of non-serious behaviors likely exacerbate disproportionate use of discipline by race/ethnicity (APA, 2008; Losen & Skiba, 2010; Monroe, 2005; Turnbull, Edmonson, Griggs, Wickham, Sailor, Freeman, et al., 2002; Verdugo, 2002; Wald & Losen, 2003; Wallace et al., 2008).

Disproportionate Discipline in Oregon Schools

Using 2008-2009 school year data for all students, the ACLU of Oregon (2010) reported that Black students, while making up 2.94% of the student population, accounted for 6.13% of students disciplined (suspended, expelled, removed to alternative settings, and truant). White students on the other hand, while representing 68.42% of the

student population accounted for 65.47% of students disciplined. More specifically, the data showed Black students accounted for 4.09% of those suspended out of school and Hispanic students while making up 17.18% of the population accounted for 19.73% of those suspended out of school. This discrepancy was even greater for expulsions, with Black students making up 4.93% of those expelled and Hispanic students making up 25.24% of those expelled. It is unclear based on this report what extent zero tolerance policies contributed to the disproportionate rates of exclusionary discipline. Additionally, this data was not broken down by grade to determine if differences occurred by grade level.

The extensive body of literature documenting the on-going problem of disproportionate discipline by gender, race/ethnicity and disability status, and the negative outcomes for students who experience it does point to practices that may mitigate its occurrence (Cartledge & Kourea, 2008; Lewis et al., 2010; Losen & Skiba, 2010; Monroe, 2005; Skiba et al., 2011; Theriot, Craun, & Dupper, 2010; Tobin & Vincent, 2011; Vincent & Tobin, 2011; Vincent et al., 2011). These practices include: shifting from reactive and punitive policies and practices to prevention focused culturally responsive frameworks, developing consistency for how behavior is defined and consequences delivered by school administrators, the ongoing collection and review of disaggregated behavioral data by race/ethnicity and disability status, and the use of multi-tiered or graduated support. A prevention focused framework that includes many of these critical features is School-wide Positive Behavioral Interventions and Supports (SWPIBS).

School-wide Positive Behavioral Interventions and Supports

SWPBIS is a systems approach that focuses on whole-school prevention of problem behavior through active teaching and acknowledgement of appropriate behavior across school settings, consistent and systematic consequences for problem behavior, the on-going collection and use of discipline data for decision making, and graduated levels of support based on student need (Horner, Sugai, Todd, & Lewis-Palmer, 2005; Horner, Sugai & Anderson, 2010; Sugai et al., 2010; Lewis & Sugai, 1999; Sugai & Horner, 2006). Research has shown that systemic strategies are needed to support school-wide behavior practices in order for them to become part of the sustained culture of a school (Crone & Horner, 2003; Sugai & Horner, 2002; Sugai & Horner, 2006; Sugai et al., 2005; Sugai et al., 2000). The SWPBIS approach accomplishes this by identifying desired behavioral outcomes across all school settings, and actively teaching and acknowledging appropriate behaviors within them.

Critical to SWPBIS implementation, data systems must be in place to monitor implementation and effectiveness of evidence-based practices utilized to support all students. Finally, graduated systems of supports must be present to effectively utilize resources and support students with more severe needs (Lewis, 2001; Sugai & Horner, 2002; Sugai et al., 2010). The SWPBIS conceptual framework (see Figure 1) identifies a feedback process for correction and improvement based on four key elements; practices, data, systems, and outcomes within a three-tiered model of universal, targeted and tertiary supports (Horner, Sugai, Lewis-Palmer, & Todd, 2001; Sugai & Horner, 2002; Sugai et al., 2010).

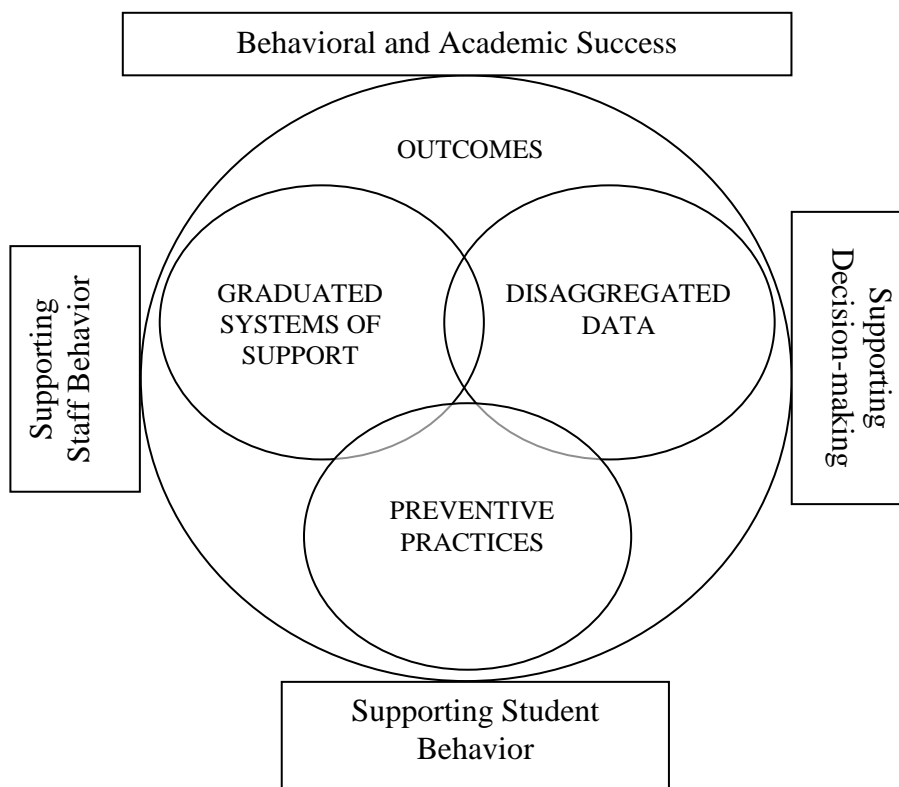


Figure 1. SWPBIS Conceptual Framework. Adapted from “School-wide positive behavior support: Implementers’ blueprint and self-assessment,” by Sugai et al. (2010). Eugene, OR: University of Oregon.

Tier 1 (Universal). At the universal level, appropriate school-wide behavioral expectations, classroom behavior management, and a focus on prevention of problem behaviors is emphasized (Sugai & Horner, 2002). Typically, three to five short and positively stated behavioral expectations are selected and annual training involving students and staff is used to reinforce them across all school settings. Research has shown that explicitly teaching and reinforcing expected behaviors across all school settings increases the frequency that students will engage in appropriate behaviors, and as a

universal intervention it is effective for reducing problem behavior for roughly 80% of the student population (Scott & Barrett, 2004; Horner et al., 2005; Sugai et al., 2005). In addition, students who display inappropriate behavior receive predictable consequences (Vincent et al., 2011). Once the universal intervention is implemented with fidelity, the next step is to identify students who are in need of additional support. Students may be identified for further support if they have a history of problem behavior, a high number of incidents for a particular behavior relative to other students, or through the use of behavioral screeners by teachers and parents.

Tier 2 (Targeted Group). At the secondary or targeted group level, the goal is to provide additional instructional and behavioral supports for those students who need more specialized supports than those provided by universal prevention efforts (Sugai & Horner, 2002). These supports include specialized function-based interventions for small groups of students (Hawken & Horner, 2003) and additional feedback from adults periodically throughout the day on progress towards self-management of their behavior (Crone, Horner & Hawken, 2004; Filter et al., 2007; McIntosh et al., 2009). Targeted group interventions should be evidence-based, match the intensity of behavior exhibited by the students, and easy to administer. While being implemented with fidelity, data on the progress of students receiving those interventions should also be monitored. Typically, targeted group support is needed for approximately 15% of the students in a school implementing SWPBIS (Sugai et al., 2005). If a student does not respond to universal and targeted group interventions, more intensive individual interventions may be necessary.

Tier 3 (Individual Student). For students that have not responded to universal and small group interventions, interventions are conducted on an individual basis and include the use of Functional Behavior Assessment (FBA) and mental health screeners (Anderson & Kinkaid, 2005; Borgmeier & Horner, 2006; Fairbanks, Sugai, Guardino, & Lathrop, 2007; Scott & Eber, 2003), the explicit teaching social skills, Individualized Education Plans (IEPs), specially designed instruction, and wraparound services (Sugai & Horner, 2002; Eber, Sugai, Smith, & Scott, 2002; Scott & Eber, 2003). At this stage, a Behavior Improvement Plan (BIP) should be developed, implemented, and monitored through the collection of specific behavioral data. The goal at this stage of implementation is to use team-based interventions to decrease the duration, intensity, and frequency of the problem behavior (Scott, Liaupsin, Nelson, & McIntyre, 2005; Sugai & Horner, 2002). Typically, as much as 5% of the students need tertiary supports (Sugai et al., 2005). As seen in Figure 2. the three tiers provide a systematic approach to supporting all students based on level of need, and efficiently utilize school resources by minimizing the use of intensive services to large numbers of students

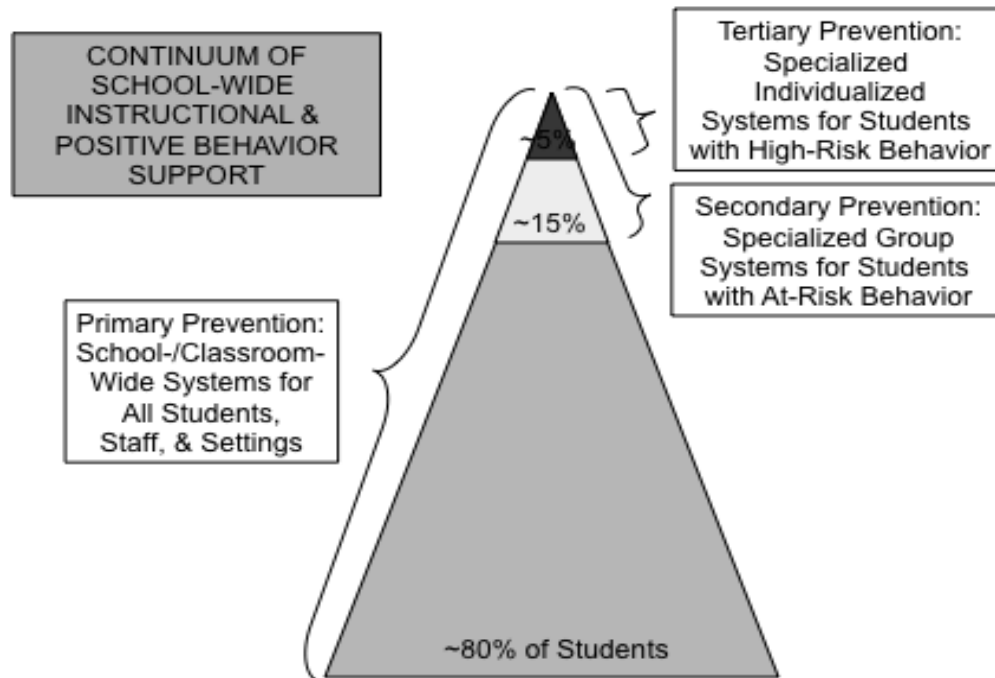


Figure 2. SWPBIS Model of Continuum of Support. Adapted from “School-wide positive behavior support: Implementers’ blueprint and self-assessment,” by Sugai et al. (2010). Eugene, OR: University of Oregon.

Efficacy of SWPBIS

School-wide positive behavioral interventions and support is being implemented in over 18,000 schools across the United States (www.pbis.org, 2012). A growing number of studies have been conducted to evaluate the impact of SWPBIS at the universal, targeted, and individual levels across Pre-K, elementary, middle and high school settings (Benedict, Horner, & Squires, 2007; Bohanon et al., 2006; Bradshaw et al., 2008; Bradshaw et al., 2010; Colvin, Kame'enui, & Sugai, 1993; Horner et al., 2009; Luiselli, et al., 2005; Metzler, Biglan, Rusby, & Sprague, 2001; Sprague et al., 2001; Taylor-Greene et al., 1997). These studies ranged from investigations on the impact on

individual student behaviors (Fairbanks et al, 2007) to large scale statewide implementation efforts (Doolittle, Horner, Bradley, Sugai, & Vincent, 2007; Eber et al., 2010; Horner et al., 2005; Luiselli, Putnam, & Sunderland, 2002). There is a growing body of evidence that documents SWPBIS can be implemented with fidelity, sustained over time, reduce office discipline referrals and suspension and expulsion, improve the organizational health of schools, and positively impact academic outcomes for students (Barrett, Bradshaw, & Lewis-Palmer, 2008; Bradshaw et al., 2009; Bradshaw et al., 2008; Eber, Upreti, & Rose, 2010; Frank, Horner & Anderson, 2009; Horner et al., 2005; Horner et al., 2009; Luiselli et al., 2002; Taylor-Greene et al., 1997).

Recent randomized control trials investigating the effects of universal implementation of SWPBIS in elementary schools have documented improved perception of safety in the school setting, increased reading scores, and reductions in office discipline referrals and suspensions (Bradshaw et al., 2008, Bradshaw et al., 2009; Bradshaw et al., 2010; Horner et al., 2009). At the middle school level, a four-year longitudinal study evaluating SWPBIS efforts demonstrated a reduction in disciplinary actions for three behaviors including, disruptive-antisocial behavior, vandalism, and substance use (Luiselli, Putnam & Sunderland, 2002). In a three year study of the statewide SWPBIS initiative in Iowa, Mass-Galloway, Panyan, Smith, and Wessendorf (2008) found that schools were implementing SWPBIS with fidelity after only one or two years of implementation. The authors also reported that 75% of the schools in two of the study cohorts experienced a 43% average rate of decrease in Office Discipline Referrals (ODRs) per day per 100 students. Another statewide examination of SWPBIS implementation in 467 schools in Maryland showed fewer rates of ODRs across all grade

levels with elementary schools reporting 43% fewer ODRs, middle schools 33% fewer ODRs, and high schools 37% fewer ODRs (Barrett, Bradshaw & Lewis-Palmer, 2008). In this same study, suspension rates were also reduced within one year of implementation for elementary and middle schools.

SWPBIS and data-based decision making. A critical feature of SWPBIS involves the collection of behavioral data to assist in making effective decisions about a school's behavior system (Horner et al., 2001; Lohrmann-O'Rourke et al., 2000; Sugai et al., 2010; Turnbull et al., 2002; Warren et al., 2003). One purpose of the behavioral data is to determine the location, time, type of problem behavior, and which students are demonstrating the most instances of it (Irvin et al., 2006; Lohrmann-O'Rourke et al., 2000). This information allows for the effective use of resources and intervention selection. A second purpose is to assist schools in determining if behavior systems reflect the social values of the community. To be effective, data systems should be site-based, efficient, and current. The School-wide Information System (SWIS; May et al., 2006) is an example of a web-based data collection system designed to assist in decision-making and problem-solving concerning school-wide behavioral systems. In addition to providing timely information regarding location, time, type of problem behavior, and individual students involved, SWIS allows school-based teams to review ethnicity reports that compare the rates of office discipline referrals by ethnic group with the proportion of students from each ethnic group (Todd, Horner, Sampson, & Amedo, 2008). SWPBIS teams are taught to analyze ethnicity data on a bi-weekly or monthly basis to compare the proportion of office discipline referrals with the enrollment by ethnic group. The teams

use this information for active problem solving, and on-going evaluation of the impact of problem solving strategies (Sugai et al., 2010).

An empirical evaluation of the validity of use and impact of ODR for data-based decision making in schools indicated that ODR measures were regularly used for a variety of data-based decisions (Irvin et al., 2006). Wright and Dusek (1998) analyzed discipline referrals across a 3-year period at two elementary schools in an urban school district and suggested that limitations to using disciplinary referrals for compiling school base rates of disruptive behaviors do exist however. Limitations include teacher bias in recording student behaviors at the classroom level, little or no verification of disruptive student behaviors by a third party and varying levels of teacher tolerance of disruptive behaviors by different teachers and administrators. Irvin et al. (2004) observed that at the school level, differing resources dedicated to collecting data (i.e. time and cost) and a reluctance to record data that would reflect poorly on the school, presented additional barriers. Despite these limitations several researchers support the use of office discipline referrals to identify intervention needs and demonstrate successful implementation of school-wide models aimed at reducing problem behaviors (Sugai, Sprague, Horner, & Walker, 2000; Lane & Menzies, 2003; Irvin et al, 2006; Sugai & Horner, 2006).

Recent research has highlighted the importance of integrity within school-based problem solving teams (Newton, et al., 2012; Todd, et al., 2011; Todd, et al., 2012). As previously stated, SWPBIS relies on school-based teams to effectively use academic and behavioral data to track implementation of the school-wide model, develop targeted and individual support, and determine if implementation of student support is successful. In a multiple baseline design study, Todd et al. (2011) observed SWPBIS team problem

solving practices across several schools. Baseline results showed that teams met between 45.6% and 85.6% of effective team problem solving scores on a measure developed to capture recommended strategies for team-based problem solving. While the use of effective practices increased with each of these teams who received direct training followed up by coaching, the lower initial ratings may limit the overall impact of the SWPBIS system without it. In a follow up randomized controlled wait-list study within schools implementing SWPBIS, Newton et al. (2012) found that teams who received training and technical assistance on effective team-based problem solving strategies implemented a significantly greater percentage of those strategies than the wait-list control group. These studies highlight the importance of specific training and ongoing coaching and technical assistance for school-based problem solving teams to achieve treatment integrity.

SWPBIS and disproportionate discipline. Several studies documented that culturally responsive practices can be successfully integrated into SWPBIS and in individual behavior support plans to achieve positive results for diverse populations (Eber et al., 2010; Jones, Caravaca, Cizek, Horner, & Vincent, 2006; Wang, McCart & Turnbull 2007). Jones et al. (2006) showed a reduction in overall ODR rates by incorporating culturally responsive strategies into the SWPBIS model in a school serving mostly Navajo students. Eber et al. (2010) looking at results across 1,200 schools in Illinois reported overall reductions of suspensions for Black students, with the greatest results in those schools with full implementation. Results from one school in this study included an increase in attendance and academic gains for Hispanic students as a result of direct efforts to address the needs of this population. Wang et al. (2007) documented

enhanced family engagement and positive outcomes for a Chinese family by embedding cultural values into the PBIS model. While these examples show positive results, other recent research indicates the improved outcomes may not be proportionally felt.

An evaluation brief by Vincent (2008) investigating the use of discipline by race/ethnicity reports in schools using SWIS found that across the 2005-06, 2006-07, and 2007-08 school years, only 30% of schools entered student enrollment by race/ethnicity, and roughly 40% recorded individual student level ethnicity data. While using SWIS does not guarantee the schools were implementing SWPBIS, the SWIS system is often used in conjunction with SWPBIS for decision making. A separate study on the extent of disproportionate discipline referrals and administrative decisions by race/ethnicity in 436 schools implementing SWPBIS for at least one year and using SWIS for their behavior data, found that Black students were 2.19 (elementary) to 3.78 (middle) times as likely as White students to be referred to the office for their behavior, and that Black and Latino students were more likely than their White peers to be suspended or expelled for similar behaviors (Skiba, et al., 2011). Vincent and Tobin (2011) found that while the use of suspension did decrease in K-8/12 schools implementing SWPBIS for Black, Hispanic and students with disabilities, the reductions were not proportional. The results of this study showed that Black students in school implementing SWPBIS were still over represented for long-term suspension of more than 10 days. In a separate review of three years of ODRs disaggregated by race/ethnicity and disability status in elementary schools implementing SWPBIS, Vincent et al. (2011) found that Black students were overrepresented. Vincent and colleagues (2011) investigated ODR rates for schools implementing SWPBIS based on SET scores to schools with partial or no indication of

SWPBIS implementation. As expected, implementers had lower rates of ODR, but both groups had over representation of Black students for referrals. A promising finding from this study was a statistically significantly smaller gap in the referral data for Black students in schools implementing SWPBIS compared to those that did not.

The recent findings on the limited collection of disaggregated discipline data and use of race/ethnicity reports within SWIS users and findings of disproportionate discipline within schools using SWIS and implementing SWPBIS, points to the need for further investigation of the potential impact of universal SWPBIS implementation on disproportionate discipline. Additionally, the recent research on the need for additional training and ongoing technical assistance in order to achieve integrity of effective problem solving strategies within SWPBIS teams highlights areas for further investigation. Schools implementing SWPBIS at the universal level, collecting behavioral data disaggregated by race/ethnicity and disability status, and achieving treatment integrity with problem solving teams are in a better position to support all students and take action to avoid disproportionate discipline versus schools that traditionally may only review aggregated discipline data when it is reported annually. However, given the mixed results in reductions in discipline by race/ethnicity, challenges implementing SWPBIS in middle schools settings, and limited research on SWPBIS impact on more severe behaviors that lead to out-of-school suspension and expulsion, more research is needed.

Gaps in Knowledge

In contrast to reactive and punitive approaches to student behavior, SWPBIS holds the potential to reduce overall rates of office discipline referrals and mitigate the disproportionate use of discipline by race/ethnicity and disability status by explicitly

teaching and reinforcing expected behaviors, requiring the collection, review, and use of behavioral data for decision making, employing support teams to administer consistent and appropriate consequences, and utilizing evidence-based practices within a graduated system of support (See Figure 3).

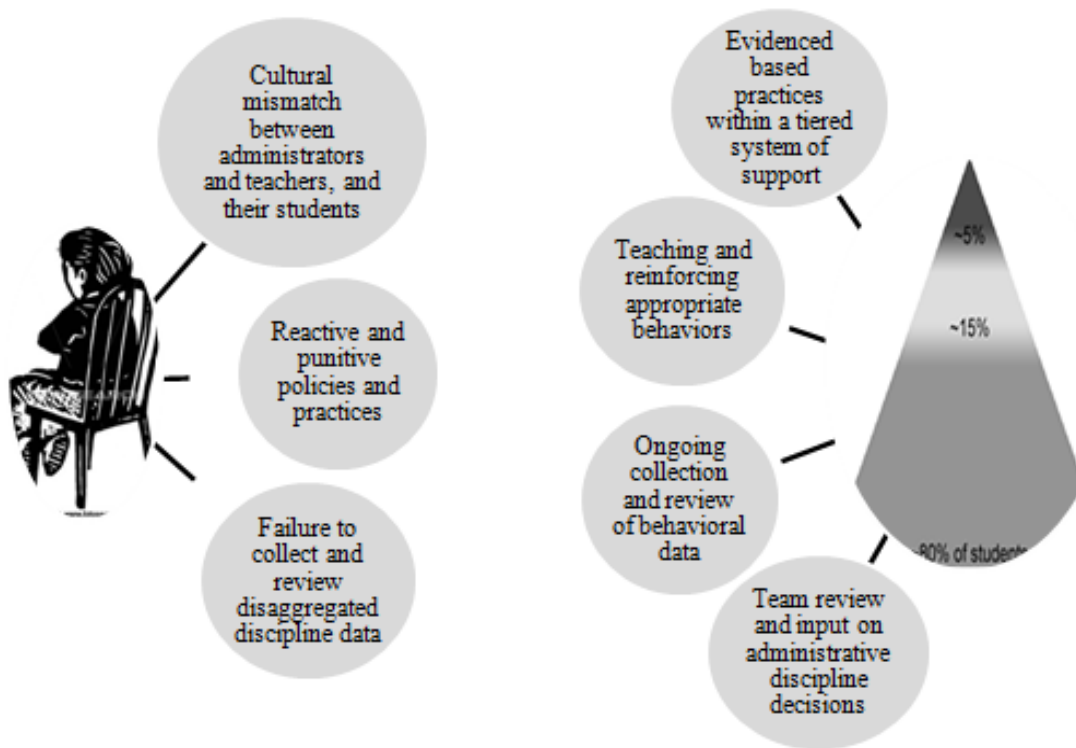


Figure 3. Factors from the literature that contribute to disproportionate discipline and the critical features of SWPBIS that may mitigate those factors.

Recent randomized control trials of SWPBIS in elementary schools demonstrated significant reductions in office discipline referrals, suspension and expulsions, bullying, and improved outcomes for students (Bradshaw, et al, 2008; Bradshaw et al., 2009, Bradshaw et al., 2012; Horner et al., 2009; Waasdorp et al., 2012). However, the vast majority of articles that investigated the impact of SWPBIS in middle schools largely

presented descriptive data (Colvin, Kame'enui, & Sugai, 1993; Eber et al, 2006; Luiselli, Putnam, Handler, & Feinberg, 2005; Sprague et al., 2001; Sugai, et al., 2000; Taylor-Greene et al., 1997; Turnbull et al., 2002; Warren et al., 2003). More recently, a five-year randomized controlled study of SWPBIS implementation in 35 middle schools concluded that SWPBIS can be implemented with fidelity when provided with training and support, and documented overall lower rates of in-school suspension in treatment school versus control school, some reduction in exclusionary discipline for Hispanic and Native American students, but few reductions for Black students (Vincent, Sprague & Gau, 2013).

Contributing to the limited number of research studies on SWPBIS in middle schools are the many challenges these contexts provide. These challenges include: administrative support, staff attitudes and buy in, consistency and communication, selecting a target to focus on, momentum and sustainability, collection and review of data, and student issues (Kasper, 2005). In addition, middle school staff often place responsibility for appropriate behavior solely on their students. Gottfredson et al. (2000) reported that 91 % of middle schools suspended or expelled students for fighting while only 10% of schools reported using methods to promote desired behavior.

Given the national trends documenting disproportionate discipline and the negative consequences for those students impacted by it, a closer look at local statewide data is warranted. Of interest for my study was if Oregon discipline data mirrors the national trends of disproportionate discipline by gender, race/ethnicity and disability status. Because research has shown a significant portion of exclusionary discipline practices occurred at the middle school level (Losen & Skiba, 2010), an investigation of

the potential impact of universal implementation of SWPBIS on discipline in Oregon middle schools was a logical next step. My study provided an important opportunity to explore the extent of disproportionate discipline in Oregon, and to move beyond describing the problem to investigating the potential impact of implementation of a school-wide prevention framework on discipline rates. Understanding the potential impact of universal implementation of SWPBIS beyond reducing office discipline referrals and in-school-suspension rates to more severe consequences including out-of-school suspension and expulsion builds on previous research.

Purpose and Research Questions

The purpose of this study was to document the extent of disproportionate discipline in Oregon middle schools and investigate the potential impact that SWPBIS may have on it. Specifically, this study asked the following five questions:

1. In which, if any, categories of discipline (in-school suspension (ISS), out-of-school suspension (OSS), and expulsion (EX)) are (a) gender, (b) race/ethnicity, and (c) disability status disparities evident in Oregon middle schools as determined by risk ratio?
2. Are there significant differences by gender in the rate of discipline (ISS, OSS, EX) for students in Oregon middle schools?
3. Are there significant differences by race/ethnicity in the rate of discipline (ISS, OSS, EX) for students in Oregon middle schools?
4. Are there significant differences by disability status in the rate of discipline (ISS, OSS, EX) for students in Oregon middle schools?

5. For three levels of Oregon middle schools (SWPBIS implementers, partial implementers, and non-implementers), are there significant differences in discipline (ISS, OSS, EX)?

Answers to these questions provided empirical evidence to state department of education and local educational agency personnel on the extent of disproportionate discipline by gender, race/ethnicity and disability in middle schools across Oregon, while also calling attention to potential mitigating factors embedded within the prevention focused model of SWPBIS.

CHAPTER II

METHODOLOGY

Participants

The decision to focus on middle schools for my study is based on several factors. First, prior research has shown a significant portion suspension and expulsion occurred at the middle school level (Losen & Skiba, 2010). Second, less is known about the impact of SWPBIS in middle school settings, especially if universal implementation impacts more severe discipline rates for out-of-school suspension and expulsion. Third, data provided by the Center on Positive Behavioral Interventions and Supports (www.PBIS.org) showed there were enough middle schools in Oregon implementing SWPBIS to allow for comparisons, while the number of high schools implementing SWPBIS was too few in number. For these reasons, participants for research questions one through four included all students attending Oregon middle schools serving grades 6-8 or 7-8 during the 2009-2010 school year. Because the focus of my study is on disproportionate discipline in middle schools, students within schools that contain grades other than 6-8 or 7-8 (e.g. K-12, K-8, 4-8) were not included.

Participants for research question five included schools as the unit of analysis that differed on the independent variable (SWPBIS implementation). As previously stated, because SWPBIS is a school-wide framework to address problem behavior, participants included only middle schools serving grades 6-8 or 7-8. More specifically, participants included schools that were:

1. SWPBIS implementers (SWPBIS) – middle schools that attained the minimum criteria for universal implementation for three consecutive years (2007-08, 2008-09, and 2009-10);
2. Partial implementers (PI) – schools that reported implementation results for one or more years within the three year time frame, but did not attain universal implementation for three consecutive years (2007-08, 2008-09, and 2009-10); and
3. Non-implementers (NI) – schools that did not report SWPBIS implementation results for any of the three school years (2007-08, 2008-09, and 2009-10).

Independent variable. The independent variable for research question five was implementation of SWPBIS across three consecutive school years (2007-08, 2008-09, 2009-10) as determined by the School-wide Evaluation Tool (SET; Horner et al. 2004). The independent variable included three levels: (a) *SWPBIS implementation at the universal level* – 80/80 on the SET for three consecutive years; (b) *Partial implementation* – reported SET scores for one or more years, but not attaining 80/80 on the SET for three consecutive years; and, (c) *Non-implementation* – no recorded SET scores reported for any of the three years. The identification of SWPBIS implementation and partial implementation schools was based on SET data reported by Oregon middle schools to the Center on Positive Behavioral Interventions and Supports for school years 2007-08, 2008-09, and 2009-10. Using three years of SWPBIS implementation provided greater differentiation between schools that were implementing SWPBIS at the universal level, and those with partial or no documented implementation, as suggested by Vincent et al. (2011).

The SET is a multi-component direct observation tool designed to measure implementation of the critical features of SWPBIS (Sugai, Lewis-Palmer, Todd & Horner 2001). Administration of the SET is completed by external reviewers and involves interviewing administrators, teachers, and students, and evaluating permanent products (e.g., the school's discipline manual) (Horner et al., 2004). The SET consists of 28 items divided into seven subscales: (a) expectations defined, (b) behavioral expectations taught, (c) on-going system for rewarding behavioral expectations, (d) system for responding to behavioral violations, (e) monitoring and decision-making, (f) management, and (g) district-level support. The SET provides a score between 0 and 100% for each of the seven subscales as well as a total score across all subscales. It has been found to have good reliability and validity and to be useful for assessing the extent to which schools are implementing SWPBIS (Horner et al., 2004; Vincent, Spaulding & Tobin, 2010). Schools with SET scores of 80/80 (expectations taught and average score across subscales) are considered to be universally implementing SWPBIS. Research findings documented strong effects after two years of SWPBIS implementation (Bradshaw et al., 2010; Eber et al., 2010; Frank et al., 2009; Horner et al., 2009; Mass-Galloway et al., 2008).

In addition to not having any reported SET scores for the 2007-08, 2008-09, and 2009-10 school years, selection of matching non-implementer schools also included a database review for other evaluation tools used to measure implementation of SWPBIS. Similar to the SET, these evaluation tools are commonly reported to the Center on Positive Behavioral Interventions and Supports (www.PBIS.org) by school teams actively engaged in professional development on the implementation of SWPBIS. These

include the Benchmarks of Quality (BoQ), Team Implementation Checklist (TIC), and Self-Assessment Survey (SAS).

The Benchmarks of Quality (BoQ) was developed to provide school-based teams feedback on the level and fidelity of implementation of SWPBIS. In use since its development in 2005, the BoQ (included in the PBIS Evaluation Blueprint) is used by many states as a measure of implementation of SWPBIS (Childs, Kincaid & George, 2011). A concurrent validity assessment using data from 720 schools across two states completing both the SET and the BoQ in roughly the same timeframe showed significant correlation between the two measures (Cohen, Kinkaid, & Childs, 2007). The revised BoQ based on factor analysis increased the classroom items while removing other items that did not load well, maintaining a 53 item instrument that includes ten element structures (Cohen, Kinkaid, & Childs (2007). Scoring on the BoQ varies across items and results in a maximum score of 107, with 70% being considered SWPIB implementation similar to the 80/80 on the SET.

The TIC version 3.1 is a self-assessment tool SWPBIS teams complete quarterly and consists of 22 items across 6 subscales (Sugai, Horner, Lewis-Palmer, Rosetto, & Dickey, 2011; Tobin, Vincent, Horner, Dickey & May, 2012). Subscales include establish commitment, establish and maintain team, self-assessment, establish school-wide expectations, prevention systems, classroom behavior support systems, and capacity for function-based support. While covering the core features of SWPBIS similar to the SET, the TIC items are specifically useful for generating focused action plans to improve implementation over time. Unlike the SET which is administered by an external reviewer, the TIC is self-administered by SWPBIS team members. In a recent evaluation brief,

Vincent and Tobin (2012) compared results of the BoQ and TIC completed at the same time for 448 schools. Results showed that 180 schools that received a rating of “achieved” on 80% of the TIC items, also scored above the 70% criterion on the BoQ (Vincent & Tobin, 2012).

The Effective Behavior Support Self-Assessment Survey (SAS), in designed to be collected annually in spring, is completed by all staff, and like the TIC results in action plans for further implementation (Sugai, Horner & Todd, 2003). The SAS takes roughly 20-30 minutes to complete and asks respondents to use their individual experiences to both rate the status of each SWPBIS system feature as being in place, partially in place, or not in place, and then to indicate the priority for improvement in those same areas. Individual results can then be aggregated across respondents to determine which areas are perceived by staff to be in place and if not how high a priority to be targeted by future implementation efforts. The SAS includes 46 items across four systems that include: school-wide discipline systems; non-classroom management systems (e.g., cafeteria, hallway, playground); classroom management systems; and systems for individual students with the most challenging behavior (Sugai, Horner & Todd, 2003). Ultimately the results of the SAS allow SWPBIS teams to develop or refine their annual action plan. While no reported SET, BoQ, TIC or SAS scores does not guarantee schools considered “non-implementers” in my study were not implementing SWPBIS, a lack of any reported measures is stronger evidence these schools were not making attempts to formally implement SWPBIS across the three school years included in this study.

Dependent variable. The dependent variable for the causal-comparative research question is the proportion of discipline (ISS, OSS, and EX). To meet state and federal

reporting requirements, all schools in Oregon are required to submit student level data to the Oregon Department of Education (ODE) through the Consolidated Collections Application (CCA). The CCA is a web-based system that provides district and school staff a single collection mechanism to submit and update required state and federal data. The CCA allows authorized users to efficiently upload their data via file upload or web submission and provides several reliability and validity checks to ensure the quality of the data. As part of the verification process, after submission is completed by district and schools staff, ODE staffs validate the data and provide district and school users with error reports identifying needed corrections or potential inaccuracies in the data by cross referencing the data with previous submissions and across collections. Annually, the CCA system undergoes upgrades and ODE staffs provide regional training on changes to the system and individual collections to reduce the likelihood of inaccurate data submission by users.

In 2009, there were 13 separate collections carried out through the CCA system including the Cumulative Average Daily Membership (CUMADM), Special Education Child Count (SECC), and Discipline Incidents (DI) collections that are relevant for my study. A common element across these collections is the unique student identifier provided to each student registered in Oregon public schools. The CUMADM collection is open from October to December annually, and requires district and school staff to submit demographic data on every student registered to their respective schools. Demographic variables relevant to this study included: unique student identifier, gender, age, grade, attending school identifier, race/ethnicity, economically disadvantaged status (qualifies for free and reduced lunch), and special education status. Race/ethnicity

reporting categories for 2009-2010 included the following 8 categories: Asian, Black, Hispanic, Native American, Pacific Islander, White, mixed race/ethnicity, and declined to report.

The SECC is open from November through the first week of December and is a snapshot of those students eligible for special education services at the time of reporting. The SECC determines the number of eligible students for the State School Fund and is also used for the Individuals with Disabilities Education Act reporting requirements. Demographic variables in the SECC relevant to this study included: unique student identifier, attending school identifier, special education status, and race/ethnicity. Race/ethnicity reporting categories for the 2009-2010 SECC included: Asian/Pacific Islander, Black, Hispanic, Native American, and White. Unlike the CUMADM, mixed race/ethnicity and declined to report were not options for this collection.

The DI collection is open annually from May to the end of June and requires district and school staff to report every incident of discipline students received during the school year. Types of discipline included: truancy, in-school suspension (ISS), out-of-school suspension (OSS), expulsion (EX), and removed by a hearing officer. In addition to discipline type, the DI collection requires other demographic variables to be submitted that are then used for verification by comparing across collections. Demographic variables relevant to this study included: unique student identifier, attending school identifier, and race/ethnicity. Race/ethnicity reporting categories for the 2009-2010 DI collection included: Asian/Pacific Islander, Black, Hispanic, Native American, White, mixed race/ethnicity, and declined to report. The DI collection included five possible discipline actions, but for the purposes of this study, truancy and removal by a hearing

officer were excluded due to the nature of the offense (truancy) and the limited number of students impacted (removal by hearing officer). Table 1 includes the discipline types included in my study and their descriptions.

Table 1

Oregon Discipline Incident Collection Categories

Name	Description
In-School Suspension	Instance in which a child is temporarily removed from his/her regular classroom(s) for disciplinary purposes but remains under the direct supervision of school personnel.
Out-of-School Suspension	Instance in which a child is temporarily removed from his/her regular school for disciplinary purposes to another setting (e.g., home, behavior center).
Expulsion	Action taken by the local educational agency removing a child from his/her regular school for disciplinary purposes for the remainder of the school year or longer in accordance with local educational agency policy.

Statistical Analysis

Descriptive statistics. Initially, the number of students with an incident by gender, race/ethnicity, and disability status were calculated for each discipline type (ISS, OSS, and EX) across all Oregon middle schools serving only grades 6-8 and 7-8.

Frequencies were then used to calculate the student risk index. The student risk index (RI) was calculated by dividing the number of students of a particular group (e.g. Black students) in a certain category (e.g. those given suspension) by the total population of students within the group (Gib & Skiba, 2008; Hosp & Reschly, 2003). The formula below was used to calculate the RI:

$$\text{Student Risk Index} = \frac{\text{Total \# of a particular group of students within a category}}{\text{Total \# of Students within the Group}}$$

From the risk index, the risk ratio (RR) was then computed. The risk ratio compares the risk index of one group to that of a comparison group. The comparison groups for all risk ratio analyses was the risk all others. The formula below was used to calculate the student RR:

$$\text{Student Risk Ratio} = \frac{\text{Risk of a particular group of students within a category}}{\text{Risk for all other students within in a category}}$$

While a variety of measures have been used to report on disproportionality, the U.S. Department of Education, Office of Special Education Programs recommends the use of risk ratio to help understand the risk one group of students face compared to others (Westat, 2004). While some have called for the use of *White* as a comparison group (Coutinho & Oswald, 2000), Westat (2004) has shown there to be little difference in results when doing so at the state level. In addition, Bollmer et al. (2007) point out that all other students as the comparison allows risk ratios to be calculated for all groups and in the same manner. Research question one was answered by comparing the calculated RR by gender, race/ethnicity and disability status for each discipline type.

To calculate risk index and risk ratios, Oregon Department of Education student level data from the CUMADM, SECC, and DI collections including the variables relevant to this study for the 2009-2010 school year were collected. To address differences in race/ethnicity reporting options across the different collections, race/ethnicity categories Asian and Pacific Islander were combined into a single category referred as *Asian*. The CUMADM data also contained students identified as mixed race/ethnicity and students who declined to report. To reduce the number of students with mixed or declined to report race/ethnicity status, known race/ethnicity values from the SECC and DI collections were used to identify a specific race/ethnicity where available.

To facilitate risk index and risk ratio calculations, the remaining students with mixed race/ethnicity and declined to report status were collapsed into a single category referred to as *Mixed/Unknown*. The CUMADM, SECC, and DI data sets were then merged into a single data set containing student level gender, race/ethnicity, grade, disability status, Free and Reduced Lunch (FRL) status, attending school, and discipline incident (ISS, OSS, EX) for all Oregon middle school students in schools serving grades 6-8 and 7-8. Table 2 provides the demographic data for all students within 181 middle schools meeting criteria for my study.

Table 2

Enrollment Demographics for 181 Oregon Middle Schools Serving Grades 6-8 and 7-8 during 2009-10

	Enrollment	Percent
	<i>(n = 181 schools)</i>	
Gender		
Male	49,883	50.96
Female	48,013	49.04
Race/Ethnicity		
Asian	4,645	4.74
Black	2,375	2.43
Hispanic/Latino	20,197	20.63
Native American	1,835	1.87
White	65,570	66.98
Unknown/mixed	3,274	3.34
Disability Status (Yes)	13,842	14.14
Free and Reduced Lunch (Eligible)	48,003	49.03
Total	97,896	

During the 2009-2010 school year, 97,896 students attended 181 middle schools serving grades 6-8 and 7-8 in Oregon. There were 49,883 Males compared to 48,013 female students. The special education make up was 14.14%, which was above the state

2009-2010 Oregon Statewide Report Card average of 12.9%. Table 2 showed that White students made up the majority of students with 66.98% (65,570/97,896). The next largest race/ethnicity group was Hispanic with 20.63% followed by Asian with 4.74%, Unknown/mixed 3.34%, Black 2.43, and Native American with 1.87%.

Single factor ANOVA. A single factor ANOVA is an omnibus test used to determine if significant differences between the means of two or more independent groups exist. Specifically, ANOVA tests the null hypothesis:

$$H_0: \mu_1 = \mu_2 = \dots = \mu_k$$

Where μ equals the group population mean and k equals the number of groups. If the results of a single factor ANOVA are statistically significant, you accept the alternative hypothesis (H_A), that the groups are different. Research questions two, three, and four were analyzed individually using a single factor ANOVA to determine if significant differences in discipline rates (ISS, OSS, EX) exist between groups. Research question two compared males and females by discipline type, research question three evaluated race/ethnicity by discipline type, and research question four examined disability status by discipline type. All ANOVA calculations were done using SPSS 20.

Research question five compared SWPBIS implementation level by discipline type. A single factor ANOVA was used to determine if for three levels of the independent variable (SWPBIS implementers, partial implementers, and non-implementers), there were significant differences in discipline rates by categories of disciplinary consequence (ISS, OSS, EX). Identification of schools with universal implementation of SWPBIS was completed using SET scores provided by the Center on Positive behavioral Interventions and Supports for school years 2007-2008, 2008-2009, and 2009-2010. A review of the

data provided included 17 middle schools from the list of 181 schools used in the descriptive portion of this study for the SWPBIS implementation group.

To reduce threats to internal validity, known characteristics (i.e., total enrollment, enrollment by gender, race/ethnicity, disability, and free and reduced lunch status) of the SWPBIS implementer schools were considered when selecting school level matches from the partial and non-implementer groups. Initially, schools were eliminated from the Partial implementer and Non-implementer groups where total enrollment was smaller than the smallest school in the SWPBIS implementer group. As previously discussed, the literature has consistently found disproportionate discipline by gender, race/ethnicity and disability status (Bradshaw et al. 2010; Kauffman et al., 2010; CRDC, 2012; Skiba et al., 2011). To select matching schools from the partial and non-implementer schools, the seventeen SWPBIS schools were first ranked on their percent enrollment of White students. Second, schools from the partial and non-implementer groups were selected based on matching school level percentages of White students. This resulted in an equal number of schools in all three groups ($n = 17$). Table 3 contains demographic data for matched group participants using key demographic variables associated with discipline from the literature.

Table 3

Participant Characteristics for Causal Comparative Research Question with Level of SWPBIS Implementation Used to Differentiate Groups

Measure	Group ($n=17$ schools per group)	<i>M</i>	<i>SD</i>	<i>Lower</i> 95% <i>CI</i>	<i>Upper</i> 95% <i>CI</i>
Enrollment	SWPBIS	654.88	198.14	553.01	756.76
	Partial Implementers	638.65	166.64	552.97	724.32
	Non-Implementers	537.24	169.22	558.87	661.64
% Female	SWPBIS	0.49	0.03	0.48	0.51

	Partial Implementers	0.49	0.02	0.48	0.50
	Non-Implementers	0.50	0.06	0.47	0.54
% White	SWPBIS	0.71	0.14	0.64	0.78
	Partial Implementers	0.73	0.15	0.65	0.81
	Non-Implementers	0.73	0.11	0.67	0.78
% SWD	SWPBIS	0.14	0.03	0.12	0.16
	Partial Implementers	0.14	0.04	0.12	0.16
	Non-Implementers	0.13	0.04	0.11	0.15
% FRL	SWPBIS	0.49	0.14	0.41	0.56
	Partial Implementers	0.48	0.19	0.39	0.58
	Non-Implementers	0.40	0.18	0.30	0.48

Note: SWD = Students with disabilities, FRL = Free and Reduced Lunch, CI =

Confidence Interval.

As can be seen in Table3, mean enrollment was lower for the non-implementer group compared to SWPBIS implementers and partial implementers, but confidence intervals overlapped across groups. Mean percentages for each group ($n=17$) on other key demographic variables showed similar makeup across groups. For percent female and students with disabilities, the range for the three groups was within one percentage point. The percentage of White students across groups only differed by two percentage points. Free and Reduced Lunch eligible means differed the most between SWPBIS implementer and non-implementer groups.

Lastly, a one-way ANOVA was run with study group as the independent variable and group demographics as the dependent variables to determine if statistically significant differences exist between groups. Table 4 shows the results with study group as the independent variable and group demographics as the dependent variable.

Table 4

ANOVA Results with Level of SWPBIS Implementation as the Independent Variable and Group Demographics as Dependent Variables

		Sum of Squares	df	Mean Square	F	Sig.
Enrollment	Between Groups	138202.98	2	69101.49	2.17	0.13
	Within Groups	1530608.71	48	31887.68		
	Total	1668811.69	50			
Female	Between Groups	0.00	2	0.00	0.87	0.43
	Within Groups	0.08	48	0.00		
	Total	0.08	50			
White	Between Groups	0.01	2	0.00	0.14	0.87
	Within Groups	0.96	48	0.02		
	Total	0.97	50			
SWD	Between Groups	0.00	2	0.00	0.29	0.75
	Within Groups	0.07	48	0.00		
	Total	0.07	50			
FRL Eligible	Between Groups	0.08	2	0.04	1.18	0.32
	Within Groups	1.57	48	0.03		
	Total	1.65	50			

Note: SWD = Students with disabilities, FRL = Free and Reduced Lunch, 0.00 values are due to rounding.

ANOVA results on the demographic variables used in the matching process revealed no statistically significant differences on enrollment or the proportion of students that were female, White, eligible for special education, or eligible for Free and Reduced Lunch. Based on these results, it was determined the groups were comparable.

CHAPTER III

RESULTS

This study set out to examine the disproportionate use of discipline in 181 Oregon middle schools serving grades 6-8 and 7-8. Research question one investigated if disproportionate discipline was occurring by gender, race/ethnicity, and disability status using risk ratios. Research question two examined if differences between males and females were statistically significant by discipline type. Research question three tested if differences by race/ethnicity were statistically significant by discipline type. Research question four examined if differences between students with and without disabilities were statistically significant by discipline type. Following the examination of risk ratios by gender, race/ethnicity and disability status in Oregon middle schools, research question five compared the proportion of discipline in schools implementing SWPBIS, to those partially implementing SWPBIS, and those with no documentation of implementation to determine if significant differences between groups by discipline type were evident.

Risk Indexes

In-school suspension. From the demographic data and discipline counts, the student risk index was calculated for each discipline type. Table 5 shows enrollment by demographic, the number and percent of students who received in-school suspension (ISS), and their risk index.

Table 5

Enrollment, Number of Students with an Incident and Risk of In-school Suspension (ISS) by Gender, Race/ethnicity, and Disability Status for Oregon Middle Schools in 2009-10

Group	Enrollment		Students with ISS		Risk Index
	<i>n</i>	%	<i>n</i>	%	%
Middle Schools with Grades 6-8 and 7-8 (<i>n</i> = 181)					
Gender					
Male	49,883	50.96	6,986	70.71	14.00
Female	48,013	49.04	2,894	29.29	6.03
Race/Ethnicity					
Asian	4,645	4.74	236	2.39	5.08
Black	2,375	2.43	438	4.43	18.44
Hispanic	20,197	20.63	2,893	29.28	14.32
Native American	1,835	1.81	268	2.71	14.60
White	65,570	66.98	5,746	58.16	8.76
Unknown/Mixed	3,274	3.34	299	3.03	9.13
Disability Status					
Yes	13,842	14.14	2,216	22.43	16.01
No	84,054	85.86	7,664	77.57	9.12
Total	97,896	100.00	9,880	100.00	

During the 2009-2010 school year, there were 9,880 out of 87,896 (10.9%) students reported with one or more incidents of in-school suspension across 181 schools included in my study. While the percentage of males to females in this sample were nearly evenly split (50.96% versus 49.04%), males were received the majority of discipline. Males accounted for 6,968 students having one or more incidents. While males made up 50.96% of the population, they accounted for 70.1% of the students with at least one incident of in-school suspension.

Table 5 shows that in-school suspension rates differed by race/ethnicity. While representing only 2.43% of the population, Black students accounted for 4.43% of the students receiving in-school suspension. Black students in grades 6-8 had an 18.44%

chance of receiving an incident of in-school suspension during the 2009-2010 school year. Native American and Hispanic students had the second and third highest risk indexes of 14.60% and 14.32% respectively. White and Asian students had the lowest risk indexes, with 9.13% and 5.08% respectively.

Table 5 also illustrates that students with disabilities made up 14.14% of the population but accounted for 22.43% of the students with an incident of in-school suspension. By contrast, students without a disability made up 85.86% of the population, but accounted for 77.57% of the students with an incident. The risk for receiving an incident of in-school suspension for students with a disability exceeded the risk for students without disabilities 16.01% to 9.12%.

Out-of-school suspension. The same risk calculations for in-school suspension were then completed for out-of-school suspension. Table 6 includes enrollment by demographic, the number and percent of students who received out-of-school suspension (OSS), and their risk index.

Table 6

Enrollment, Number of Students with an Incident, and Risk of Out-of-school Suspension (OSS) by Gender, Race/ethnicity, and Disability Status for Oregon Middle Schools in 2009-10

Group	Enrollment		Students with OSS		Risk Index	
	<i>n</i>	%	<i>n</i>	%	%	
Middle Schools with Grades 6-8 and 7-8 (<i>n</i> = 181)						
Gender						
	Male	49,883	50.96	6,067	72.89	12.16
	Female	48,013	49.04	2,257	27.11	4.70
Race/Ethnicity						
	Asian	4,645	4.74	165	1.98	3.55
	Black	2,375	2.43	502	6.03	21.14

	Hispanic	20,197	20.63	2,181	26.20	10.80
	Native American	1,835	1.81	252	3.03	13.73
	White	65,570	66.98	4,932	59.25	7.52
	Unknown/ Mixed	3,274	3.34	292	3.51	8.92
Disability Status						
	Yes	13,842	14.14	2,018	24.24	14.58
	No	84,054	85.86	6,306	75.76	7.50
Total		97,896	100.00	8,324	100.00	

Similar to the findings for in-school suspension, Table 6 shows that males accounted for 72.89% of students (6,067 out of 8,324 total population), with at least one incident of out-of-school suspension. Only 4.7% (2,257 of the 48,013) of females had at least one incident of out-of-school suspension.

Table 6 also illustrates that for most race/ethnicity groups, fewer students had an incident of out-of-school suspension than in-school suspension. This was true for all but Black students, whose number of students with at least one incident rose from 438 to 502. While Black students made up 2.43% of the students in these schools, they accounted for nearly three times that amount (6.49%) of the students with an incident of out-of-school suspension. As with in-school suspension, Native American and Hispanic students trailed Black students' risk index, with 14% and 11% respectively, but were at greater risk than would be expected based on their makeup of the total population. The risk index for Asian and White students was lower than for in-school suspension, with Asian students risk index going from 5% to 4%, and White students from 9% to 8%. Unlike Black, Native American and Hispanic students whose percentage of students receiving an incident of out-of-school suspension exceeded their makeup of the student population,

Asian students only accounted for 1.98% of the students with an incident, while making up 4.74% of all students.

Finally, Table 6 confirms that students with disabilities had higher rates of students receiving out-of-school suspension with 14.58% having at least one incident versus 7.50% of students without a disability. Students with disabilities accounted for 61.64% of students with at least one incident of out-of-school suspension, which was higher than the proportion for in-school suspension (59.81%).

Expulsion. The same risk calculations for in-school suspension and out-of-school suspension were then calculated for expulsion. Table 7 includes enrollment by demographic, the number and percent of students who were expelled, and their risk index.

Table 7

Enrollment, Number of Students with an Incident, and Risk of Expulsion (EX) by Gender, Race/ethnicity, and Disability Status for Oregon Middle Schools in 2009-10

Group	Enrollment		Students with EX		Risk Index	
	<i>n</i>	%	<i>n</i>	%	%	
Middle Schools with Grades 6-8 and 7-8 (<i>n</i> = 181)						
Gender						
	Male	49,883	50.96	905	52.46	1.81
	Female	48,013	49.04	820	47.54	1.71
Race/Ethnicity						
	Asian	4,645	4.74	45	2.61	0.97
	Black	2,375	2.43	112	6.49	4.72
	Hispanic	20,197	20.63	512	29.68	2.54
	Native American	1,835	1.81	72	4.17	3.92
	White	65,570	66.98	919	53.28	1.40
	Unknown/ Mixed	3,274	3.34	65	3.77	1.99
Disability Status						
	Yes	13,842	14.14	350	20.29	2.53

	No	84,054	85.86	1,375	79.71	2.00
Total		97,896	100.00	1,725	100.00	

The use of expulsion was far less than in-school suspension (9,880) and out-of-school suspension (8,324) with 1,725 (1.76%) middle school students in this study being expelled during the 2009-2010 school year. Unlike in-school suspension and out-of-school suspension, the proportion of males versus females being expelled was nearly the same. The risk index for both groups was less than 2%.

Consistent with in-school suspension and out-of-school suspension, Black students had the highest risk of being expelled with a risk index of 4.72%. This trend continued for Native American and Hispanic students with a 3.92% and a 2.54% risk indexes respectively. By contrast, 1.40% of White and 0.97% of Asian students were expelled that same year. The risk index for students with disabilities was 2.52% and those without a disability 2.00%. While the risk indexes appeared similar, it was telling that students with disabilities made up 14.14% of all students, but accounted for 20.29% of students with at least one incident of expulsion. See Appendix A for disaggregated risk indexes by each race/ethnicity, gender and disability status for each discipline type.

The risk index only provided limited information on over or under representation however. To better understand the disproportionate use of suspension and expulsion for particular groups of students, the risk of one group was compared to the risk of all others resulting in a risk ratio (RR). The risk ratio allowed for the calculation of the degree of over or under representation. For example, compared to another group, a RR of 1.0 meant the two populations had exactly the same risk of being disciplined, a RR of 2.0 meant the

population being compared was twice as likely to be disciplined, and RR of 0.5 meant the population was half as likely to be disciplined.

Research Question One

Research Question One asked in which, if any, categories of disciplinary consequences (in-school suspension (ISS), out-of-school suspension (OSS), and expulsion (EX)) were gender, race/ethnicity, and disability status disparities visually evident in Oregon middle schools as determined by risk ratio (RR).

Table 8 provides RR data for in-school suspension, out-of-school suspension, and expulsion by gender, race/ethnicity, and disability status for 97,896 students within 181 middle schools included in my study. The comparison group for each of the risk ratio calculations was the risk of all other students.

Table 8

Risk Ratio for In-school Suspension (ISS), Out-of-school Suspension (OSS) and Expulsion (EX) by Gender, Race/Ethnicity, and Disability Status for Oregon Middle Schools in 2009-10

		In-school Suspension (ISS)	Out-of-school Suspension (OSS)	Expulsion (EX)
Gender				
	Male	2.32	2.59	1.06
	Female	0.43	0.39	0.94
Race/Ethnicity				
	Asian	0.49	0.41	0.54
	Black	1.87	2.58	2.79
	Hispanic	1.59	1.37	1.62
	Native American	1.46	1.63	2.28
	White	0.69	0.72	0.56
	Unknown/Mixed	0.90	1.05	1.13
Disability Status				

Yes	1.76	1.94	1.55
No	0.57	0.51	0.65

Gender and disability risk ratios. For in-school and out-of-school suspension, males were 2.32 and 2.59 times as likely as females to have an incident. This was not the case with expulsion, where both groups had a risk ratio close to one, or nearly the same risk as each other. Students with disabilities were almost twice (1.76) as likely to receive in-school suspension and out-of-school suspension (1.94), and 1.55 times as likely to be expelled as students without a disability.

Race/Ethnicity risk ratios. Overall, Black students risk ratios increased by severity of discipline type. Black students were 1.87 times as likely to receive in-school suspension, 2.58 times as likely to receive out-of-school suspension, and nearly three times as likely to be expelled versus all other groups. Native American students also had increasing risk ratios across the three discipline types. Compared to all other students, the discipline risk ratios for Native American students were 1.46 for in-school suspension, 1.63 for out-of-school suspension and 2.28 for expulsion. Hispanic students were also overrepresented being 1.59 times as likely to receive in-school suspension, 1.37 times as likely to receive out-of-school suspension and 1.62 times as likely to be expelled as their peers. White students on the other hand were underrepresented with the risk ratios approaching half that of all others for all three discipline types. Lastly, Asian students were 0.54 times as likely as all other students to be expelled and less than half as likely to receive in-school or out-of-school suspension.

Research Question Two

Research Question Two investigated whether there were significant differences by gender in the rates of discipline consequence for students in Oregon middle schools. Table 9 provides the results of ANOVA with gender as the independent variable and type of discipline (ISS, OSS, EX) as the dependent variable.

Table 9

ANOVA Results Comparing Males and Females for In-school Suspension (ISS), Out-of-school Suspension (OSS) and Expulsion (EX) for Oregon Middle Schools in 2009-10

		Sum of Squares	df	Mean Square	<i>F</i>	Sig.
ISS	Between Groups	155.69	1	155.69	1746.36	<.0005
	Within Groups	8727.19	97894	0.09		
	Total	8882.88	97895			
OSS	Between Groups	136.21	1	136.21	1782.67	<.0005
	Within Groups	7480.01	97894	0.08		
	Total	7616.22	97895			
EX	Between Groups	0.03	1	0.03	1.60	0.21
	Within Groups	1694.58	97894	0.02		
	Total	1694.61	97895			

Note: SPSS 20 default *p* value for anything less than .0005 is reported as *p* <.0005

There was a statistically significant difference between males and females for in-school suspension ($F(1,97894) = 1746.36, p < .0005$) with males receiving significantly more in-school suspension. There was also a statistically significant difference between groups for out-of-school suspension ($F(1,97894) = 1782.67, p < .0005$) with males again receiving significantly more out-of-school suspension. There was not a statistically significant difference between males and females for expulsion ($F(1,97894) = 1.60, p = .206$). These results were consistent with the findings from both risk index and risk ratios.

Research Question Three

Research Question Three examined whether significant differences by race/ethnicity existed in the rates of discipline for students in Oregon middle schools. Table 10 includes the results of ANOVA with race/ethnicity as the independent variable and type of discipline (ISS, OSS, EX) as the dependent variable.

Table 10

ANOVA Results Comparing Race/Ethnicity for In-school Suspension (ISS), Out-of-school Suspension (OSS) and Expulsion (EX) for Oregon Middle Schools in 2009-10

Source		Sum of Squares	df	Mean Square	<i>F</i>	Sig.
ISS	Between Groups	80.01	5	16.00	177.95	<.0005
	Within Groups	8802.80	97890	0.09		
	Total	8882.81	97895			
OSS	Between Groups	71.33	5	14.27	185.08	<.0005
	Within Groups	7544.89	97890	0.08		
	Total	7616.22	97895			
EX	Between Groups	5.30	5	1.06	61.39	<.0005
	Within Groups	1689.31	97890	0.02		
	Total	1694.61	97895			

Note: SPSS 20 default *p* value for anything less than .0005 is reported as *p* <.0005

There was a statistically significant difference between race/ethnicity groups for in-school suspension ($F(5,97890) = 177.95, p < .0005$), out-of-school suspension ($F(5,97890) = 185.08, p < .0005$) and for expulsion ($F(5,97890) = 61.39, p < .0005$). To determine where the significant differences exist by race/ethnicity and discipline type, *post hoc* pairwise comparisons using the Tukey method were employed using SPSS 20.

The Tukey *post-hoc* test revealed that Black students received significantly more in-school suspensions than all other groups. Native American students received

significantly more in-school suspension than all other groups except Black students. Hispanic students received significantly more in-school suspension than Asian and White students, but less than Black and Native American students with the difference only significant for Black students. White students received significantly less in-school suspension than all other groups except Asians. Lastly, Asian students received significantly less in-school suspension than all other students. See Table 11 for the complete results of *post-hoc* Tukey pairwise comparisons with race/ethnicity as the independent variable and in-school suspension as the dependent variable.

Table 11

Tukey Post Hoc Pairwise Results for In-school Suspension (ISS) by Race/Ethnicity for Oregon Middle Schools in 2009-10

Dependent Variable	(I) Race	(J) Race	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
						Lower Bound	Upper Bound
ISS	White	Black	-0.10*	0.01	<.0005	-0.11	-0.08
		Hispanic	-0.06*	0.00	<.0005	-0.06	-0.05
		Asian	0.04*	0.00	<.0005	0.02	0.05
		Native American	-0.06*	0.01	<.0005	-0.08	-0.04
		Mixed/Unknown	0.00	0.01	0.983	-0.02	0.01
		Unknown	0.00	0.01	0.983	-0.02	0.01
	Black	Hispanic	0.04*	0.01	<.0005	0.02	0.06
		Asian	0.13*	0.01	<.0005	0.11	0.16
		Native American	0.04*	0.01	0.001	0.01	0.06
		Mixed/Unknown	0.09*	0.01	<.0005	0.07	0.12
	Hispanic	Asian	0.09*	0.00	<.0005	0.08	0.11
		Native American	0.00	0.01	0.999	-0.02	0.02
		Mixed/Unknown	0.05*	0.01	<.0005	0.04	0.07
	Asian	Native	-0.10*	0.01	<.0005	-0.12	-0.07

	American					
	Mixed/ Unknown	-0.04*	0.01	<.0005	-0.06	-0.02
Native American	Mixed/ Unknown	0.05*	0.01	<.0005	0.03	0.08

*The mean difference is statistically significant at the 0.05 level. Note: SPSS 20 default p value for anything less than .0005 is reported as $p <.0005$, 0.00 values are due to rounding.

The Tukey *post-hoc* test for out-of-school suspension mirrored results for in-school suspension with Black students receiving significantly more out-of-school suspensions than all other groups, and Native American students receiving significantly more out-of-school suspension than all other students, except Black students. Hispanic students received significantly more in-school suspension than Asian and White students, and significantly less than Native American students. White students received significantly less out-of-school suspension than all other groups except Asian students, and less than but not significantly less than students reported as Mixed/Unknown race/ethnicity. Lastly, Asian students received significantly less in-school suspension than all other students. See Table 12 for complete Tukey *post hoc* pairwise comparison results with race/ethnicity as the independent variable and out-of-school suspension as the dependent variable.

Table 12

Tukey Post Hoc Pairwise Results for Out-of-School Suspension (OSS) by Race/Ethnicity for Oregon Middle Schools in 2009-10

Dependent Variable	(I) Race	(J) Race	Mean Difference	Std. Error	Sig.	95% Confidence Interval
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		(I-J)			Lower Bound	Upper Bound		
OSS	White	Black	-0.14*	0.01	<.0005	-0.15	-0.12	
		Hispanic	-0.03*	0.00	<.0005	-0.04	-0.03	
		Asian	0.04*	0.00	<.0005	0.03	0.05	
		Native American	-0.06*	0.01	<.0005	-0.08	-0.04	
		Mixed/Unknown	-0.01	0.00	0.056	-0.03	0.00	
		Black	Hispanic	0.10*	0.01	<.0005	0.09	0.12
		Asian	0.18*	0.01	<.0005	0.16	0.20	
		Native American	0.07*	0.01	<.0005	0.05	0.10	
		Mixed/Unknown	0.12*	0.01	<.0005	0.10	0.14	
		Hispanic	Asian	0.07*	0.00	<.0005	0.06	0.09
			Native American	-0.03*	0.01	<.0005	-0.05	-0.01
			Mixed/Unknown	0.02*	0.01	0.004	0.00	0.03
		Asian	Native American	-0.10*	0.01	<.0005	-0.12	-0.08
			Mixed/Unknown	-0.05*	0.01	<.0005	-0.07	-0.04
		Native American	Mixed/Unknown	0.05*	0.01	<.0005	0.03	0.07

* The mean difference is statistically significant at the 0.05 level. Note: SPSS 20 default p value for anything less than .0005 is reported as $p <.0005$, 0.00 values are due to rounding.

Following the trend of in-school and out-of-school suspension, *post hoc* results for expulsion revealed that Black students received statistically significantly more incidents of expulsion than Asian, Hispanic, White and Mixed/Unknown students. They also received more expulsion, but not significantly more than Native American students. Hispanic students were expelled significantly more than Asian, White students, and significantly less than Native American students. White students received significantly

less expulsion than all other race/ethnicity groups except Asians. Asian students were significantly less likely to receive expulsion than all other students except White students. While experiencing less expulsion than their White peers, it was not statistically significant. Table 13 provides the Tukey *post hoc* pairwise comparison results with race/ethnicity as the independent variable and expulsion as the dependent variable.

Table 13

Tukey Post Hoc Pairwise Results for Expulsion (EX) by Race/Ethnicity for Oregon Middle Schools in 2009-10

Dependent Variable	(I) Race	(J) Race	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
						Lower Bound	Upper Bound
EX	White	Black	-0.03*	0.00	<.0005	-0.04	-0.03
		Hispanic	-0.01*	0.00	<.0005	-0.01	-0.01
		Asian	0.00	0.00	0.252	0.00	0.01
		Native American	-0.03*	0.00	<.0005	-0.03	-0.02
		Mixed/Unknown	-0.01	0.00	0.129	-0.01	0.00
		Unknown	-0.01	0.00	0.129	-0.01	0.00
	Black	Hispanic	0.02*	0.00	<.0005	0.01	0.03
		Asian	0.04*	0.00	<.0005	0.03	0.05
		Native American	0.01	0.00	0.378	0.00	0.02
		Mixed/Unknown	0.03*	0.00	<.0005	0.02	0.04
		Unknown	0.03*	0.00	<.0005	0.02	0.04
		Unknown	0.03*	0.00	<.0005	0.02	0.04
	Hispanic	Asian	0.02*	0.00	<.0005	0.01	0.02
		Native American	-0.01*	0.00	<.0005	-0.02	0.00
		Mixed/Unknown	0.01	0.00	0.228	0.00	0.01
		Unknown	0.01	0.00	0.228	0.00	0.01
		Unknown	0.01	0.00	0.228	0.00	0.01
		Unknown	0.01	0.00	0.228	0.00	0.01
	Asian	Native American	-0.03*	0.00	<.0005	-0.04	-0.02
		Mixed/Unknown	-0.01*	0.00	0.009	-0.02	0.00
Unknown		-0.01*	0.00	0.009	-0.02	0.00	
Unknown		-0.01*	0.00	0.009	-0.02	0.00	
Native American	Mixed/Unknown	-0.01*	0.00	0.009	-0.02	0.00	
	Unknown	0.02*	0.00	<.0005	0.01	0.03	

* The mean difference is statistically significant at the 0.05 level. Note: SPSS 20 default p value for anything less than .0005 is reported as $p < .0005$, 0.00 values are due to rounding.

Research Question Four

Research Question Four tested whether significant differences by disability status existed in the rate of discipline consequences for students in Oregon middle schools.

Table 14 contains the results of ANOVA with disability status as the independent variable and type of discipline (ISS, OSS, EX) as the dependent variable.

Table 14

ANOVA Results Comparing Disability Status for In-school suspension (ISS), Out-of-school Suspension (OSS) and Expulsion (EX) for Oregon Middle Schools in 2009-10

		Sum of Squares	df	Mean Square	F	Sig.
ISS	Between Groups	56.44	1	56.44	625.99	<.0005
	Within Groups	8826.44	97894	0.09		
	Total	8882.88	97895			
OSS	Between Groups	59.52	1	59.52	771.00	<.0005
	Within Groups	7556.70	97894	0.08		
	Total	7616.22	97895			
EX	Between Groups	0.95	1	0.95	54.74	<.0005
	Within Groups	1693.66	97894	0.02		
	Total	1694.61	97895			

Note: SPSS 20 default p value for anything less than .0005 is reported as $p < .0005$

There was a statistically significant difference between students with disabilities and those without for in-school suspension ($F(1,97894) = 625.99, p < .0005$), out-of-school suspension ($F(1,97894) = 771.00, p < .0005$), and expulsion ($F(1,97894) = 54.74,$

$p < .0005$). For all three types of discipline, students with disabilities were statistically significantly more likely to be disciplined than students without a disability.

Research Question Five

Research Question Five asked whether the three levels of the independent variable (SWPBIS implementers, partial implementers, and non-implementers), had significantly different rates of discipline by categories of discipline (ISS, OSS, EX).

With an equal number of matched schools in each group identified, and comparability across groups established, student risk of discipline (ISS, OSS, EX) was calculated for each school. From the proportion of discipline by type in each school, an average proportion of discipline was identified by discipline type for each group. A single factor ANOVA with level of SWPBIS implementation as the independent variable and proportion of discipline by discipline type as the dependent variable was then run using SPSS 20. Table 15 includes the results with SWPBIS implementation level as the independent variable and proportion of discipline by type (ISS, OSS, EX) as the dependent variable.

Table 15

ANOVA Results Comparing Levels of SWPBIS Implementation as the Independent Variable and In-school Suspension (ISS), Out-of-school Suspension (OSS) and Expulsion (EX) as Dependent Variable

		Sum of Squares	df	Mean Square	F	Sig.
ISS	Between Groups	0.01	2	0.01	1.83	0.17
	Within Groups	0.20	48	0.00		
	Total	0.21	50			
OSS	Between Groups	0.00	2	0.00	1.24	0.30
	Within Groups	0.09	48	0.00		

	Total	0.09	50			
EX	Between Groups	0.00	2	0.00	1.95	0.15
	Within Groups	0.03	48	0.00		
	Total	0.03	50			

Note. 0.00 values are due to rounding.

Results of the one-way ANOVA with level of implementation of SWPBIS (SWPBIS implementation at the universal level for three consecutive years, partial implementation over three years, and no record of implementation for three years) as the independent variable and proportion of discipline by type (ISS, OSS, EX) showed no statistically significant differences between groups.

Results Summary

Demographic data from the 2009-2010 school year on 97,896 students included in my study showed a nearly even split between males and females (49,883/48,013) and students eligible for Free and Reduced Lunch and those not eligible (48,003/49,893). The racial makeup of this population was predominantly White with 65,570 students, followed by 20,197 Hispanic and 4,645 Asian students. Black and Native American students accounted for 2.43% (2,375) and 1.87% (1,835) of the population respectively.

During the 2009-2010 school year there were 9,880 unique students reported with an incident of in-school suspension within 181 middles school included in my study. Results of descriptive analysis for in-school suspension showed that males accounted for the majority (70.71%) of students with an incident. Results by race/ethnicity indicated that while making up only 2.43% of the population, Black students had the greatest risk (18.44%), followed by Native American (14.60%) and Hispanic (14.32%) students. White and Asian students by contrast, had much lower risks of 8.76% and 5.08% risk.

Differences by disability type were also found. Lastly, students with disabilities had a 16.01% risk index while students without a disability had a risk index of 9.12%.

Research question one. During the 2009-2010 school year there were 8,324 unique students reported with an incident of out-of-school suspension. As with in-school suspension, males accounted for the majority (72.89%) of students with an incident. The risk index for Black students increased from 18.44% for in-school suspension to 21.14% for out-of-school suspension. On the other hand, the risk index for Hispanic and Native American students decreased compared to their risk index for in-school suspension. Hispanic student risk index dropped from 14.32% for in-school suspension to 10.80% for out-of-school suspension and Native American student risk index dropped slightly from 14.60% for in-school suspension to 13.73% for out-of-school suspension. All three groups were overrepresented compared to their makeup of the population however. Students with disabilities had a risk index of 14.58%, while their non-disabled peers had 7.50% risk index.

This trend of higher than expected risk of discipline for Black, Hispanic and Native American students and students with disabilities continued for expulsion. There were 1,725 unique students with an incident of expulsion during the 2009-2010 school year. Unlike in-school suspension and out-of-school suspension, males and females had similar risk for expulsion (1.81%/1.71%). Results by race/ethnicity documented that Black students had the highest risk index (4.72%), followed by Native American (3.92%), and then Hispanic students (2.54%). White and Asian students had the lowest risk index for expulsion with 1.40% and 0.97% respectively. Students with disabilities had a higher risk index for expulsion than students without a disability (2.53% versus

2.00%). While informative, risk indexes provided limited information. Risk index was helpful in showing what percentage of a given population experienced an event, but more telling was the use of risk ratios, which compared the risk of one group to that of a comparison group. Comparison groups for risk ratios calculations included the risk for all others.

A review of risk ratios identified that males were more than twice as likely as females to receive in-school (2.32) and out-of-school suspension (2.59). This was not the case for expulsion, where both risk ratios were close to 1.0, meaning they had essentially the same risk. Risk ratios by race/ethnicity determined that Black students had the highest risk ratios with 1.87 for in-school suspension, 2.58 for out-of-school suspension, and nearly three times the risk of expulsion compared to all other students. Native American students were overrepresented with risk ratios of 1.46 for in-school suspension, 1.63 for out-of-school suspension, and 2.28 for expulsion. Hispanic students were also overrepresented for expulsion with risk ratios of 1.59 for in-school suspension, 1.37 for out-of-school suspension, and 1.62 for expulsion compared to all other groups. By contrast, White students were underrepresented across all discipline types with risk ratios less than 1.0, and Asian students were half as likely to be to receive suspension or expulsion as all other groups. Lastly, students with disabilities were over 1.5 times as likely to be suspended and expelled as their non-disabled peers.

Research question two. Research Question Two asked of there were significant differences in the rates of discipline for males and females. Results showed significantly more in-school and out-of-school suspension for males than females, but not a significantly different proportion of expulsion.

Research question three. Research Question Three asked if there were significant differences in rates of discipline by race/ethnicity. ANOVA results indicated significant differences by race/ethnicity and discipline type. Tukey *post hoc* analysis revealed that Black students were received significantly more in-school and out-of-school suspension than all other race/ethnicities. They also had significantly more expulsion than all other groups except Native Americans, where results showed they experienced more, but differences were not significant. Native American students received significantly more suspension and expulsion than all other groups except Black students. Hispanic students had significantly more suspension and expulsion than Asian, White and students of Mixed/Unknown race/ethnicity, and received significantly less out-of-school suspension and expulsion than Black and Native American students. While Hispanic students received less in-school suspension than Native American students, the results were not significant. Results for White students showed significantly less in-school, out-of-school and expulsion than Black, Native American and Hispanic students and significantly more in-school suspension and out-of-school suspension than Asian students. While White students received more expulsion than Asian students, results were not significant. Lastly, Asian students received significantly less discipline than all other groups with one exception, expulsion for White students.

Research question four. Research Question Four examined if there were significant differences in the proportion of discipline by disability status. Results of ANOVA showed significantly more in-school, out-of-school suspension and expulsion for students with disabilities compared to students without a disability.

Research question five. Research Question Five investigated if significant differences in discipline existed in schools that differed on level of implementation of SWPBIS. Results of ANOVA with level of SWBIS implementation (universal implementation, partial implementation, and non-implementation) as the independent variable showed no statistically significant differences in the proportion of in-school, out-of-school suspension or expulsion between groups.

CHAPTER IV

DISCUSSION

The purpose of my study was to investigate and document the disproportionate discipline by gender, race/ethnicity and disability status in middle schools serving grades 6-8 and 7-8 in the state of Oregon. Prior to my study the most recent report on disproportionate discipline in Oregon schools was based on 2008-2009 data and did not focus on middle school students, where most of the suspension and expulsion data originated (ACLU report, 2010). My study also examined the potential impact of SWPBIS on the proportion of discipline by comparing discipline rates in schools that were implementing SWPBIS at the universal level to those with partial implementation and those with no record of implementation over a three year period using a causal comparative research design.

Review of the Findings

Results from descriptive analysis showed disproportionate discipline rates for males, Black, Native American and Hispanic students, and students with disabilities. Males were more than twice as likely as females to receive in-school suspension and out-of-school suspension and these differences were statistically significant. Males and females were nearly as equally as likely to be expelled based on risk ratios, and the differences were not statistically significant when compared using ANOVA.

A review of risk ratios showed that Black students were 1.87 times as likely to receive in-school suspension, 2.58 times as likely to receive out-of-school suspension, and 2.79 times as likely to be expelled as all other race/ethnicities. These differences were also statistically significant. Native American students received significantly more

out-of-school suspension and expulsion than all other race/ethnicities, except Black students. Risk ratios for Native American students documented that they were 1.46, 1.63, and 2.28 times as likely to receive in-school suspension, out-of-school suspension, and expulsion compared to all other students. Hispanic students were overrepresented for all discipline types compared to their peers with risk ratios of 1.59 for in-school suspension, 1.37 for out-of-school suspension, and 1.62 for expulsion. Hispanic students received statistically significantly more in-school suspension, out-of-school suspension and expulsion than White and Asian students. By contrast, Asian students received statistically significantly less discipline than all other race/ethnicities and had roughly less than half the risk of being disciplined compared to their peers. Finally, risk ratios for students with a disability nearly twice as likely (1.94) to receive out-of-school suspension compared to students without a disability, and 1.55 times as likely to be expelled. The differences students with and without a disability were statistically significant for all three type of discipline.

Lastly, results of a one-way ANOVA with level of implementation of SWPBIS as the independent variable and proportion of in-school suspension, out-of-school suspension, and expulsion failed to show statistically significant differences between groups.

Limitations

My study used extant data from four different data collections. Three of these data sources were from State of Oregon Department of Education collections used for federal reporting. While the State of Oregon goes to impressive lengths to collect valid and reliable data including providing annual training to district and school staff and internal

validity checks of the data after submission, the data are self-reported by schools and districts. In addition to being self-reported, changes to race/ethnicity reporting requirements were occurring across collections during the 2009-2010 school year and this may have impacted the race counts, although the impact would likely be minimal for such a large sample size as was used in my study (97,896). The fourth data set was also self-reported data provided by schools to by the Center on Positive Behavior Interventions and Supports (PBIS.org).

The data on SWPBIS implementation was based on the School-wide Evaluation Tool (SET) that is self-reported to the Center on Positive Behavioral Interventions and Supports. Unlike the state collections, schools are not obligated to report their SET scores and some schools may have conducted the SET, but decided not to report their scores over the course of three years included for this study. In addition, while SET scores were used to determine level of implementation for three consecutive years, information on how the SET was conducted or by whom was not available at the time of this study. Ideally, the SET is conducted by an external evaluator who can objectively document implementation efforts within a school, but it may have been the case that school staff conducted the SET on themselves due to limited resources or timing. Additionally, including partial implementers as a comparison group was meant to provide additional information on the potential impact SWPBIS implementation had on discipline rates, but due to size of the groups ($n = 17$) and varying levels and duration of implementation for schools in this group, stark contrasts to schools universally implementing SWPBIS and those considered non-implementers may not have been present.

For my study, partial implementers included schools with SET scores for one or

more years during a three year period matched to known demographic variables from the SWPBIS schools. A review of partial implementer schools showed that six had partially implemented for two of the three years, nine had implemented for only one of the three years, and two had implemented for all three years but did not attain universal implementation for three consecutive years. SET scores varied greatly for these schools, with some exceeding 80/80 for a school year, to very low levels of implementation for a one year period.

Once data sets were merged for analysis, additional decisions were made on how to report the data that impact interpretability of these findings. These decisions included using students with an incident instead of the number of incidents by student, and using the risk of all other groups as the comparison instead of the risk for White students for risk ratio calculations. While research has shown that the lowest performing students are more likely to receive suspension (Arcia, 2006; Brown, 2007; Cartledge & Kourea, 2008; Gordon, Della Piana, & Keleher, 2000; Losen & Skiba, 2010; Skiba & Rausch, 2006; Townsend, 2000) and the use of suspension is a predictor of further suspension (Gottfredson, Gottfredson, & Hybl, 1993; Mayer & Leone, 1999; Raffaele Mendez, 2003; Tobin, Sugai, & Colvin, 1996), reporting on the number of students with an incident provides a clear picture for policy makers of the extent student populations are being suspended and expelled by gender, race/ethnicity and disability status. Additionally, as previously discussed, the U.S. Department of Education, Office of Special Education Programs recommends the use of risk ratio, and previous research has shown there to be little difference in results when using White students or all others as the comparison groups when doing so at the state level (Westat, 2004).

As a result of using only extant data, another limitation of this study was a lack of information on why schools may have chosen to implement SWPBIS. In some cases, it may have been a district wide initiative and the middle school included in this study was expected to implement regardless of the presence or absence of behavioral issues in the school. Other schools included in this study may have been dealing with considerable behavioral challenges and began implementing SWPBIS to specifically reduce inappropriate behavior and improve their school climate. Another possible reason for adoption of SWPBIS by schools in this study may have been due to participation a large scale randomized trial study on SWPBIS implementation in middle schools that was beginning in Oregon during the three years included in this study. Additionally, just as little is known about why the SWPBIS schools in this study adopted SWPBIS, available data did not include additional information on partial and non-implementer schools.

Schools with partial implementation may have been dealing with considerable behavior but had limited resources or support that impacted their ability to fully implement the model, or they may have been required to implement as a district wide effort, but did not have the buy in from staff that is critical when implementing a school-wide approach. Schools with no record of implantation over the three years considered for my study may not have had the level of behavioral issues that would lead to the adoption of SWPBIS, or they may have been struggling with behavioral issues, but lacked the resources to adopt such a comprehensive approach. Lastly, without information on the local discipline policies such as zero tolerance policies for these schools, there was no ability to determine what role such policies played in the disciplining of students in these schools.

Additional considerations need to be made that limit the interpretability for the causal comparative results of this study. A lack of randomization, manipulation of the independent variable and control over comparison groups are all weaknesses of causal comparative designs. While the level of granularity of state provided data allowed for a thorough descriptive analysis of the disproportionate discipline occurring within 181 middle schools included in this study, selection of matching schools for the causal comparative research question relied on a limited set of variables in the extant data. Following findings from the literature on gender and race/ethnicity for predicting disproportionate discipline, my study used percent of White enrollment as the primary matching variable for selecting partial and non-implementer schools. While ANOVA results on the demographic variables (total enrollment, percent White, percent female, percent students with disabilities, and percent eligible for FRL) showed no statistically significant differences between groups, differences between groups on other key variables may have existed. As previously discussed, differences may have included: reasons for adopting or not adopting SWPBIS, available resources and support needed to implement SWPBIS, the use of other approaches besides SWPBIS to address behavior, and the use of discipline policies such as zero tolerance that can exacerbate the use of more severe consequences such as out-of-school suspension and expulsion.

Findings and Interpretations of Results

Descriptive results from 181 middle schools serving grades 6-8 and 7-8 in Oregon showed overrepresentation of males for in-school suspension and out-of-school suspension, but not for expulsion. Findings from my study showed that males were more than twice as likely as females to be suspended in and out of school, but were expelled at

roughly the same rates. Interestingly, males and females were at similar risk for expulsion with risk ratios of nearly 1.0 each (1.06 versus 0.94). Results of ANOVA comparing males and females were consistent with findings from risk ratios, with males receiving a statistically significantly greater amount of in-school and out-of-school suspension. As expected based on nearly equal risk ratios, differences for expulsion for males and females were not statistically significant between groups. Without data on the type of behavior resulting in expulsion, it is difficult to interpret this result. A possible reason for the lack of difference between males and females for expulsion could include the types of behaviors that are covered under zero tolerance policies such as drugs/alcohol and weapons. While this may provide a basis for the lack of difference between the number of males and females expelled, it does not address the disproportionality by race and ethnicity within those excluded from school.

Consistent with previous research using state and national data (CRDC, 2012; Krezmien et al., 2006; Losen, 2011; Losen & Skiba, 2010; Raffael Mendez & Knoff, 2003; Wallace et al., 2008, Wu et al., 1982) overrepresentation of Black students and students with disabilities for suspension and expulsion occurred in Oregon during the 2009-2010 school year. Descriptive results by race/ethnicity and disability status documented overrepresentation for Black, Native American, and Hispanic students, and students with disabilities for all discipline types. More specifically, Black students were over 2.5 times as likely to be suspended out of school and 2.79 times as likely to be expelled as all other students.

While overrepresentation for discipline of Native American and Hispanic students was less consistently documented in the literature (Krezmien et al. 2006; Rabrenovic &

Levin, 2003; Rocque, 2010; Skiba et al., 2011; Vincent et al., 2011; Wallace et al., 2008), my study showed consistent overrepresentation for both groups for in-school suspension, out-of-school suspension, and expulsion. In particular, Native American students in 181 Oregon middle schools were 2.28 times as likely as any other group to be expelled. While both groups were consistently overrepresented, Hispanic students had slightly higher risk ratios for in-school suspension than Native American students (1.59 versus 1.46) when compared to all others, and a slightly lower risk ratio for out-of-school suspension (1.37 versus 1.63) when compared to all other groups. In contrast, White and Asian middle school students in Oregon were underrepresented for discipline consequences. As a group, White students had risk ratios of 0.60 for in-school suspension, 0.72 for out-of-school suspension, and 0.56 or almost half as likely to be expelled compared to all other groups. Asians had the lowest risk ratios compared to all other groups with 0.49 for in-school suspension, 0.41 for out of school suspension, and 0.54 for expulsion.

The type of behavior that contributed to the discipline consequences was not included in this study. Because of this, it is not clear if types of behavior by race/ethnicity differed in this sample. However, previous research has shown that the majority of suspensions were for minor offenses while few were for behaviors that involved safety (Imich, 1994; McFadden, et al., 1992; Raffaele Mendez & Knoff, 2003; Skiba, 2002; Skiba et al., 1997), that Black students were more often referred for defiance and noncompliance than their White peers (Gregory & Weinstein, 2008; Skiba et al., 2008; Skiba et al., 2011), and that Black males tend to receive more office referrals and are suspended and/or expelled at higher rates than their White peers (Lewis, Butler, Bonner III, & Joubert, 2010; Skiba, McCarthy & Hoge, 1987; Michael, Nardo & Peterson, 2000;

Townsend, 2000; Wu, Pink, Crain & Moles, 1982). Given these repeated findings, it is unlikely that Black, Native American, and Hispanic students in this sample of Oregon middle schools were engaging in significantly more or different problematic behavior than their White or Asian peers. More likely is the differential treatment of Black, Native American and Hispanic students for similar behavior.

Also consistent with national and state data (Achilles, McLaughlin, & Croninger, 2007; Bowman-Perrott et al., 2011; CRDC, 2012; Krezmien et al., 2006; Losen, 2011; Rausch & Skiba, 2006; Rocque, 2010; Skiba & Rausch, 2006; Wagner, Newman, & Cameto, 2004; Zhang, Katsiyannis, & Herbst, 2004) students with disabilities in my study were overrepresented for all discipline types compared to their peers without disabilities based on risk ratios. Students with disabilities were 1.76 times as likely to receive in-school suspension, 1.94 times as likely to receive out-of-school suspension, and 1.55 times as likely to be expelled as their peers without disabilities. These results were also statistically significant using one-way ANOVA comparing students with and without disabilities by discipline type. While fewer studies have compared the behavior of students with disabilities to students without disabilities and the results have varied (Cooley, 1995; GAO, 2001; McFadden et al., 1992; Zhang et al., 2004) it seems counterintuitive that students identified with a disability, and provided an individualized education plan that must consider necessary behavior supports to ensure both access to and progress in the general education curriculum, would be excluded from school through out-of-school suspension and expulsion at such high rates. This is unless students with disabilities engaged in behaviors covered under zero tolerance policies. As previously discussed, this study analyzed discipline data for students with an incident and

did not consider the type of behavior the students engaged in, so no conclusion about differences in types of behavior could be drawn.

Finally results of a causal comparative research design comparing schools implementing SWPBIS at the universal level over a three year period, matched with schools with partial implementation, and schools with no record of SWPBIS implementation over the same three-year time period showed no statistically significant differences between groups for in-school suspension, out-of-school suspension, or expulsion. A failure to demonstrate significant differences in discipline rates between groups based on SWPBIS implementation could be the result of several factors.

First, most of the evidence base for SWPBIS comes from studies in elementary schools (Bradshaw et al., 2009 Bradshaw Mitchell & Leaf, 2010; Horner et al., 2009). The limited number of research studies on SWPBIS in middle schools has been attributed to challenges such as administrative support, staff attitudes and buy in, consistency and communication, selecting a target to focus on, momentum and sustainability, collection and review of data, and student issues (Kasper, 2005). Evidence does exist that SWPBIS can successfully be implemented in middle school settings, but almost all of these examples are from descriptive studies. A study of statewide SWPBIS implementation in Iowa, demonstrated that schools were implementing SWPBIS with fidelity after only one or two years (Mass-Galloway, Panyan, Smith, and Wessendorf (2008). A four-year longitudinal study evaluating SWPBIS showed a reduction in disruptive-antisocial behavior, vandalism, and substance use (Luiselli et al., 2002). Another statewide examination of SWPBIS implementation in Maryland documented 33% fewer ODRs and suspension rates were also reduced within one year of implementation middle schools

(Barrett et al., 2008). What is not clear from these studies is if it was universal implementation SWPBIS that reduced suspension, vandalism, and substance abuse, or if secondary and tertiary interventions that were responsible for these reductions.

These positive findings are contrasted with other research that showed over a two year period, no significant differences in exclusionary discipline rates occurred for 23 middle schools implementing SWPBIS compared to partial and non-implementing schools (Vincent & Tobin, 2011). More recently, a randomized control study of SWPBIS in middle schools found that implementation fidelity could be reached in the treatment group, but overall differences in discipline rates were limited to in-school suspension and in some cases, higher durations of exclusion occurred in SWPBIS schools (Vincent, Sprague & Gau, 2013). Again, reducing more severe behaviors that lead to more exclusionary disciplinary consequences such as out-of-school suspension and expulsion may require a significant investment in secondary (targeted group) or tertiary (intensive individual) interventions beyond the scope of universal implementation as measured for my study.

Secondly, while SET scores were obtained showing universal implementation of SWPBIS for three consecutive years for the implementer group in this study, recent research has highlighted the importance of integrity within school-based problem solving teams (Newton, et al., 2012; Todd, et al., 2011; Todd, et al., 2012). A critical feature of SWPBIS relies on school-based teams to effectively use behavioral data to track implementation, develop targeted and individual support, and determine if student support is working. In a multiple baseline design study, Todd et al. (2011) found that baseline results showed that teams only met between 45.6% and 85.6% of effective team

problem solving scores on a measure developed to capture recommended strategies for team-based problem solving. Additionally, Newton et al. (2012) found greater use of effective team-based problem solving strategies when training and technical assistance was provided to data teams implementing SWPBIS. It is unclear from the available data on the 17 schools Implementing SWPBIS for my study if these teams were routinely meeting and effectively using behavioral data to drive the use of secondary or tertiary interventions required to mitigate the need for exclusionary discipline such as out-of-school suspension or expulsion.

Lastly, lack of alignment of district and school policies with critical features of may play an important role in the effectiveness of SWPBIS to reduce exclusionary discipline. In a recent study of discipline referrals and written discipline policies at the high school level, Fenning et al. (2012) found that while SWPBIS promotes teaching of appropriate replacement behaviors when students engage in inappropriate behavior, school policies that suspend students for being tardy directly contrast this principle. A review of school policies for seven high schools with various levels of implementation of SWPBIS found that all 10 were punitive in nature. Having reactive and punitive policies in place to deal with inappropriate behavior will certainly undermine the potential impact SWPBIS may have on exclusionary discipline.

Conclusions and Recommendations

The data from 181 middle schools serving grades 6-8 and 7-8 across Oregon including 97,896 students showed significant overrepresentation for Black, Native American, and Hispanic students and students with disabilities for in-school suspension, out-of-school suspension, and expulsion. It is unclear from this data if this represents a

long standing trend, or if these data represent an improvement or worsening over time. However, previous research has documented the negative impact disproportionate use of exclusionary discipline has on students. Experiencing a disproportionate amount of exclusionary discipline removes students from instruction causing them to fall further behind academically and creates disengagement from school which leads to drop out and for some students, leads to involvement in the juvenile justice system and eventually prison. The severity of outcomes for students experiencing a disproportionate amount of discipline, the documented overrepresentation for exclusionary discipline by gender, race/ethnicity and disability status in Oregon middle schools, and the lack of significant differences in discipline rates within schools implementing and with no record of implementation of SWPBIS, have important policy, practice, and future research implications.

Policy implications. Policy makers need to continue to require the collection and reporting of disaggregated discipline and academic data by race/ethnicity and disability status and increase expectations for collection and reporting of disaggregated data by race/ethnicity and disability status in all areas of academic performance (e.g. Graduation rates, dropout rates). In addition to the collection and annual reporting of disaggregated data, policy makers need to publicly question the use of exclusionary discipline and the lack of evidence supporting it. Research has shown that suspension and expulsion do not reduce the need for further use of them, and the negative outcomes for youth experienced them are too significant to ignore. Alternative strategies exist and policy makers should continue to require and encourage the use of evidence-based practices that can be implemented in school settings and that include alternatives to exclusionary discipline

practices. Incentives should be provided to those school that are able to reduce the use of exclusionary discipline and efforts to replicate what successful schools are doing should be supported by policy. In addition to replicating what successful schools are doing, policy should require technical assistance for those schools with the highest reported use of exclusionary and disproportionate discipline by race/ethnicity and disability status.

Federal policy makers need to understand how current policy may perversely incentivize schools to remove their lowest achievers by focusing solely on academic performance (Losen, 2011). With eventual reauthorization of ESEA and IDEA come opportunities to broaden the scope of what constitutes achievement, revisit the trend of zero tolerance policies, and focus attention on the negative impact of exclusionary discipline practices at the state and local levels. Policy makers need to increase support for research on the causes of disproportionate use of discipline by race/ethnicity and disability status. In addition research on possible causes, research on effective alternatives to exclusionary discipline need to be documented. This research can provide states, districts and schools with tools that will keep students academically engaged and promote alternative behaviors that keep students in school and receiving instruction. Lastly, policy makers need to realize that changing policy and funding research will only take us so far. National policy needs to encourage states, districts and schools need to act now to address the current disproportionate exclusion of Black, Native American, Hispanic students and students with disabilities. Practices currently exist that can impact this pervasive problem.

Practice implications. The current evidence base for schoolwide prevention approaches such as SWPBIS is overwhelmingly positive for reducing office discipline

referrals, improving school climate, and increasing time for instruction (Barrett, Bradshaw, & Lewis-Palmer, 2008; Bradshaw et al., 2009; Bradshaw et al., 2008; Eber, Upreti, & Rose, 2010; Frank, Horner & Anderson, 2009; Horner et al., 2005; Horner et al., 2009; Luiselli et al., 2002; Taylor-Greene et al., 1997). Explicitly teaching appropriate behaviors, using systems of graduated support for students, and relying on data for decision making, are all alternatives to reactive and punitive responses to inappropriate behavior. Reductions in out-of-school suspension and expulsion will require training and support to implement evidenced based targeted and individualized interventions beyond the scope of universal implementation. SWPBIS teams at the middle school level would benefit from additional support on implementing secondary and tertiary interventions that include family and community-based supports to effectively serve and retain the highest risk students most susceptible to out-of-school suspension and expulsion. In addition to SWPBIS, practices that address the social emotional well being of students through improved classroom activities, varied methods of instruction, clear behavioral expectations combined with empathetic responses designed to reengage students also show promise as alternatives to exclusionary discipline (Osher et al., 2010).

In addition to adopting and implementing comprehensive preventive approaches, school and district personnel should evaluate their policies to ensure they do not undermine preventive efforts. Actively reviewing and modifying policies such as zero tolerance and overly punitive practices that result in exclusionary discipline for modest offenses will keep students in school and require personnel to redirect their efforts on teaching appropriate alternative behaviors to all students. Lastly, state, district, and

school personnel should review their current data collection and review systems to ensure data being collected is disaggregated by race/ethnicity and disability status and is available for review and decision making frequently for decision making. If current data collection systems do not allow for this, changes should be implemented and resources invested to build capacity within those who review the data for decision making. While it is clear whole school prevention frameworks such as SWPBIS hold the potential to impact the use of exclusionary discipline practices and disproportionate discipline by race/ethnicity and disability status, further research is needed to ensure these frameworks benefit all students.

Research implications. Recent research on SWPBIS has demonstrated strong effects for reducing office discipline referral rates and improving school climate, but mixed results for impacting disproportionate discipline by race/ethnicity and disability status (Cartledge et al., 2001; Jones et al., 2006; Bradshaw et al., 2010; Kaufman et al., 2010, Skiba et al., 2011, Vincent et al., 2011; Vincent & Tobin, 2011, Vincent, Sprague & Gau, 2013). In addition, the results from my study and recent research have not demonstrated significant impacts on out-of-school suspension and expulsion in middle school settings through implementation of SWPBIS (Vincent & Tobin, 2010; Vincent, Sprague & Gau, 2013). Recent research on SWPBIS implementation in middle schools and the limited impact on disproportionate discipline point to the need for further research to better understand the multiple causes of disproportionate discipline by race/ethnicity and disability status, and effective solutions to it.

Future research on school improvement efforts need to include: disaggregated discipline data by race/ethnicity and disability status; the types of behavior that led to

exclusionary discipline by race/ethnicity and disability status; longitudinal analysis of data using available state and local resources; the impact on students who experience a disproportionate amount of discipline; the cost/benefit of using exclusionary discipline; and effective ways to academically engage all students and respond to students from diverse backgrounds through culturally responsive evidenced-based approaches.

Research on implementing culturally inclusive and responsive SWPBIS is just beginning, and can only enhance the positive impact this framework has already had on over 18,000 schools implementing it currently. The goal being that all students benefit from a prevention focused framework that proactively teaches appropriate behaviors, teaches alternative behaviors to those students in need, and actively works with teachers and administrators to implement evidenced-based practices that can be used to support students in the school setting.

This current study provided an unprecedented look into the disproportionate use of exclusionary discipline practices in Oregon middle schools, and provided a glimpse into the potential impact SWPBIS had on rates of discipline by comparing schools implementing at the universal level, those with partial implementation, and those with no record of implementation. My study would have benefitted from several considerations. First, this study would have benefitted from additional information on why schools chose to implement or not implement a schoolwide prevention framework such as SWPBIS, the support they received or didn't receive to implement such a comprehensive framework, and how implementation was impacted by the challenges middle school environments provide. Information on discipline policies across school implementing versus those with partial implementation and those with no record of implementation would also provide

information on how punitive policies may undermine prevention focused frameworks such as SWPBIS. Second, calculating data on the number of incidents students received by race/ethnicity and disability status by discipline type would provide further information the impact of repeated exposure to exclusionary discipline including missed instruction time for those students. Third, including data on the types of behavior students engaged in that led to in-school suspension, out-of-school suspension, and expulsion would further the research on behavior by race/ethnicity and disability status and differential treatment by race/ethnicity and disability status. Lastly, this study would have benefited from the use of higher order statistical approaches such as hierarchical linear modeling to test various models for student and school interactions. Teasing out what impact schools with higher rates of diversity versus more homogeneous schools has on discipline rates, investigating what elements of SWPBIS implementation contributed to differential rates of discipline within those schools, and controlling for individual school characteristic when comparing across groups would further the research on both disproportionate discipline and SWPBIS implementation.

APPENDIX

DISAGGREGATED COUNTS AND RISK INDEXES FOR RACE/ETHNICITY,
GENDER, AND DISABILITY STATUS, BY DISCIPLINE TYPE

Race/ Ethnicity	Gender	Disability Status		ISS	OSS	EX
White	Male	With Disability	Risk index	0.11	0.10	0.01
			N	27244.00	27244.00	27244.00
			Students with an incident	3074.00	2637.00	356.00
		No Disability	Risk index	0.18	0.17	0.02
			N	6247.00	6247.00	6247.00
			Students with an incident	1149.00	1091.00	140.00
		Total	Risk index	0.13	0.11	0.01
			N	33491.00	33491.00	33491.00
			Students with an incident	4223.00	3728.00	496.00
	Female	No Disability	Risk index	0.04	0.04	0.01
			N	28979.00	28979.00	28979.00
			Students with an incident	1281.00	1022.00	365.00
		With Disability	Risk index	0.08	0.06	0.02
			N	3100.00	3100.00	3100.00
			Students with an incident	242.00	182.00	58.00
		Total	Risk index	0.05	0.04	0.01
			N	32079.00	32079.00	32079.00
			Students with an incident	1523.00	1204.00	423.00
	Total	No Disability	Risk index	0.08	0.07	0.01
			N	56223.00	56223.00	56223.00
			Students with an incident	4355.00	3659.00	721.00
With Disability		Risk index	0.15	0.14	0.02	
		N	9347.00	9347.00	9347.00	
		Students with an incident	1391.00	1273.00	198.00	
Total		Risk index	0.09	0.08	0.01	
		N	65570.00	65570.00	65570.00	
		Students with an incident	5746.00	4932.00	919.00	
Black	Male	No Disability	Risk index	0.22	0.24	0.05
			N	915.00	915.00	915.00
			Students with an incident	197.00	218.00	42.00
		With Disability	Risk index	0.28	0.33	0.06
			N	318.00	318.00	318.00
			Students with	90.00	105.00	18.00

			an incident			
		Total	Risk index	0.23	0.26	0.05
			N	1233.00	1233.00	1233.00
			Students with an incident	287.00	323.00	60.00
	Female	No Disability	Risk index	0.13	0.15	0.04
			N	988.00	988.00	988.00
			Students with an incident	126.00	144.00	42.00
		With Disability	Risk index	0.16	0.23	0.06
			N	154.00	154.00	154.00
			Students with an incident	25.00	35.00	10.00
		Total	Risk index	0.13	0.16	0.05
			N	1142.00	1142.00	1142.00
			Students with an incident	151.00	179.00	52.00
	Total	No Disability	Risk index	0.17	0.19	0.04
			N	1903.00	1903.00	1903.00
			Students with an incident	323.00	362.00	84.00
		With Disability	Risk index	0.24	0.30	0.06
			N	472.00	472.00	472.00
			Students with an incident	115.00	140.00	28.00
		Total	Risk index	0.18	0.21	0.05
			N	2375.00	2375.00	2375.00
			Students with an incident	438.00	502.00	112.00
Hispanic	Male	No Disability	Risk index	0.18	0.14	0.02
			N	8494.00	8494.00	8494.00
			Students with an incident	1507.00	1158.00	203.00
		With Disability	Risk index	0.22	0.20	0.03
			N	1857.00	1857.00	1857.00
			Students with an incident	404.00	363.00	57.00
		Total	Risk index	0.18	0.15	0.03
			N	10351.00	10351.00	10351.00
			Students with an incident	1911.00	1521.00	260.00
	Female	No Disability	Risk index	0.10	0.07	0.02
			N	8746.00	8746.00	8746.00
			Students with an incident	837.00	569.00	213.00
		With Disability	Risk index	0.13	0.08	0.04
			N	1100.00	1100.00	1100.00
			Students with an incident	145.00	91.00	39.00
		Total	Risk index	0.10	0.07	0.03
			N	9846.00	9846.00	9846.00
			Students with an incident	982.00	660.00	252.00
	Total	No Disability	Risk index	0.14	0.10	0.02
			N	17240.00	17240.00	17240.00

			Students with an incident	2344.00	1727.00	416.00
		With Disability	Risk index	0.19	0.15	0.03
			N	2957.00	2957.00	2957.00
			Students with an incident	549.00	454.00	96.00
		Total	Risk index	0.14	0.11	0.03
			N	20197.00	20197.00	20197.00
			Students with an incident	2893.00	2181.00	512.00
Asian	Male	No Disability	Risk index	0.07	0.05	0.01
			N	2042.00	2042.00	2042.00
			Students with an incident	153.00	112.00	21.00
		With Disability	Risk index	0.12	0.10	0.03
			N	232.00	232.00	232.00
			Students with an incident	28.00	23.00	6.00
		Total	Risk index	0.08	0.06	0.01
			N	2274.00	2274.00	2274.00
			Students with an incident	181.00	135.00	27.00
	Female	No Disability	Risk index	0.02	0.01	0.01
			N	2244.00	2244.00	2244.00
			Students with an incident	53.00	28.00	18.00
		With Disability	Risk index	0.02	0.02	0.00
			N	127.00	127.00	127.00
			Students with an incident	2.00	2.00	0.00
		Total	Risk index	0.02	0.01	0.01
			N	2371.00	2371.00	2371.00
			Students with an incident	55.00	30.00	18.00
	Total	No Disability	Risk index	0.05	0.03	0.01
			N	4286.00	4286.00	4286.00
			Students with an incident	206.00	140.00	39.00
		With Disability	Risk index	0.08	0.07	0.02
			N	359.00	359.00	359.00
			Students with an incident	30.00	25.00	6.00
		Total	Risk index	0.05	0.04	0.01
			N	4645.00	4645.00	4645.00
			Students with an incident	236.00	165.00	45.00
Native American	Male	No Disability	Risk index	0.19	0.16	0.04
			N	736.00	736.00	736.00
			Students with an incident	137.00	117.00	30.00
		With Disability	Risk index	0.23	0.24	0.03
			N	203.00	203.00	203.00
			Students with an incident	47.00	48.00	7.00
		Total	Risk index	0.20	0.18	0.04
			N	939.00	939.00	939.00

			Students with an incident	184.00	165.00	37.00
	Female	No Disability	Risk index	0.09	0.09	0.04
			N	779.00	779.00	779.00
			Students with an incident	70.00	70.00	32.00
		With Disability	Risk index	0.12	0.15	0.03
			N	117.00	117.00	117.00
			Students with an incident	14.00	17.00	3.00
		Total	Risk index	0.09	0.10	0.04
			N	896.00	896.00	896.00
			Students with an incident	84.00	87.00	35.00
	Total	No Disability	Risk index	0.14	0.12	0.04
			N	1515.00	1515.00	1515.00
			Students with an incident	207.00	187.00	62.00
		With Disability	Risk index	0.19	0.20	0.03
			N	320.00	320.00	320.00
			Students with an incident	61.00	65.00	10.00
		Total	Risk index	0.15	0.14	0.04
			N	1835.00	1835.00	1835.00
			Students with an incident	268.00	252.00	72.00
Unknown/ Mixed	Male	No Disability	Risk index	0.11	0.11	0.01
			N	1351.00	1351.00	1351.00
			Students with an incident	147.00	149.00	18.00
		With Disability	Risk index	0.22	0.19	0.03
			N	244.00	244.00	244.00
			Students with an incident	53.00	46.00	7.00
		Total	Risk index	0.13	0.12	0.02
			N	1595.00	1595.00	1595.00
			Students with an incident	200.00	195.00	25.00
	Female	No Disability	Risk index	0.05	0.05	0.02
			N	1536.00	1536.00	1536.00
			Students with an incident	82.00	82.00	35.00
		With Disability	Risk index	0.12	0.10	0.03
			N	143.00	143.00	143.00
			Students with an incident	17.00	15.00	5.00
		Total	Risk index	0.06	0.06	0.02
			N	1679.00	1679.00	1679.00
			Students with an incident	99.00	97.00	40.00
	Total	No Disability	Risk index	0.08	0.08	0.02
			N	2887.00	2887.00	2887.00
			Students with an incident	229.00	231.00	53.00
		With Disability	Risk index	0.18	0.16	0.03
			N	387.00	387.00	387.00

			Students with an incident	70.00	61.00	12.00
		Total	Risk index	0.09	0.09	0.02
			N	3274.00	3274.00	3274.00
			Students with an incident	299.00	292.00	65.00
Total	Male	No Disability	Risk index	0.13	0.11	0.02
			N	40782.00	40782.00	40782.00
			Students with an incident	5215.00	4391.00	670.00
		With Disability	Risk index	0.19	0.18	0.03
			N	9101.00	9101.00	9101.00
			Students with an incident	1771.00	1676.00	235.00
		Total	Risk index	0.14	0.12	0.02
			N	49883.00	49883.00	49883.00
			Students with an incident	6986.00	6067.00	905.00
	Female	No Disability	Risk index	0.06	0.04	0.02
			N	43272.00	43272.00	43272.00
			Students with an incident	2449.00	1915.00	705.00
		With Disability	Risk index	0.09	0.07	0.02
			N	4741.00	4741.00	4741.00
			Students with an incident	445.00	342.00	115.00
		Total	Risk index	0.06	0.05	0.02
			N	48013.00	48013.00	48013.00
			Students with an incident	2894.00	2257.00	820.00
	Total	No Disability	Risk index	0.09	0.08	0.02
			N	84054.00	84054.00	84054.00
			Students with an incident	7664.00	6306.00	1375.00
		With Disability	Risk index	0.16	0.15	0.03
			N	13842.00	13842.00	13842.00
			Students with an incident	2216.00	2018.00	350.00
		Total	Risk index	0.10	0.09	0.02
			N	97896.00	97896.00	97896.00
			Students with an incident	9880.00	8324.00	1725.00

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