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# Unpacking the Discipline Gap: Referral Categories and School-Wide Positive Behavior Interventions and Supports

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Unpacking the Discipline Gap:

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by

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**Abstract**

Despite decades of efforts to racially integrate schools and the recent accountability movement, U.S. students' access to equitable education remains elusive. Research demonstrates that discipline procedures disproportionately remove racial minority students from the classroom, creating a "discipline gap." Racial disparities in discrete disciplinary infraction types (e.g., disruption, aggression) have shown nuanced patterns across groups and school levels. Moreover, the relationship between school-wide positive behavior interventions and supports (SWPBIS) – a framework for promoting positive behavior and preventing conflict – and the discipline gap is unclear. This investigation explored racial/ethnic disparities per infraction type (e.g. disruption, verbal abuse) and the relationship of SWPBIS implementation fidelity to these referrals using multilevel logistic regression analyses. Participants were 40 elementary schools receiving PBIS technical assistance and the 24,512 students served by the schools. Findings of disciplinary disparities largely were consistent with previous studies with similar methods. Compared to White peers, Black students were overrepresented in office discipline referrals (ODRs) across all infraction types while Hispanic students were underrepresented in *Aggression* referrals and other racial/ethnic minority students were underrepresented in *Miscellaneous* referrals. SWPBIS implementation fidelity demonstrated a significant negative relationship with the overall ODR rate and was significantly related to infractions for *Aggression*; however, no evidence was produced to support the notion that SWPBIS produces more equitable discipline practices. Implications for the research and practice of culturally responsive behavior supports are discussed.

# Chapter I: Introduction

Educational equity across racial and ethnic groups has been promoted in United States legislation for six decades since *Brown v. Board* (1954) mandated racial integration of U.S. public schools. This legislation was founded on the principle of social justice in education – the idea that *all students* are entitled to the resources and benefits that schools have to offer (North, 2006). This principle has remained at the forefront of the educational conscience, with United States Secretary of Education Arne Duncan asserting in a lecture that "the battle for a quality education is about so much more than education. It is a daily fight for social justice" (October 15, 2010). More recently, equity issues have been addressed by legislation such as the *No Child Left Behind Act* (NCLB, 2001) and the *Individuals with Disabilities Educational Improvement Act* (IDEIA, 2004). Disaggregation of educational accountability data by race was mandated by NCLB while the IDEIA mandated that disability identification procedures rule out environmental causes for poor performance, including poverty-related factors that are associated with race in the United States (Macartney, 2011). However, despite decades of efforts to produce a socially just education system, racial disparities (or "gaps") persist in academic achievement, special education referrals and placements, and disciplinary practices.

## Educational Inequities

Consistently documented since 1969 (Nelson, Palonsky, & McCarthy, 2004), racial/ethnic disparities in academic achievement grew during the 1970's and 1980's and have remained relatively stable since the 1990's (Barton & Coley, 2010). The entanglement of socioeconomic status and race is known to produce an academic achievement gap that starts as

early as preschool due to vocabulary exposure differences (Hart & Risley, 1995) and is maintained over time via summer learning loss (Farkas, 2003). The persistence of the achievement gap has led some researchers to propose that an *education debt* has accumulated, consisting of the social ills in racial/ethnic minority communities that could have been prevented if more equitable opportunities had been historically provided (Ladson-Billings, 2006).

Similar to the achievement gap, racial disproportionality in national rates of special education placement was first documented in the 1970's (Ferri & Conner, 2005) and still persists today for Black students. Recent estimates indicate that Black students are 1.47 times as likely as other students to receive special education services and are 1.43, 2.86, and 2.28 times as likely to receive services for a specific learning disability, intellectual disability, and emotional disability, respectively (U.S. Department of Education, 2010a). Additionally, Black students are more likely to be placed in more restrictive environments (Skiba et al., 2006) that are associated with the stigma of decreased expectations (Cross & Donovan, 2002). This stigma, along with a host of factors such as teacher training and student support structures, may contribute to the poor academic and social outcomes observed among students with emotional and behavioral disabilities (Bradley, 2008; Nelson, Benner, Lane, & Smith, 2004), such as a 60% high school completion rate, 3% meeting grade level expectations in math, and increased suspension and expulsion risk (Cooley, 1995; Fiore & Reynolds, 1996; Zhang, et al., 2004). Hispanic students, on the other hand, are slightly less likely than their peers to receive special education services (0.92 risk ratio). They are 1.17 times as likely to receive services for a specific learning disability, but only 0.55 and 0.69 times as likely to receive services for an emotional or intellectual disability, respectively (U.S. Department of Education, 2010a).

The third gap, known as the *discipline gap*, has been documented in school disciplinary practices (e.g., corporal punishment; McFadden, Marsh, Price, & Hwang, 1992; Shaw & Braden, 1990) since 1975 (Children's Defense Fund, 1975; Wu, Pink, Crain, & Moles 1982). From 1996 to 2005, decreases in the rates of disciplinary referrals were witnessed within each racial/ethnic group with the exception of Black students whose rates have continued to be relatively consistent (Wallace, Goodkind, Wallace, & Bachman 2008). Little is currently known regarding why such trends continue. While a large body of research consistently indicates that the discipline gap is largest for Black students, a smaller body of literature indicates the gap is more moderate for Hispanic students (Wallace et al., 2008).

**The Discipline Gap**

Black students are up to 3.79 times as likely as their White peers to receive disciplinary measures in school such as office disciplinary referrals (ODRs), suspensions, and expulsions (Skiba et al., 2011; Wallace et al., 2008). Across the grade levels, such disproportionate risk appears to peak in middle school (Skiba et al., 2011). Furthermore, most studies have found that male students are disciplined at a higher rate than female students within each racial/ethnic category (Finn & Servoss, 2013; Raffaele Mendez & Knoff, 2003; Skiba et al., 2011; Wallace et al., 2011), but the magnitude of the racial/ethnic gaps for Black students is large enough that Black female students in middle school and high school have been found to be suspended at rates higher than their White male peers (KewalRamani et al., 2007; Raffaele Mendez & Knoff, 2003). Additionally, there is evidence that the discipline gap is larger among more severe disciplinary actions such as out-of-school suspensions and expulsions as compared to in-school suspensions (Finn & Servoss, 2013). These findings are consistent with evidence that many students of color

are at greater risk for suspension or expulsion when referred to the office for the *same behavior* as a White peer (Skiba et al., 2011).

The discipline gap for Hispanic students appears to be more nuanced. Early investigations with data aggregated across grade levels indicated that such a gap may not exist (Gordon, Della Piana, & Keheler, 2000); however, recent studies reveal age differences similar to the Black gap. The Hispanic discipline gap appears to be exclusive to the secondary school level. Hispanic middle school students are 1.71 times as likely as their White peers to receive an ODR (Skiba et al., 2011) and are at greater risk than White peers for being suspended (Finn & Servoss, 2013; Raffaele Mendez & Knoff, 2003). Hispanic high school students are 1.89 times as likely as White peers to receive a suspension (Finn & Servoss, 2013). In contrast, Hispanic elementary students have been found to be less likely than their White peers to receive an ODR (Rocque, 2010; Skiba et al., 2011) and are at only moderately higher risk than White peers for suspension (Raffaele Mendez & Knoff, 2003; Skiba et al., 2011). One investigation revealed that, similar to Black students, Hispanic students are more likely to be suspended when referred to the office for the *same behavior* as a White peer (Skiba et al., 2011). This pattern holds true across elementary and middle school for most infraction types (Skiba et al., 2011).

In the media coverage of communities wrestling with the discipline gap (Cody, 2013; Dornfield, 2013; Morin, 2013; Riede, 2013; Schneider, 2013), opinions regarding causative factors and mechanisms have pointed to understaffed schools (Dornfield, 2013), teachers' limited capacity for managing disruptive students (Gorny, 2013), and a lack of preventive measures (Morin, 2013; Schneider, 2013). However, the causes of racial/ethnic inequities are often viewed through sociopolitical ideologies that are greatly influenced by the interaction of one's own gender, race, religion, and other factors (Edgell & Tranby, 2007). Therefore, it is

especially important that researchers and educators *critically*, *accurately,* and *objectively* identify the factors that contribute to educational disparities while being careful not to only study factors that align with a particular sociopolitical ideology (Frisby, 2013). Educators following a sociopolitical ideology rather than allowing data-based decisions to inform efforts to close substantial discipline gaps have received public criticism in some communities (Cody, 2013).

School-based discipline appears to be an ecological phenomenon, as risk and protective factors for receiving school-based discipline have been identified in communities, schools, families, and individuals. School-level risk factors for increased overall use of suspensions and expulsions include larger school size (Finn & Servoss, 2013), a higher prevalence of Black and Hispanic students (Welch & Payne, 2012), lower socioeconomic status, and lower average levels of student-reported school engagement (Hemphill, Plenty, Herrenkohl, Toumbourou, & Catalano, 2010). A discipline gap does persist, however, when community and school-level factors are statistically controlled (Wallace et al., 2008; Wu et al., 1982). Individual-level factors that may be contributing to the discipline gap have been identified as well. Risk factors include having a history of conduct problems (Hemphill, Plenty, Herrenkohl, Toumbourou, & Catalano, 2014) and having a darker skin tone (among Black students; Hannon, DeFina, & Bruch, 2013). On the other hand, participation in interscholastic sports serves as a protective factor for Black and White students but a risk factor for Hispanic and Asian American students (Peguero, Popp, Shekarhkar, Latimore, & Koo, 2013).

**Causative Mechanisms of the Discipline Gap**

The number of risk factors identified across units of analysis indicates that there may be a number of plausible explanations for racial/ethnic disproportionality in discipline practices. Although it may fit some socio-political perspectives and assumptions to assign the guilt to racist

teachers or culturally insensitive schools, objective and critical analysis is required for an accurate understanding of what is occurring (Frisby, 2013). In fact, researchers have suggested that multiple, inter-related causes for disparities in discipline outcomes exist. Causative mechanisms suggested by researchers have included the social entanglement of race and poverty, the achievement gap, differential rates of misbehavior, differential selection (via cultural mismatch and/or implicit bias) and differential processing of students (see Figure 1; Bradshaw, Mitchell, O'Brennan, & Leaf, 2010; Gregory, Skiba, & Noguera, 2010; Skiba, Michael, Nardo, & Peterson,, 2002; Skiba et al., 2011).

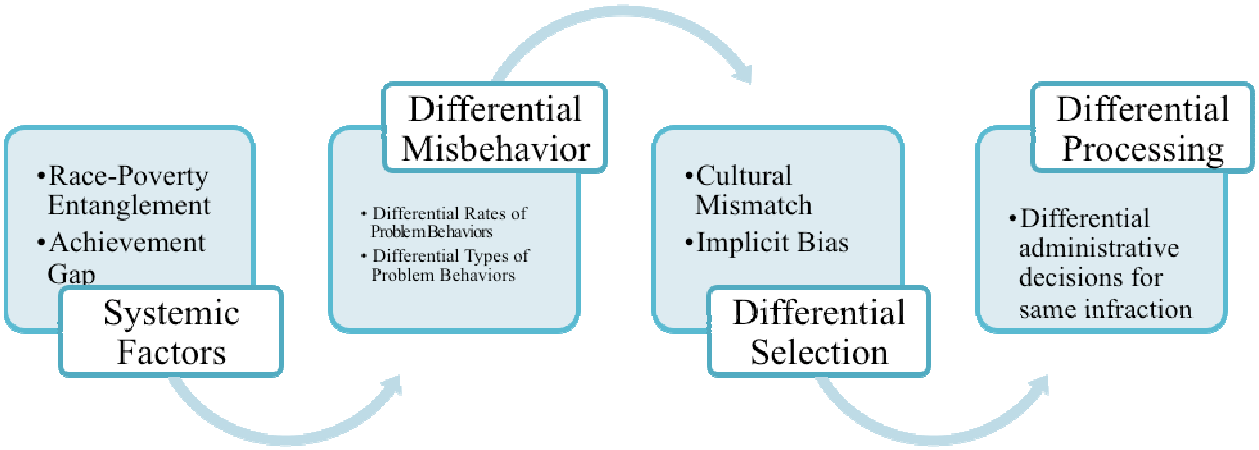


*Figure 1*

*Causative Mechanisms of the Discipline Gap*

**Entanglement of race and poverty.** Socioeconomic status and race are undoubtedly interwoven in the United States, as recent data reveal that 25.8% of Black citizens and 23.2% of Hispanic citizens live in poverty, compared to only 11.6% of White citizens (MaCartney, Bishaw, & Fontenot, 2013). Exposure to violence in impoverished neighborhoods correlates with student mental health and classroom behavior problems (Kuther & Fisher, 1998), which may in turn increase the likelihood of receiving disciplinary action in school. However, the persistence

of the discipline gap despite statistically controlling for school-level and student-level factors such as family structure, parental education, and urbanicity of residence (Wallace et al., 2008; Wu et al., 1982) demonstrates that such factors explain a portion of the discipline gap, but not all of the gap. Therefore, the discipline gap across racial/ethnic groups cannot be explained solely by socioeconomic factors that interact with race in the United States.

**Low achievement.** Recently, researchers examining disciplinary disproportionality have started to ask if the achievement gap and the discipline gap are actually "two sides of the same coin" (Gregory, Skiba, & Noguera, 2010, p. 59). Students exhibiting poor academic performance are more likely to display disruptive behavior and poor literacy achievement in primary school grades (K-2$^{nd}$) and poor academic performance is related to aggressive behavior in intermediate grades (3$^{rd}$-5$^{th}$; Miles & Stipek, 2006). A similar phenomenon is observed longitudinally among students in secondary schools (Choi, 2007). Given that disruptive and aggressive behaviors often elicit disciplinary responses (Finn & Servoss, 2013; Hemphill, Plenty, Herrenkohl, Toumbourou, & Catalano, 2014), it is plausible that the achievement gap is a contributing factor to the discipline gap. However, efforts to examine the relationship between academic achievement and disciplinary outcomes indicate that academic achievement does not account for all of the variance in the discipline gap. Researchers have found that the discipline gap remains when academic achievement is statistically controlled (Wehlage & Rutter, 1986).

**Differential selection.** The differential selection hypothesis posits that among students exhibiting equivalent behaviors within similar circumstances, students of color are more likely to receive an ODR (Gregory et al., 2010). This outcome may occur due to cultural mismatch, implicit bias, and/or negative expectations (Gregory et al., 2010). Educators report feeling unprepared to meet the behavioral needs of economically disadvantaged students as

discrepancies between the school and student's cultural definitions of "appropriate" behavior are more likely to occur (Skiba et al., 2006; 2008). A similar trend has been documented in racial differences as well, such that teachers working in schools with mainstream cultural values may interpret culturally normative behaviors of Black youth as being disrespectful, combative, or argumentative (Monroe, 2005; Neal, McCray, Webb-Johnson, & Bridgest, 2003). Researchers have documented that teachers have differential expectations, ratings of behavior, and educational prognoses as a function of students' race (Downey & Pribesh, 2004; Pigott & Cowen, 2000; Tenenbaum & Ruck, 2007). Teachers' ratings may be influenced by the race of the teacher, with Black teachers providing, compared to White teachers, more positive evaluations of Black students as early as kindergarten (Downey & Pribesh, 2004). Some investigations have found disciplinary disparities to persist when statistically controlling for teacher ratings of student behavior, such that a Black student is at greater risk for receiving a disciplinary referral or suspension than a White peer with similar discipline history (Bradshaw et al., 2010; Finn & Servoss, 2013).

**Differential processing.** The differential processing hypothesis, proposed by Gregory et al. (2010), posits that the racial/ethnic disparities observed in suspensions and expulsions may be a result of inequitable *processes* in the disciplinary decision-making system. Receipt of an ODR is typically a prerequisite for a student to be considered for suspension or expulsion by an administrator. Therefore, differential processing would be observed when race serves as a predictor of suspension or expulsion when the reason for referral is controlled. If differential processing were to occur in an educational system, fewer referrals to the office for a group would not guarantee fewer suspensions or expulsions. Instead, suspensions and expulsions may still be administered in such a way that *overcompensates* for the lower rate of referrals. Results

consistent with the differential processing hypothesis were found in a recent large national-level study in which Hispanic elementary school students, despite being at *lower* overall risk for receiving an ODR, were more likely than White peers to be suspended or expelled. Black students were found to be more likely to be suspended or expelled than White peers for each infraction type and were four times as likely to be suspended or expelled for minor infractions (Skiba et al., 2011).

**Differential rates of misbehavior.** Finally, one may argue that racial/ethnic differences in rates of disruptive behaviors at school may be contributing to the discipline gap. In fact, studies utilizing hierarchical regression have found that the gap for Black students and secondary Hispanic students is reduced but still persists when statistically controlling for ratings of misbehavior, indicating that *perceived* racial/ethnic differences may explain a portion of the discipline gap (Finn & Servoss, 2013; Rocque, 2010). However, the lack of investigations directly assessing the congruence between *teacher ratings* of racial/ethnic minority students' behavior and independent observations of their *actual behavior* limits conclusions regarding any real group differences in disruptive behavior.

**Differences in infraction types.** One factor that could be a driving force behind the discipline gap is racial/ethnic differences in the types of behaviors that elicit referrals, or infraction types. In fact, disproportionality may actually be driven by differences in specific infraction types rather than an overall inflation of discipline rates. If this hypothesis were valid, one would be able to statistically predict the race of a student based on the reason for their office disciplinary referral, a procedure known as discriminant analysis (Huberty, 1994). When this hypothesis was first investigated, Skiba and colleagues (2002) found racial differences in urban middle schools such that Black students were more likely than their peers to be referred to the

office for offenses requiring a greater degree of subjectivity, such as *disrespect*, *excessive noise*, *threat*, and *loitering*. On the other hand, their White peers were more likely to be referred for more objective infractions such as *smoking*, *leaving without permission*, *vandalism*, and *obscene language.* Similar findings were discovered in a study of reasons for suspension among all students in a large Florida school district (Raffaele Mendez & Knoff, 2003).

Investigations of racial disparities in referral categories in *elementary schools* had not been conducted until recently. A nationally representative study found that Black elementary students were four times as likely as their White peers to be referred for subjective offenses of *disruption* and *noncompliance* while also being six times as likely as White peers to be referred for being *tardy* and three times as likely for *use or possession* of a substance or weapon, relatively objective offenses (Skiba et al., 2011). Skiba and colleagues (2011) found these disparities present in middle schools as well. Another recent multilevel analysis of elementary and middle school discipline patterns found Black students overrepresented in all five studied referral categories (illicit behavior, disruptive behavior, non-physical aggression, physically aggressive behavior, and insubordination), relative to their Hispanic peers (Martinez, McMahon, & Treger, 2015). These findings indicate that discipline gaps are a product of school level, region, and other contextual factors.

Nuanced results for Hispanic students have been found in Skiba and colleagues' study (2011) examining Hispanic students' infraction types that elicit ODRs. Results indicated that in *elementary school*, Hispanic students are disproportionately less likely to receive ODRs overall. These students received proportionate rates to their peers in most categories, but received significantly fewer ODRs for disruption and noncompliance. In contrast, Hispanic *middle school* students are overrepresented across all ODR infraction reasons (Skiba et al., 2011). Clearly,

more research examining disproportional rates of office disciplinary referrals across infraction types for both Hispanic and Black students is warranted.

**Closing the Discipline Gap via Conflict Prevention**

While some questions remain regarding factors that contribute to the discipline gap, researchers are proposing mechanisms for narrowing the gap. After synthesizing years of research on the discipline gap, Gregory, Bell, and Pollock (2014) recommended that progress towards more equitable disciplinary practices can be facilitated by engaging in (a) conflict prevention practices, (b) programs that build student-teacher relationships and engage in restorative practices, (c) emotional literacy programs, and (d) culturally responsive frameworks for programs. One conflict prevention practice, school-wide positive behavior interventions and supports (SWPBIS) is an efficacious approach to reducing schools' reliance on exclusionary discipline practices by providing universal prevention structures and procedures that develop positive and contextually appropriate student behaviors and relationships. PBIS facilitates the social and academic success of *all* students when educators provide instruction in explicit behavioral expectations, consistently reinforce and punish behaviors in accordance with expectations, and engage in data-based decision-making to inform appropriate behavioral supports for students in all school settings (Sugai & Horner, 2006). PBIS has been found to be effective in improving organizational health (e.g. clarity of purpose, principal leadership, communication among staff; Bradshaw, Koth, Bevans, Ialongo, & Leaf, 2008) and reducing the burden of school-based counseling services (Bradshaw, Reinke, Brown, Bevans, & Leaf, 2008). Researchers have suggested that providing explicit expectations for students and recognizing appropriate behavior may help establish trusting teacher-student relationships that reduce

problem behaviors and disciplinary referrals (Gregory & Weinstein, 2008; Tobin & Vincent, 2011).

The effectiveness of PBIS in closing the *discipline gap* across racial/ethnic groups is unclear at this time, although educators are being encouraged to use PBIS to address the problem (McIntosh, Barnes, Eliason, & Morris, 2014; McIntosh, Girvan, Horner, Smolkowski, & Sugai, 2014). Many studies have documented the effectiveness of PBIS in reducing overall rates of ODRs (Barrett, Bradshaw, & Lewis-Palmer, 2008; Bradshaw, Koth, Thornton, & Leaf, 2009; Bradshaw, Mitchell, & Leaf, 2010; Horner et al., 2009; Nelson, Martella, & Marchand-Martella, 2002; Safran & Osald, 2003; Taylor-Greene & Kartub, 2000); however, studies of schools implementing PBIS have typically not found reduced disciplinary disparities among racial groups (Bradshaw et al., 2010; Kaufman et al., 2010; Skiba et al., 2008). Moreover, researchers who have analyzed the relationship between *fidelity* of PBIS implementation and disproportional discipline practices have reported conflicting findings. National-level investigations have found that PBIS implementation fidelity does not relate to more equitable ODR rates in elementary schools (Sandomierski, 2011) or suspension rates across school levels (Vincent & Tobin, 2011). On the other hand, one study found high levels of implementation fidelity to be linked to lower levels of disproportionality across elementary and secondary schools (Tobin & Vincent, 2011), with the most equitable suspension practices found in schools emphasizing positive reinforcement for appropriate behaviors (Tobin & Vincent, 2011). Additionally, another investigation found Black overrepresentation in ODRs to be reduced in high-implementing PBIS schools, when compared to schools with lower rates (Vincent, Swain-Bradway, Tobin, & May, 2011).

The research is unclear regarding whether PBIS implementation fidelity relates to decreases in the discipline gap. However, given findings of racial and ethnic minority students' increased risk of receiving disciplinary consequences for more subjective behaviors (Raffaele Mendez & Knoff, 2003, Skiba et al., 2002) and that a goal of PBIS practices is to promote consistent responses to behaviors (Sugai & Horner, 2006) as well as the reporting of clearly identified and defined behaviors that elicit disciplinary referrals (Cohen, Kincaid, & Childs, 2007), the effectiveness of PBIS in establishing disciplinary equity across *types* of misbehaviors should be investigated. To date, no studies have investigated this potential. Also, very few studies of the discipline gap have utilized multilevel modeling to consider the complex contextual and systemic factors involved in such processes.

**Purpose of the Current Study**

The current study investigated the degree to which racial/ethnic disproportionality existed in disciplinary practices in elementary schools implementing PBIS. Additionally, the study examined the degree to which various infraction types related to students' race. Finally, the study investigated the relationship between PBIS implementation fidelity and racial/ethnic disproportionality by infraction type. Therefore, the following research questions were addressed:

1. To what degree does racial/ethnic disproportionality exist in the office disciplinary referrals of elementary schools implementing school-wide positive behavior interventions and supports?
2. To what degree does race/ethnicity predict student risk for receiving an office disciplinary referral for various types of infractions (i.e. disrespect, disruption, verbal

abuse, aggression, property damage) in elementary schools implementing school-wide positive behavior interventions and supports?

3. To what degree is school-level implementation fidelity of school-wide positive behavior interventions and supports related to student risk for receiving an office disciplinary referral for various types of infractions?

**Hypotheses**

I expected to find racial/ethnic disproportionality in this sample of elementary schools implementing school-wide positive behavior interventions and supports such that, when compared to their White peers, Hispanic students would be underrepresented and Black students would be overrepresented. Across infraction types, I anticipated these disparities to be consistent in direction. For these infraction types, I anticipated PBIS implementation fidelity to interact with student race/ethnicity, thus producing more equitable disciplinary practices for those problem behaviors requiring more subjective disciplinary decision-making.

## Chapter II: Review of the Literature

### Educational Inequity

The landmark case of *Brown v. Board* (1954) declared segregated schools to be in violation of the 14th amendment to the United States Constitution, thereby mandating racial integration of United States public schools and effectively laying the cornerstone of educational equity. More recently, the monitoring of equity in outcomes was facilitated by the reauthorization of the No Child Left Behind Act (2001; NCLB) which mandated the disaggregation of data by demographic subgroups. Furthermore, the Individuals with Disabilities Education Improvement Act (2004; IDEIA) aimed to mitigate the systematic risk of subgroups for being identified with a disability by mandating that procedures rule out environmental causes for poor performance (Albrecht, Skiba, Losen, & Middelberg, 2012). Two of the key purposes of these acts were to close the achievement gap between minority and nonminority students by including provisions that ensured the access of *all* children to effective, scientifically based instructional strategies and to provide access to challenging academic content. More recently, in a 2010 blueprint for the reauthorization of NCLB, it was suggested that schools that maintain inequitable achievement outcomes be required to implement evidence-based interventions to support their most challenged students (US Department of Education, 2010b). However, gaps remain between minority and nonminority students in rates of achievement, special education placement, and discipline.

**Academic achievement.** An achievement gap between the nation's white and racial/ethnic minority students has been consistently documented since 1969 (Nelson, Palonsky, & McCarthy, 2004). Evidence from the National Assessment of Educational Progress (NAEP) indicates that the gap between Black and White students closed during the 1970's and 1980's (along with other racial gaps such as parental income, education, and occupations), but has been relatively stable since the 1990's (Barton & Coley, 2010). Similarly, NAEP data reveal that although increases in math and reading performance have been demonstrated by both Hispanic and White students, the gap between the groups has remained steady (Hemphill & Vanneman, 2011).

When considering the historical persistence of the achievement gap, Ladson-Billings (2006) noted that researchers tend to focus more on the investigation of achievement gaps than the development of remedies. She suggests that the term *education debt* may be a fitting alternative description of the achievement gap that captures the far-reaching historical oppression of minorities. The historical realities of education being forbidden to Black slaves, Native Americans not being allowed into postsecondary institutions, and the segregation of Hispanic students all have had a long-lasting impact across generations via the behaviorally and ecologically inherited traits of educational attainment, health status, consumer choices, and criminal activities. Consequently, the resources that could be invested in closing today's achievement gap are minimized by the resources required to pay today's societal ills that were created by yesterday's disparities (Ladson-Billings, 2006). Summarizing years of research regarding inequitable practices and outcomes, Darling-Hammond (2010) noted:

> "The presumption that undergirds much of the conversation about the achievement gap is that equal educational opportunity now exists; therefore, continued low levels of

achievement on the part of students of color must be intrinsic to them, their families, or their communities. Yet, when the evidence is examined, it is clear that educational outcomes for these students are at least as much a function of their unequal access to key educational resources, both inside and outside of school, as they are a function of race, class, or culture." (p. 30)

Given that unequal access to educational resources contributes to the achievement gap, educators also should be mindful of practices that directly impact students' access to high quality instruction such as special education placement and exclusionary discipline practices. Darling-Hammond (2012) argued that the degree of access to quality educational environments reveal educators' investment in students, which can cause students to feel valued and reciprocate by exhibiting a commitment to educational achievement. Poor access can therefore communicate that certain groups of students are not worth the investment which can lead to the group's disengagement.

**Special education referral and placement.** Disproportionality for Black students has been evident in national special education placement rates as early as the 1970s and persists today (Ferri & Conner, 2005). According to the most recent report from the U.S. Department of Education, Black students are 1.5 times as likely as their peers to receive special education services, 2.86 times as likely to receive services for an intellectual disability, and 2.28 times as likely to receive services for emotional-behavioral disturbance (U.S. Department of Education, 2010a). Hispanic students, on the other hand, are slightly less likely than their peers to receive special education services (0.92 risk ratio; 1.17 for specific learning disability; 0.55 for emotional disturbance; 0.69 for intellectual disability; U.S. Department of Education, 2010a).

Greater racial disparities were found in a sample of more than 18,000 students from a single urban district, with Black students being 2.2 times more likely to receive special education services under more high-incidence disability categories (2.49 for an intellectual disability, 2.99 for an emotional disability, 3.09 for a specific learning disability), but only 0.67 times as likely to receive services for low-incidence disabilities (e.g. autism, hearing impairments, orthopedic impairments, traumatic brain injury; Sullivan & Bal, 2013). Furthermore, the results of an investigation by Skiba and colleagues (2006) reveal that Black students are overrepresented in more restrictive educational environments and underrepresented in less restrictive environments relative to *all other students with the same disability*. Thus, research indicates that disproportional representation of Black students is a pervasive problem that relates to many aspects of special education.

The intent of special education is to provide students with disabilities access to additional resources and supports needed for them to be successful. However, a report from the National Research Council noted that a major inequity problem is created when disproportionality in special education placement rates is related to lowered expectations and outcomes associated with special education (Donovan & Cross, 2002). In fact, there is not a shortage of evidence documenting the poor academic and social outcomes for students receiving special education services for emotional and behavioral disorders (Bradley, 2008; Nelson, Benner, Lane, & Smith, 2004), including poor academic performance, increased disciplinary sanctions, and lower rates of high school completion. Donovan and Cross (2002) suggested that disproportionality in special education identification rates and in student outcomes is maintained by structural forces (i.e. funding, class size), individual factors (i.e. fit of students to their settings), interactional processes (i.e. biased teacher perceptions), and historical legacies of discrimination. To combat

discriminatory forces and processes, they recommend federal guidelines that allow for a response-to-intervention approach to determining eligibility for special education services. They also recommend that states determine the feasibility of early behavior screening techniques and evidence-based universal behavior management techniques (Donovan & Cross, 2002).

Processes and procedures used to refer students for special education evaluations may also play a role in disproportional representation of racial minority students in special education. A systematic review of literature from 1968 to 2006 found that researchers most often suggest that disproportionate special education placement practices reflect an interpretation of culturally-normative behaviors as pathological (Waitoller, Artiles, & Chiley, 2010). This hypothesis is supported by recent research revealing that universal screening of behavioral and emotional risk, a more systematic and objective approach to special education referrals, is influenced less by student demographic factors and therefore may be more equitable than teacher nomination practices (Dever, Raines, Barclay, Mitchell, & Kamphaus, 2012; Raines, Dever, Kamphaus, & Roach, 2013). Standard screening processes and procedures may be influenced less by student demographic factors and more by the specific behaviors being measured.

**Disciplinary practices.** If disproportionality exists in the identification of emotional-behavioral disabilities because of cultural differences in normative behavior expectations (Donovan & Cross, 2002), then it should not be surprising to find similar racial discrepancies in school disciplinary practices. Evidence of racial disproportionality in school disciplinary practices, including corporal punishment (Shaw & Braden, 1990), has been documented since 1975 (Children's Defense Fund; Wu et al., 1982). Researchers have consistently found Black students to be more likely to receive office disciplinary referrals, suspensions, expulsions, and corporal punishment (APA Zero Tolerance Task Force, 2008). Disproportionality for Hispanic

students tends to be limited to the secondary school level (Skiba et al., 2011). Longitudinal analysis from 1996 to 2005 of a nationally representative sample of secondary students found that the percentage of students in each racial/ethnic group receiving office disciplinary referrals has decreased over time – with the exception of Black students, whose rates have remained relatively constant (Wallace et al., 2008).

Suggested by some researchers to be related to the achievement gap, disproportionate discipline of minority students in schools has recently been referred to as the *discipline gap* (Gregory et al., 2010). It is important to frame the discipline gap within the process typically used to discipline students. Students typically receive an office disciplinary referral (ODR) from a teacher which allows for an administrator decision regarding whether the infraction should elicit further action such as the exclusionary practices of suspension or expulsion (Skiba et al., 2011). Compared to their White peers, Black elementary students are 2.19 times as likely to receive an ODR while Black middle school students are 3.79 times as likely (Skiba et al., 2011). When compared to same-gender White peers in a large national-level investigation, Black male and female high school students have been found to be 1.3 and 1.9 times as likely, respectively, to receive an ODR (Wallace et al., 2008). Hispanic elementary school students appear to be *less* likely than their White peers (0.76 times) to receive an ODR nationally (Skiba et al., 2011); however, one district-level study in Virginia found Hispanic elementary school students to be 1.2 times as likely (Rocque, 2010). Hispanic middle school students are 1.71 times as likely as their White peers to receive an ODR (Skiba et al., 2011).

Disproportionate representation of racial/ethnic minority students in discipline outcomes also is evident in suspension and expulsion data. One recent study of out-of-school suspension rates across the nation found that Black students were 3.5 times more likely to be suspended than

White students (Losen & Gillespie, 2012). Furthermore, a national-level investigation of students in elementary and secondary schools found that many students of color are at greater risk for suspension or expulsion when referred to the office for the *same behavior* as a White peer (Skiba et al., 2011). Racially differentiated administration decisions also produce a discipline gap that is larger among more severe administrative actions such as out-of-school suspensions and expulsions when compared to in-school suspensions (Finn & Servoss, 2013). One recent national study of more than 8,000 tenth grade students from 500 schools found that Black students were 1.78 times more likely than their White peers to receive an out-of-school suspension (Finn & Servoss, 2013). Additionally, a longitudinal study of a cohort of Florida high school students found very similar results, with 39% of Black students being suspended compared to 22% of White students (a 1.77 odds ratio; Balfanz, Byrnes, & Fox, 2013). Finally, Wallace and colleagues (2008) found that Black male and female students are 3.3 and 5.4 times as likely as their peers to receive exclusionary discipline (suspension or expulsion), respectively.

Trends by gender also can be noted in racially differentiated risk ratios. Most studies find that male students are disciplined at a higher rate than female students within each racial category (Finn & Servoss, 2013; Raffaele Mendez & Knoff, 2003; Skiba et al., 2000; Wallace et al., 2008). However the magnitude of the racial gaps for Black students is large enough that Black female students in middle school and high school have been found to be suspended at rates higher than their White male peers (KewalRamani et al., 2007; Raffaele Mendez & Knoff, 2003). Much like disparities in achievement and special education placement, there is no single cause responsible for the discipline gap, but rather a myriad of ecological factors (Skiba et al., 2008; Gregory et al., 2010). These factors are discussed in more depth below.

**Systemic and Individual-Level Factors of Discipline**

School discipline has been acknowledged as a complex phenomenon since the earliest studies. Student risk for suspension is considered to be the product of both systemic and individual-level factors. Wu and colleagues (1982) noted that beyond individual levels of misbehavior, "students' chances of being suspended also are affected by their teachers' perceptions and beliefs, their school's administrative structure in handling disciplinary matters, and the presence of certain institutional biases in their schools." (p. 270).

How schools employ disciplinary procedures has been found to vary systematically along a number of dimensions. For instance, the size of a high school has been found to be positively related to rates of suspensions (Finn & Servoss, 2013). A national study of 220 secondary schools revealed that a school's percentage of Black students and percentage of Hispanic students was predictive of the use of zero tolerance policies that rely on the exclusionary practices of suspension and expulsion (Welch & Payne, 2012), practices that have been argued to contribute to the school-to-prison pipeline by placing minority youth at greater risk for dropping out of school and engaging in antisocial, criminal behaviors (APA Zero Tolerance Task Force, 2008; Noguera, 2003; Skiba, Arredondo, & Williams, 2014). Moreover, an investigation utilizing multilevel analysis in a high-poverty urban school district found that school-level percentage of racial/ethnic minority students, as well as the student-teacher ratio, was related to ODR rates. More specifically, schools with higher concentrations of minority students demonstrated higher rates of ODRs for aggressive behavior (Martinez, McMahon, & Treger, 2015). Evidence from another study that included schools in Victoria, Australia and Washington State indicated that regional socioeconomic factors play a role in overall suspension rates as well. The average rate of suspensions at participating schools fell as the socioeconomic status of

the area increased, despite controlling for antisocial behavior in the school (Hemphill et al., 2014). School-level rates of student delinquency and drug use were absent from the list of significant predictors, but aggregate measures of student-reported school engagement did predict overall suspension rates of schools (Hemphill et al., 2014). Although systemic factors appear to contribute to the overall suspension rates of schools, the national discipline gap persists despite controlling for community, family, and school factors, thereby indicating that they only explain a portion of the variance in discipline practices (Wu et al., 1982; Wallace et al., 2008).

Individual-level characteristics that may moderate or mediate students' risk for disciplinary action (e.g., conduct problems; Hemphill et al., 2010) have received attention more recently. One of the earliest national-level investigations found that socioeconomic factors such as having an unemployed father or being eligible for free lunch were both risk factors for being suspended (Wu et al., 1982). One study using data from the National Longitudinal Survey of Youth (1997) found that, among Black adolescents, darker skin tone as measured by a 10-point scale was related to increased risk of suspension. This phenomenon placed students with the darkest skin tone at almost 3 times the risk for suspension as their peers with the lightest skin tone level (Hannon, DeFina, & Bruch, 2013). Another study found that participation in interscholastic sports served as a protective factor for Black and White students (Peguero, Popp, Shekarhkar, Latimore, & Koo, 2013). On the other hand, participating in interscholastic sports served as a risk factor for Hispanic and Asian American students (Peguero et al., 2013).

**Causative Mechanisms of the Discipline Gap: Central Roots of Social Injustice**

Persistent disproportionality in academic achievement, special education placement rates, and disciplinary outcomes indicate that the United States' education system contributes to social injustice. Disproportionate risk for exclusionary discipline procedures systematically decreases

exposure to academic and behavioral learning opportunities (Gregory et al., 2010) and stands in contrast to social justice principles. Social justice in education is associated with fairness, respect, and access to the resources and benefits that schools have to offer for all individuals and groups (North, 2006). Recent media reports indicate that cities across the nation are grappling with social injustices related to discipline.

In 2013 alone, news outlets brought the public's attention to the discipline gap across the nation from Seattle and Portland in the Pacific Northwest (Cody, 2013; Dornfield, 2013) to Iowa City and Madison in the Midwest (Morin, 2013; Schneider, 2013) and to Syracuse in the Northeast (Riede, 2013). In March of 2013, National Public Radio reported that the discipline rates in Seattle schools were being investigated by the Education Department's Office for Civil Rights, in addition to a number of other school districts across the nation (Dornfield, 2013). Calls came from reporters, teachers' unions, and parent leaders to hire more mental health professionals, to develop teachers' classroom management capacity, and to adopt system-wide frameworks such as school-wide positive behavior interventions and supports and restorative justice (Gorny, 2013; Morin, 2013; Schneider, 2013). One district was criticized for a lack of commitment to investigating causal mechanisms and engaging in ongoing evaluation of selected solutions (Cody, 2013).

It is vital that researchers focus on *critically*, *accurately,* and *objectively* investigating factors that contribute to educational disparities and be open to evidence that may seem contrary to popular opinion or a particular sociopolitical ideology (Frisby, 2013). Like most social and behavioral phenomena, the discipline gap is the product of multiple ecological factors that vary in potency (Skiba et al., 2002). Considering this principle in the context of a socio-politically charged issue, Frisby argued:

> "Reality is extremely complex and is full of a myriad of variables that interact differently under different conditions… Although it may be emotionally satisfying to believe that minorities disproportionately fail in school because 'teachers are racist,' or 'teachers don't properly understand minority culture,' or 'schools don't infuse enough multiculturalism into the curriculum,' these glib explanations discourage the kind of thoughtful, penetrating analyses needed to properly understand complex issues. Unfortunately [such an approach] declares large areas of analytical research as summarily off-limits, thereby discouraging audiences from developing the thinking and reasoning skills necessary for carefully weighing evidence and arguments" (Frisby, 2013; p. 67).

Researchers have suggested that multiple, inter-related causes for disparities in discipline outcomes exist and are not mutually exclusive. Proposed factors that contribute to the discipline gap include the entanglement of race and poverty, low achievement, differential selection via cultural mismatch or racial stereotyping, differential processing in administrative decisions, differential rates of disruptive behavior in the school setting, and differences in infraction types (Bradshaw et al., 2010; Gregory et al., 2010; Skiba et al., 2002; Skiba et al., 2008). An overview of these factors is provided below.

**Entanglement of race and poverty.** Given the relationship between socioeconomic status and race in the United States, it is plausible that the discipline gap is explained by socioeconomic status rather than racial differences. However, early national-level investigations of the discipline gap found that Black students were more likely to receive suspensions than their peers despite controlling for school-level socioeconomic indicators (Wu et al., 1982). A more recent national study of secondary students found that despite accounting for family structure, parental education, and urbanicity of residence, disciplinary disparities persist between White

students and their Hispanic, American Indian, and Black peers (Wallace et al., 2008). When accounting for socioeconomic factors, Black males' risk ratio for referrals was reduced from 1.3 to 1.2 and Black females' ratio from 1.9 to 1.6. Similar reductions were documented across referrals and suspensions for Hispanic students (Wallace et al., 2008). These findings indicate that socio-economic factors explain a portion of the discipline gap, but that other factors likely contribute.

**Low achievement: Inequity-induced inequity.** Researchers examining disciplinary disproportionality have recently considered the possibility of the achievement gap and the discipline gap being interdependent (Gregory et al., 2010). Students exhibiting poor academic performance are in fact more likely to display disruptive behavior, and poor literacy achievement in primary school grades (K-2$^{nd}$) and poor academic performance is related to aggressive behavior in intermediate grades (3$^{rd}$-5$^{th}$; Miles & Stipek, 2006). A similar phenomenon is observed longitudinally among students in secondary schools (Choi, 2007). Given that disruptive and aggressive behaviors often elicit disciplinary responses (Finn & Servoss, 2013; Hemphill et al., 2010), it is plausible that the achievement gap is a contributing factor to the discipline gap. However, efforts to examine the relationship between academic achievement and disciplinary outcomes indicate that academic achievement does not account for all of the variance in the discipline gap. Researchers have found that a national-level racial gap in suspension persists among secondary school students despite controlling for grade point average (Wehlage & Rutter, 1986).

**Differential selection: Cultural mismatch or racial stereotyping.** A general reliance on teacher-reported data limits researchers' ability to detect biases that may be expressed in discrepancies between *ratings* of behavior and *actual* behavior, but some evidence indicates that

bias occurs in the classroom. One meta-analysis of over 30 studies found that teachers consistently have lower academic and social expectations for Black and Hispanic students than for White and Asian students (Tenenbaum & Ruck, 2007). Research has revealed that teachers tend to rate Black students as exhibiting more problem behaviors, fewer positive approaches to learning (i.e. attentiveness, motivation), more school adjustment problems, and poorer educational projections (Downey & Pribesh, 2004; Pigott & Cowen, 2000). However, when Black kindergarten teachers rate the behaviors of their Black students, lower levels of problem behaviors are reported than White teachers rating White students. Additionally, Black students in eighth grade were more likely to be rated as having more positive approaches to learning when a Black teacher was rating them (Downey & Pribesh, 2004).

One hypothesis for differences in the ratings of racial/ethnic minority students' behavior is a cultural mismatch between the predominantly White female teaching workforce and racial/ethnic minority students. A mismatch in cultural values may increase the likelihood of a discrepancy between what is considered appropriate behavior among minority students when compared to their teachers and administrators. A qualitative study involving interviews conducted with 66 educators found a consistent theme that teachers feel unprepared to meet the needs of economically disadvantaged students, particularly in terms of classroom behavior (Skiba et al., 2006). In fact, teachers employed by schools that subscribe to mainstream cultural norms may interpret culturally normative behaviors of Black youth (e.g., freedom of expression) as being disrespectful, combative, or argumentative (Monroe, 2005). More specifically, one study revealed that a student behavior such as a walking pattern can impact teachers' perceptions of students (Neal et al., 2003). In this study, White and Black students who walked with a "stroll" were more likely to be perceived by teachers as being lower in achievement, higher in

aggression, and more likely to need special education services (Neal et al., 2003). Neal and colleagues (2003) suggested that results of relatively poorer perceptions of White "strolling" reveal that teachers perceive an even greater deviance among such students engaging in behavior typical of Black students.

A more recent study of schools implementing PBIS found that despite controlling for teacher-rated behavior problems, teacher race/ethnicity, and other classroom factors, Black students are significantly more likely to receive a disciplinary referral than their White peers (Bradshaw et al., 2010). A Black student had 24-80% higher odds of receiving an ODR compared to a White peer with identical disruptive behavior ratings (Bradshaw et al., 2010). Another study using data from 45 elementary schools in Virginia found that despite controlling for school-level factors, student socioeconomic and special education status, and teacher ratings of student behavior, Black students were still 1.58 times more likely than their White peers to receive an ODR (Rocque, 2010). These findings indicate that racial bias in the use of disciplinary practices contributes to the discipline gap.

**Differential processing in administrative decisions.** The differential processing hypothesis, proposed by Gregory and colleagues (2010), posits that the racial/ethnic disparities observed in suspensions and expulsions may be a result of inequitable *processes* in the disciplinary decision-making system. Receipt of an ODR is typically a prerequisite for a student to be considered for suspension or expulsion by an administrator. If differential processes were occurring, then two students of different races, when referred to the office for the *same* behavior, would be at *different* levels of risk for receiving a suspension. Differential processing would be observed in archival discipline data when race serves as a predictor of suspension or expulsion despite statistically controlling for the ODR infraction type. Fewer referrals to the office for a

racial/ethnic group would not guarantee fewer suspensions or expulsions. Instead, suspensions and expulsions may still be administered in such a way that *overcompensates* for the lower rate of referrals. Results consistent with the differential processing hypothesis were found in a recent large national-level study in which Hispanic elementary school students, despite being at *lower* overall risk for receiving an ODR, were more likely than White peers to be suspended or expelled (Skiba et al., 2011). Black students were found to be more likely to be suspended or expelled than White peers for each infraction type and were four times as likely to be suspended or expelled for minor infractions (Skiba et al., 2011).

**Differential rates of disruptive behavior in school settings.** Black students' increased risk for disciplinary action may persist when behavior ratings are controlled, but it should be noted that rates of problem behavior account for some of the variance in discipline practices. A national study of 10th grade students found that Black and Hispanic students' risk for suspension (compared to White peers) dropped from 2.24 and 1.89 to 1.80 and 1.64, respectively, after statistically controlling for ratings of misbehavior (Finn & Servoss, 2013). In another study of elementary school students, the risk ratio for Black students to receive an ODR (compared to all other students) dropped from 2.27 to 1.58 when teacher ratings of student behavior were considered, indicating that perceived differences in student behavior contributed to the disparity (Rocque, 2010), but did not eliminate the gap.

In fact, some evidence exists that Black students display higher rates of disruptive behavior in the classroom. Epstein et al. (2005), upon finding racial/ethnic differences on teacher ratings of ADHD-related behaviors for elementary school students, suggested that Black cultural norms may include more physically expressive communication that produce differences in clinical manifestations of externalizing behaviors. Additionally, a longitudinal investigation of

students from kindergarten to first grade found that ratings of White students' behavior problems tended to remain stable while Black students' ratings tended to drop over time (Sbarra & Pianta, 2001). However, given that no study has directly assessed the congruence between *teacher ratings* of students' behavior and their *actual, observed behavior*, investigations of racial differences in disruptive behavior are quite limited.

**Differential rates of infraction types.** Research has consistently documented a greater risk for discipline for Black students and some evidence indicates that Black students are more likely to exhibit *disruptive* behaviors (Epstein et al., 2005). Therefore, it is plausible that Black students may be disciplined for different reasons than their White peers. Moreover, disproportionality in disciplinary practices among Black students may be driven by a few specific behaviors.

To investigate this possibility, Skiba and colleagues (2002) used discriminate analysis (Huberty, 1994) with a sample of mostly Black (56%) and White (42%) students in urban middle schools to explore the types of infractions that differentiate referrals to the office on the basis of race. Results revealed racial differences in infractions such that ODRs requiring a greater degree of subjectivity, such as *disrespect*, *excessive noise*, *threat*, and *loitering* were more likely to belong to Black students. Conversely, ODRs for more objective infractions such as *smoking*, *leaving without permission*, *vandalism*, and *obscene language* were more likely to belong to their White peers (Skiba et al., 2002). Similar findings were discovered in a study of students across all grades in a large Florida school district, where racial differences in suspension reasons appear to be driven by male records. In this sample, Black students were disproportionately suspended for *disobedience, fighting, being disruptive, inappropriate behavior, disrespect, battery, threat/intimidation,* and *sexual harassment.* Their White peers were disproportionately

suspended for *possession of tobacco, weapons, narcotics, or alcohol* (Raffaele Mendez & Knoff, 2003).

Investigations of racially differentiated reasons for behaviors in *elementary schools only* had not been conducted until recently. A large national-level study including over 120,000 elementary school students found that Black elementary students were four times as likely as their White peers to be referred for the subjective offenses of *disruption* and *noncompliance,* with disproportionality continuing into the middle school level (Skiba et al., 2011). This finding was similar to previous results from district-level studies of secondary students (Raffaele Mendez & Knoff, 2003; Skiba et al., 2002). However, Skiba and colleagues (2011) found that Black elementary school students also were six times as likely as White peers to be referred for being *tardy* and three times as likely for *use or possession* of a substance or weapon, relatively objective offenses. Additionally, another recent study utilizing multilevel analyses found Black students in elementary and middle schools to be more likely than their Hispanic peers to receive ODRs for each of five ODR categories (illicit behavior, disruptive behavior, non-physical aggression, physically aggressive behavior, and insubordination; Martinez, McMahon, & Treger, 2015). These findings indicate that the nature of racially differentiated infractions may be a product of school level, region, and other contextual factors.

Nuanced results for Hispanic students have been found in Skiba and colleagues' study (2011) examining Hispanic students' infraction types that elicit ODRs. Results indicated that in *elementary school*, Hispanic students are disproportionately less likely to receive ODRs overall. These students received proportionate rates to their peers in most categories, but received significantly fewer ODRs for disruption and noncompliance. In contrast, Hispanic *middle school* students are overrepresented across all ODR infraction reasons (Skiba et al., 2011). Clearly,

more research examining disproportional rates of office disciplinary referrals across infraction types for both Hispanic and Black students is needed.

**Closing the Discipline Gap by via Conflict Prevention**

In a synthesis of years of research on the discipline gap, Gregory, Bell, and Pollock (2014) recommended that progress towards more equitable disciplinary practices can be facilitated by engaging in conflict prevention practices. They noted that existing programs can reduce overall rates of discipline without changing racial/ethnic disparities. The authors suggested that conflict prevention practices should be based on the principles of (a) supportive relationships, (b) academic rigor, (c) culturally relevant and responsive teaching, and (d) bias-free classrooms and respectful school environments. School-based prevention practices that align with these principles range from structural processes such as school-wide positive behavior interventions and supports (SWPBIS), relationship initiatives such as building student-teacher relationships and engaging in restorative practices, emotional literacy programs such as social and emotional learning curricula, and culturally responsive frameworks for services such as implicit bias reduction and classroom management.

School-wide positive behavior interventions and supports (SWPBIS) is one of the most frequently utilized and evaluated prevention and early intervention processes in schools and has been documented to reduce schools' overall rates of ODRs (Barrett, Bradshaw, & Lewis-Palmer, 2007; Bradshaw, Koth, Thornton, & Leaf, 2009; Bradshaw, Mitchel, & Leaf, 2009; Horner et al., 2009; Nelson, Martella, & Marchand-Martella, 2002; Safran & Osald, 2003; Taylor-Greene & Kartub, 2000). PBIS is a set of universal prevention structures and procedures that focus on facilitating the social and academic success of *all* students by developing positive and contextually appropriate behaviors and relationships. The primary components of PBIS include

(a) proactive teaching of school-wide behavioral expectations, (b) consistent reinforcement of those expected behaviors, (c) consistent consequences for inappropriate behaviors, (d) monitoring of student behavior in all school settings, and (e) the use of data-based decision making for matching students' needs to support (Sugai & Horner, 2006).

The implementation of PBIS has been evaluated for its effectiveness in reducing the discipline gap in a small, but diverse collection of studies. PBIS implementation in a diverse inner-city elementary school (44% Asian/Pacific Islander, 33% Black, 18% White, 5% Hispanic) reduced ODR rates by 46% (McCurdy, Mannella, & Eldridge, 2003); however, results across racial/ethnic groups were not reported. Another study of PBIS implementation over 3 years in 35 Oregon middle schools found implementation to be related to overall reductions in disciplinary exclusions, but such reductions differed across ethnic groups, with Black and Native American students benefiting less than their peers (Vincent, Sprague, & Gau, 2012). Similar findings occurred in a dissertation study analyzing data from 83 elementary schools via the national Schoolwide Information System (SWIS). In this study, fidelity of PBIS implementation as measured by Benchmarks of Quality (BOQs; Cohen, Kincaid, & Childs, 2007) was related to a reduction in overall rates of ODRs and suspensions, but not to decreased racial disproportionality (Sandomierski, 2011). However, another investigation using data reported by 46 elementary, middle, and high schools found that implementation of PBIS, as measured by the Effective Behavior Support Survey (EBS; Sugai, Todd, & Horner, 2000), was related to reductions in disproportionate exclusionary discipline practices with the largest reduction being found in schools that properly utilized praise and reinforcement for appropriate behaviors (Tobin & Vincent, 2011). One investigation used the School-wide Evaluation Tool (SET; Sugai, LewisPalmer, Todd, & Horner, 2001) and Team Implementation Checklist (TIC; Sugai, Horner,

& Lewis-Palmer, 2001) to compare high implementing schools to low implementing schools, finding a statistically significant reduction in Black students' overrepresentation in ODRs (Vincent, Swain-Bradway, Tobin, & May, 2011). Given the established effectiveness of PBIS for reducing overall exclusionary discipline procedures, the emerging effectiveness in closing the discipline gap, and the current promotion of it as a solution for discipline disparities (McIntosh, Barnes, Eliason, & Morris, 2014; McIntosh, Girvan, Horner, Smolkowski, & Sugai, 2014), further exploration of PBIS implementation and its relationship to disciplinary practices is warranted.

**Summary of the Literature**

From the initiation of racial/ethnic school integration by *Brown v. Board* (1954) to the recent accountability movement (e.g. IDEIA, NCLB), equitable educational outcomes for students has been a goal of the American education system. However, gaps remain between racial/ethnic minority and nonminority students in rates of achievement, special education placement, and school-based discipline. Researchers, educators, and the public have encountered various perspectives regarding factors that produce these inequities. Overall, studies indicate that Black students experience the greatest risk for disciplinary action of any group across all school levels and that Hispanic students receive disproportionate amounts of disciplinary action in secondary schools. Factors that contribute to the likelihood of receiving disciplinary action include systemic factors such as school size, the percentage of racial/ethnic minority students, overall engagement norms as well as individual-level factors such as family socioeconomic status, skin tone, and participation in interscholastic sports. Factors that have been found to contribute to the discipline gap include the entanglement of race and poverty, low achievement, differential selection via cultural mismatch or racial stereotyping, differential processing in

administrative decisions, differential rates of disruptive behavior in the school setting, and differences in infraction types. However, research on differences in infraction types requires more analysis, particularly among elementary school students and Hispanic students. As a conflict prevention strategy suggested to have potential effects, PBIS has demonstrated effectiveness in reducing overall school discipline practices, but minimal evidence exists regarding PBIS's impact on the discipline gap for racial/ethnic minority students. Given that minority students' increased risk for subjective behaviors may be contributing to the overall discipline gap (Skiba et al., 2002; Raffaele Mendez & Knoff, 2003), a practice such as PBIS that promotes consistent responses to behaviors (Sugai & Horner, 2006) and behaviorally-descriptive ODRs (Cohen, Kincaid, & Childs, 2007) should be investigated for its merit in promoting equitable disciplinary procedures within infraction types. To date, no studies have assessed the degree to which fidelity of PBIS implementation is related to reasons for disciplinary referrals in schools.

## Chapter III: Method

### Data Sources

Archival data from the 2013-2014 school year were used from two state-wide databases utilized in the state of Florida to promote data-based decision making and evidence-based practices. The Response to Intervention for Behavior (RtI:B) Database is a free, voluntary online data system for public schools in the State of Florida. Data regarding students' office disciplinary referrals are entered into this system by qualified personnel at the district and/or school level. The database has been designed by the Florida Positive Behavior Interventions and Supports (PBIS) Project which is supported by the Florida Department of Education. Personnel from the project support schools using the database by using the data to generate graphs that may assist school teams to engage in problem-solving activities. Incidences are recorded in the RtI:B Database such that each row represents one referral incident. Each referral includes a unique referral identification number, district and school identification numbers unique to the database, a student identification number unique to the database, and the offense or infraction type. The student's race/ethnicity and gender also are reported.

The Positive Behavior Supports in Schools (PBSIS) Database is a database utilized by the Florida PBIS Project to monitor the implementation of positive behavior interventions and supports (PBIS) by schools that are receiving technical assistance. School implementation data are recorded in the PBSIS Database such that each row represents one school. Information from each school includes district and school identification numbers unique to the database, the

overall implementation score from a PBIS implementation fidelity measure, and critical element subscale scores from the fidelity measure (see Appendix B). More information on how implementation fidelity is measured is provided below.

**Sample Characteristics**

To be considered for inclusion in the current study, a district and/or elementary school must have, for the 2013-2014 school year, (a) elected to utilize the RtI:B Database, (b) received technical assistance on PBIS implementation that included monitoring of fidelity via the PBSIS Database, and (c) elected to provide access to their student roster of *all* enrolled students rather than only students with one or more ODR. Based on these criteria, a total of 40 elementary schools representing six districts were included in the analyses. These 40 elementary schools served 24,512 students during the 2013-2014 school year. School enrollment ranged from 342 to 888, averaging 625 students. Gender was equally distributed, with 50% female students and 50% male students. The sample also was diverse in terms of racial/ethnic composition of the schools. The majority of students were White (51.0%; range 3% to 89% across schools) followed by Black (19.8%; 1 % to 92%) Hispanic (20.9%; 2% to 84%), multi-racial (6.3%; 1% to 13%), Asian American (1.6%; 0% to 5%), American Indian/Native American (0.3%; 0% to 1%), and Native Hawaiian/Pacific Islander (0.1%; 0% to 2%) students. Students with individualized education plans (IEPs) comprised 18.1% of the sample, with school-level prevalence ranging from 4% to 35%.

**Study Variables and Measures**

**Student race/ethnicity.** The racial characteristics of each enrolled student were reported by parents to the school, while each school reports their current racial composition to the RtI:B Database. The race and ethnicity of the referred student also were collected with each referral

incident that is entered into the RtI:B Database. In the Database, options included Native Hawaiian/Pacific Islander, American Indian/Alaskan Native, Black, White, Asian, and Multi-racial. Consistent with the 2010 U.S. Census (U.S. Census Bureau, 2010), Hispanic status was defined by districts as an ethnicity independent of racial identification. However, to meet the assumptions of the inferential analysis of this study and to be consistent with how previous studies have categorized Hispanic identity (Raffaele-Mendez & Knoff, 2003; Skiba et al., 2011), Hispanic identity was considered as a racial category mutually exclusive from other racial categories. In the current study, all students identified as Hispanic and a single race (e.g., Hispanic and White only, Hispanic and Black only) were considered to be Hispanic. Hispanic students for whom multiple races were indicated (e.g., Hispanic, White, and Black) were considered to be Multi-racial.

**Infraction type.** The nature of the problem behavior eliciting an office disciplinary referral was reported by school personnel to the RtI:B Database for each infraction. Infraction type, as a categorical variable, may be one of 23 categories such as abusive language, aggression, disruption, forgery/theft, tardy, and truancy/skipping (see Appendix A for full list). These categories were developed by adopting the list of Schoolwide Information System (SWIS) problem behaviors (Todd, Horner, Tobin, Eliason, & Conley, 2013) before gaining input from PBIS experts from Florida districts to adapt the list to those categories already utilized across the state. These categories were then grouped into seven infraction types for this study. Three types – *Disrespect*, *Disruption*, and *Major Other* – were composed of the single infraction category with the same name. *Verbal Abuse* was comprised of referrals for abusive language, harassment/teasing, threat, and sexual harassment. *Aggression* comprised referrals for aggression/fighting, physical contact, bullying and battery. *Property Damage* included referrals

for property misuse, property damage of less than $1,000, forgery/theft, and larceny/theft of less than $300. *Miscellaneous* contained several violations that were highly infrequent in the sample, including inappropriate display of affection, possession/use of combustibles, lying/cheating, technology violation, tobacco, safety violations, drug use/possession, dress code, truancy/skipping, unauthorized area, and weapons.

**Fidelity of SWPBIS implementation.** The degree to which an elementary school was implementing school-wide positive behavior interventions and supports (SWPBIS) with fidelity was assessed by the School-Wide Benchmarks of Quality (BoQ; Kincaid, Childs, & George, 2005, 2010). As an internationally used self-report measure with strong psychometric properties (Cohen, Kincaid, & Childs, 2007; George & Childs, 2012), this 53-item scale creates a total score ranging from 0 to 107. The current version of the scale measures the school-level presence of (a) a plan that names behavioral expectations, (b) lesson plans for teaching expectations, (c) a protocol for rewarding positive behaviors and delivering discipline for inappropriate behaviors, (d) classroom-level teaching, rewards, and disciplinary structures (e) entry and analysis of behavior data, and (f) implementation evaluation. It also measures the presence of a school-level implementation team and faculty commitment. Based on a factor analytic study (Childs, Kincaid, & George, 2011), the most recent revision involved replacing a "crisis" section with the items assessing classroom-level implementation. Studies examining the psychometric properties of the BoQ have provided evidence to support its use. Cohen, Kincaid, and Childs (2007) found strong internal consistency (.96), test-retest reliability (.94), and inter-rater reliability (.87). Significant, moderate correlations have also been found with the School-Wide Evaluation Tool (.51, $p < .05$; Horner et al., 2004) and the Implementation Phases Inventory (.59, $p < .01$; Pas & Bradshaw, 2012).

Administration procedures for the BoQ are standardized across schools. At each elementary school, a team of teachers, administrators, and student services personnel form a PBIS team. This team was responsible for assessing the degree to which each of the activities assessed by the items is implemented in their school. A PBIS coach completed his or her own version of the BoQ independent of the team using a detailed scoring guide before facilitating a meeting to discuss areas of disagreement and to identify implementation objectives based on a final agreed-upon score for each item. Completed at the end of the school year, the BoQ was intended to reflect the nature of implementation throughout the year. Therefore, although fidelity of implementation is likely to change over the course of the year, scores are most likely to reflect the most recent status of implementation to the reporting date. Procedures for BoQ completion also mitigate biases inherent to self-report of organizational behavior (Podsakoff, MacKenzie, Lee, & Podsakoff, 2003; Donaldson & Grant-Vallone, 2002) by including an external PBIS coach in establishing a consensus on actual implementation of practices. The PBSIS Database provided access to each school's overall BoQ score as well as the subscales or critical elements (see Appendix B for full list).

**Data Collection and Analysis**

All data were collected from Florida PBIS Project personnel by requesting two separate PBIS and RtI:B datasets that included the aforementioned variables. Under the supervision of Florida PBIS Project personnel, the two datasets were merged according to unique school identifiers. The completeness and accuracy of the dataset were reviewed to ensure that all students from each school were included and that all reported values were valid. Cases without critical data elements (e.g., schools not reporting all students, invalid values) were excluded from

the analyses. Students represented in multiple schools ($n$ = 14) were assigned to the school in which they received a referral or, when lacking a referral, were removed from the dataset.

Descriptive analyses were used to examine disciplinary rates, infraction categories, racial disparities, and PBIS implementation fidelity. Correlational analyses were conducted to examine relationships among school-level demographic, disciplinary, and implementation variables. For inferential analyses, logistic multi-level regression analysis was employed to investigate the contributions of individual and school-level independent variables in data that included students (first level) nested within schools (second level). In such analyses, beta coefficients standard errors, odds ratios, and $p$-values are produced for each independent variable's relationship to the dependent variable (Raudenbush & Bryk, 2002). In this investigation, student-level odds (compared to White students) for receiving an ODR were investigated as the dependent variable. Odds ratio (OR) values over 1.0 indicate overrepresentation and values less than 1.0 indicate underrepresentation. Alpha was set at .05.

A set of four models was examined for each of seven infraction types as well as the receipt of any ODR. The first model in each set assessed the relationship between students' race/ethnicity and their risk for receiving an ODR, without consideration of PBIS implementation. The second model was developed to address Research Questions 1 and 2, the extent to which race and school-level implementation fidelity was related to the probability of receiving an ODR and to the probability of receiving ODRs for specific infraction types, respectively. The third model in each set addressed Research Question 3, the extent to which the interaction of school-level PBIS implementation fidelity and individual students' race/ethnicity was related to the probability of receiving an ODR (for both overall ODRs and ODRs for each infraction type). To explore the relation of school size to referrals, some models (Model 4)

including the school-level variable of enrollment size also were examined. The inclusion of enrollment size yielded approximately the same results and did not improve model fit and thus the models including enrollment size were not included in the final set of models reported.

In all models, the reference category was White. This was not intended to suggest any judgment regarding how often a referral should be administered. Underrepresentation of a group does not suggest that the group should be referred more frequently. Additionally, Asian, Hawaiian/Pacific Islander, American Indian, and Multi-Racial students were grouped together as "Other Racial Minorities." This decision was not intended to reflect a group assumed to be homogenous, but instead was necessary given very limited representation of the aforementioned groups in the studied sample.

## Chapter IV: Results

### Descriptive Analyses

Descriptive analyses were used to describe the prevalence of ODRs in the sample (see Table 1). Approximately 11.5% of the students had received an ODR during the school year, with school-level rates of referred students across the 40 schools averaging 12% and ranging from 3% to 32%. A total of 7,082 referrals were administered to the 24,512 students in the sample, resulting in a rate of 288.92 referrals per 1,000 students. The average school in the sample provided 172.74 ODRs per 1,000 students, with schools ranging from 29.41 to 460.99 referrals per 1,000 students. During the school year, the total sample of students averaged 0.28 referrals per student while referred students averaged 2.44 referrals, with the range being 1 to 35.

Descriptive analyses also were used to describe the prevalence of the various infraction types among the ODRs administered (see Table 1). The most common infraction type was *Aggression* (37.97% of infractions), followed by *Disrespect* (19.70%) and *Disruption* (19.51%). The least common infraction type was *Property Damage* (3.76%), followed by *Miscellaneous* (4.22%) and *Major Other* (6.09%). The majority of referred students (65.1%) received a referral for one infraction type, while 21.5% were referred for two types, 8.6% for three types, and the remaining 4.8% receiving four or more. School-level rates of infraction types demonstrated a great range and variability (see Table 1).

Additionally, descriptive analyses were used to describe the extent of racial disproportionality among ODRs in the sample (see Table 2). The data revealed that while Black

students made up 19.8% of the sample, 37.1% of students receiving a referral were Black. Conversely, the remaining racial/ethnic minority groups were underrepresented in the ODRs given their representation in the sample. Hispanic students made up 20.9% of the enrolled students and 12.9% of referred students. Students of other racial/ethnic minority groups made up 8.3% of the sample and 7.4% of referred students. Finally, 42.5%, of referred students were White, while 51.0% of enrolled students were White. Table 3 details the distribution of students' referral frequency across racial/ethnic groups. Figure 2 displays the distribution of categories across referrals within each racial/ethnic group.

Finally, descriptive data were analyzed to provide information on the level of PBIS implementation fidelity in the sample of 40 elementary schools. Total BoQ scores in the sample of 40 schools averaged 85.4, ranging from 59 to 100. The vast majority (85%) of the elementary schools received a BoQ score of 70 or above, earning the designation "Implementing with Fidelity" by the Florida PBIS Project, while the other schools (15%) received BoQ scores at or below 69, which is associated with the label "Lower Implementing Schools." Furthermore, 72.5% of schools received a score of 80 or above and 45% scored at 90 or above.

**Correlational Analyses**

School-level correlational analyses were conducted to examine the relationship between school-level demographic characteristics, ODR rates, and PBIS implementation (see Tables 4 and 5). A statistically significant negative relationship was found between the percentage of Hispanic students and overall referral rates as well as ODR rates for *Disruption* and *Aggression*. The percentage of Black students was found to be positively related to overall referral rates and ODR rates for *Disrespect*, *Disruption*, *Aggression*, and *Miscellaneous*. The presence of these

school-level relationships increased the impetus for conducting multi-level analyses in order to measure individual-level factors while considering factors at the school level.

**Inferential Analyses**

A series of multilevel logistic regression analyses (Kreft, Kreft, & de Leeuw, 1998) was used to examine the relationship between both individual students' race/ethnicity and school-level PBIS implementation fidelity and individual students' probability for being referred to the office. Prior to examining these relationships, an unconditional model was investigated. Results from the unconditional model (no individual or school-level predictors in the model) for each infraction type yielded variance components for the intercept that differed significantly from 0 ($p < .01$), indicating significant variability across the 40 schools in the outcomes (see Table 6). This result provided further evidence to support the use of multi-level analyses.

The first multi-level logistic regression model examined for each research question only included individual-level variables (race/ethnicity). The second model added school-level variables (PBIS implementation fidelity). Finally, the third model added interaction factors between PBIS implementation fidelity and race/ethnicity.

**Research question 1.** The first research question (To what degree does racial/ethnic disproportionality exist in the office disciplinary referrals of elementary schools implementing school-wide positive behavior interventions and supports?) was addressed by designing a multilevel logistic regression model to examine the relationship of students' racial/ethnic category to their likelihood for receiving an ODR for any type of infraction (see Table 7). To best capture the nature of disciplinary disproportionality in the context of PBIS implementing schools, results from the second model - which controlled for the school-level effects of PBIS implementation were used to answer the question. For Black, Hispanic, and Other Racial

Minorities, an odds ratio was produced for each group of students, using the rate of referral for White students as the index. The results indicate that disciplinary disproportionality occurred in schools implementing PBIS. Overall, Black students were 2.69 times as likely to receive an ODR as their White peers (95% confidence interval, CI: 2.29 – 3.17; $\gamma = 0.99$; SE = 0.08; $p < .001$). In contrast, Hispanic students were 0.88 times (CI: 0.76 – 1.02; $\gamma = -0.13$; SE = 0.07; $p = .094$) as likely as White peers to receive an ODR. Students of other racial/ethnic minority groups were found to be 1.09 (CI: 0.94 – 0.1.27; $\gamma = 0.09$; SE = 0.07; $p = .236$) times as likely as White peers to receive an ODR. The difference between Black and White students was statistically significant, which was consistent with my hypothesis that Black students would be overrepresented. However, the fact that no significant difference existed in the odds of being referred between Hispanic and White students was not consistent with my prediction that Hispanic students would be underrepresented.

**Research question 2.** The second question (To what degree does race/ethnicity predict student risk for receiving an office disciplinary referral for *various types of infractions* in elementary schools implementing school-wide positive behavior interventions and supports?) was addressed by a series of multilevel logistic regression models (one per infraction type). For each infraction type, an odds ratio for each racial/ethnic group also was produced. See Table 8 and Figure 3 for a summative comparison of the results of models across infraction types. Tables 9 - 15 provide data for each of the individual models completed for each infraction type.

Black students' odds ratio across infraction types ranged from 1.87 (CI: 1.40 – 2.48; $\gamma = 0.62$; standard error, SE = 0.14; $p < .001$) for *Property Damage* and 2.02 (CI: 1.61 – 2.52; $\gamma = 0.70$; SE = 0.11; $p < .001$) for *Verbal Abuse* up to 2.85 (CI: 2.30 – 3.51; $\gamma = 1.05$; SE = 0.10; $p < .001$) for *Disruption* and 3.41 (CI: 2.45 – 4.75; $\gamma = 1.23$; SE = 0.16; $p < .001$) for *Miscellaneous*.

Across all categories, the probability of receiving an ODR was significantly increased by being Black which was consistent with my hypothesis. Among the seven infraction categories, being Hispanic only predicted *lower* probability for receiving an ODR for *Aggression*, with Hispanic students being 0.73 times (CI: 0.58 – 0.92; $\gamma = -0.31$; SE = 0.11; $p < .05$) as likely as their White peers to be referred. Thus, Hispanic students being underrepresented among ODRs for *Aggression* was consistent with my hypothesis; however, the fact that no significant differences existed in the odds of being referred for other infraction types between Hispanic and White students was inconsistent with the hypothesis. Being a member of other racial/ethnic minority groups (Asian American, Hawaiian/Pacific Islander, Multi-Racial, and Native American) predicted *higher* probability for receiving an ODR for *Miscellaneous* infractions, with students of this group being 1.78 times as likely to receive a referral of this type (CI: 1.11 – 2.86; $\gamma = 0.58$; SE = 0.23; $p < .05$). Being a member of the other racial/ethnic minority groups category did not predict lower or higher probabilities of receiving an ODR for any other infraction type.

**Research question 3.** The third research question (To what degree is school-level implementation fidelity of school-wide positive behavior interventions and supports related to student risk for receiving an office disciplinary referral for various types of infractions?) was addressed by designing a series of multilevel logistic regression models (one for overall ODRs and one per infraction type) . Both main effects for PBIS implementation and the interaction between PBIS implementation and student race/ethnicity were investigated (see Tables 9 -15). When examining the main effects of PBIS implementation on all students, two significant results were noted. School-level fidelity of PBIS implementation did prove to be negatively related to students' overall probability of receiving an ODR ($\gamma = -0.01$; SE = 0.01; $p = .034$) and of receiving an ODR for *Aggression* ($\gamma = -0.01$; SE = 0.01; $p = .017$), indicating that schools with

higher implementation fidelity provided fewer ODRs overall and fewer ODRs for *Aggression*. Across all models, statistically significant interactions were not found between PBIS implementation and any racial/ethnic category. Therefore, there was no evidence that a students' racial/ethnic identity moderated the impact of PBIS on their risk for a disciplinary referral. This finding was inconsistent with my hypothesis regarding the relationship between PBIS fidelity and reducing disproportionality in ODRs.

**Tables and figures.** Below are the tables and figures of the results.

*Table 1*

*Descriptive Statistics of ODRs across Students and Schools per Category*

| | *Disrespect* | *Disruption* | *Verbal Abuse* | *Aggression/ Fighting* | *Property Damage* | *Major Other* | *Misc.* |
|---|---|---|---|---|---|---|---|
| Office Discipline Referrals (*n* = 7,082) | | | | | | | |
| Proportion | 19.70% | 19.51% | 8.75% | 37.97% | 3.76% | 6.09% | 4.22% |
| Number of ODRs per Student among Referred Students (*n* = 2,912) | | | | | | | |
| Mean (*SD*) | .48 (1.09) | .47 (1.07) | .21 (0.59) | .92 (1.49) | .09 (0.35) | .15 (0.41) | .10 (0.36) |
| Range | 0 - 16 | 0 - 16 | 0 - 10 | 0 - 18 | 0 - 6 | 0 - 4 | 0 - 4 |
| Percentage of Students Receiving an ODR per School (*n* = 40) | | | | | | | |
| Mean (*SD*) | 3.52% (.034) | 3.43% (.028) | 1.91% (.017) | 6.31% (.039) | 0.92% (.007) | 1.61% (.015) | 1.07% (.012) |
| Range | <0.1% - 14% | <0.1% - 11% | <0.1% - 8% | 1 - 16% | 0 – 3% | 0 – 6% | 0 – 5% |
| Number of ODRs per 1,000 Students per School (*n* = 40) | | | | | | | |
| Mean (*SD*) | 59.58 (74.73) | 56.02 (54.34) | 24.36 (23.44) | 110.31 (89.84) | 10.84 (8.73) | 17.53 (16.66) | 14.63 (12.29) |
| Range | 3.25 - 359.34 | 2.45 - 276.70 | 2.45 - 92.23 | 14.71 - 451.40 | 0 - 37.83 | 0 - 71.93 | 0 - 64.33 |

*Note.* Misc. = Miscellaneous. ODR = Office Discipline Referral. Other RM = Other Racial Minority. *Disrespect* = Disrespect. *Disruption* = Disruption. *Verbal Abuse* = Abusive Language, Harassment/Teasing, Threat, Sexual Harassment. *Aggression* = *Aggression/Fighting*, Physical Contact, Bullying, Battery. *Property Damage* = Property Misuse, Property Damage < $1,000, Forgery/Theft, Larceny/Theft < $300. *Major Other* = Major Other. *Miscellaneous* = Inappropriate Display Of Affection, Possession/Use Of Combustibles, Lying/Cheating, Technology Violation, Tobacco, Safety Violations, Drug Use/Possession, Dress Code, Truancy/Skipping, Unauthorized Area, Weapons.

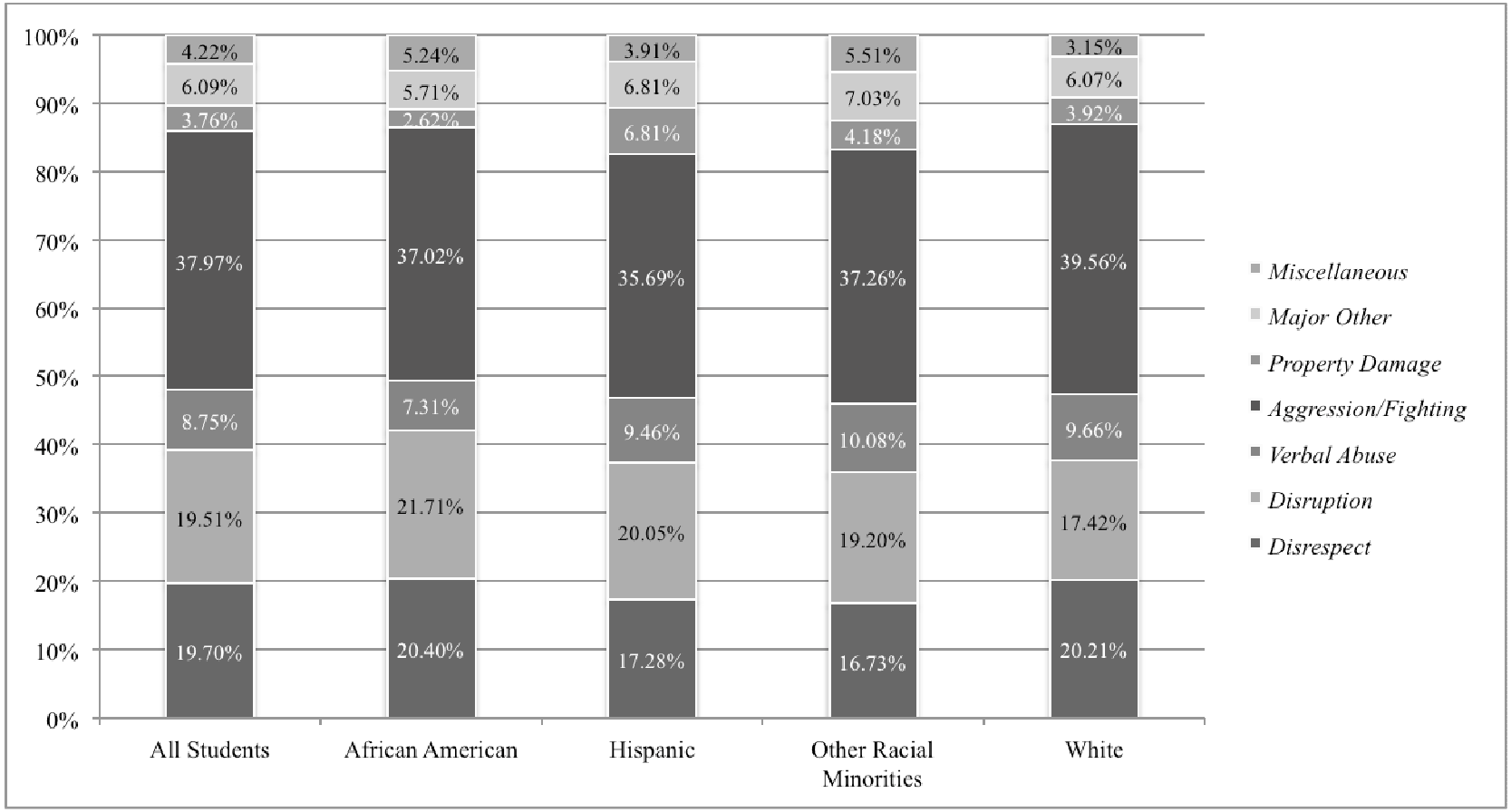


*Figure 2*

*Distribution of ODR Infraction Categories across Racial/Ethnic Groups*

*Note.* ODR = Office Discipline Referral. Each bar represents all ODRs (n = 7,082) administered to students within the corresponding racial/ethnic group, segmented into the ODR categories.

*Table 2*

*Enrollment and Number of Students Referred Disaggregated by Racial/Ethnic Group*

| | Enrollment ($n$ = 24,512) | | Students Referred ($n$ = 2,912) | |
|---|---|---|---|---|
| | *N* | % of Total Enrollment | *N* | % of Students Referred |
| Black | 4,856 | 19.8 | 1,081 | 37.1 |
| Hispanic | 5,116 | 20.9 | 377 | 12.9 |
| Other Racial Minorities | 2,040 | 8.3 | 216 | 7.4 |
| White | 12,500 | 51.0 | 1,238 | 42.5 |
| All Students | 24,512 | 100.0 | 2,912 | 100.0 |

*Note.* Other Racial Minorities = American Indian, Asian, Pacific Islander/Native Hawaiian, Multi-Racial.

*Table 3*

*Distribution of Student-Level Referral Frequency per Racial/Ethnic Group*

| | 0 | 1 | 2 | 3 | 4 | 5+ | Maximum ODR Count |
|---|---|---|---|---|---|---|---|
| All Students | 88.1% | 6.4% | 2.2% | 1.1% | 0.7% | 1.5% | 35 |
| Black | 77.7% | 11.2% | 4.3% | 2.3% | 1.5% | 2.9% | 23 |
| Hispanic | 92.6% | 4.7% | 1.0% | 0.5% | 0.4% | 0.7% | 26 |
| Other Racial Minorities | 89.4% | 5.6% | 2.4% | 0.6% | 0.5% | 1.5% | 21 |
| White | 90.1% | 5.3% | 1.8% | 1.0% | 0.6% | 1.2% | 35 |

*Note.* Other Racial Minorities = American Indian, Asian, Pacific Islander/Native Hawaiian, Multi-Racial.
$n$ = 24,512.

*Table 4*

*Bivariate Correlations of School-Level Demographics and Percentage of Students Referred*

| | % Referred | % ODR for *Disrespect* | % ODR for *Disruption* | % ODR for *Verbal Abuse* | % ODR for *Aggression* | % ODR for *Property Damage* | % ODR for *Major Other* | % ODR for *Misc.* |
|---|---|---|---|---|---|---|---|---|
| Percent Hispanic | -.441** | -.301 | -.373* | -.096 | -.398* | -.188 | -.281 | -.319* |
| Percent Black | .581** | .393* | .533** | .032 | .525** | -.125 | .206 | .532** |
| Percent Other Racial Minorities | .087 | -.014 | .115 | .231 | .076 | -.188 | .220 | -.002 |
| Percent All Racial Minorities | .240 | .148 | .251 | -.003 | .217 | -.296 | .023 | .270 |
| SWPBIS Implementation | -.157 | -.015 | -.172 | -.043 | 0.219 | -.101 | -.049 | -.122 |

*Note.* Misc. = Miscellaneous; ODR = Office Discipline Referral; SWPBIS = School-Wide Positive Behavior Interventions and Supports. *Disrespect* = Disrespect. *Disruption* = Disruption. *Verbal Abuse* = Abusive Language, Harassment/Teasing, Threat, Sexual Harassment. *Aggression* = Aggression/Fighting, Physical Contact, Bullying, Battery. *Property Damage* = Property Misuse, Property Damage < $1,000, Forgery/Theft, Larceny/Theft < $300. *Major Other* = Major Other. *Miscellaneous* = Inappropriate Display Of Affection, Possession/Use Of Combustibles, Lying/Cheating, Technology Violation, Tobacco, Safety Violations, Drug Use/Possession, Dress Code, Truancy/Skipping, Unauthorized Area, Weapons. Other Racial Minorities = American Indian, Asian, Pacific Islander/Native Hawaiian, Multi-Racial.
$n = 40$. * $p < .05$. ** $p < .01$.

*Table 5*

*Bivariate Correlations of School-Level Demographics and Rates of Referral*

| | ODRs/1k | *Disrespect* ODRs/1k | *Disruption* ODRs/1k | *Verbal Abuse* ODRs/1k | *Aggression* ODRs/1k | *Property Damage* ODRs/1k | *Major Other* ODRs/1k | *Misc.* ODRs/1k |
|---|---|---|---|---|---|---|---|---|
| Percent Hispanic | -.329* | -.242 | -.299 | -.077 | -.285 | -.176 | -.245 | -.328* |
| Percent Black | .365* | .299 | .443** | -.041 | .286 | -.169 | .156 | .522** |
| Percent Other Racial Minority | .076 | -.033 | .152 | .227 | .026 | -.201 | .228 | .025 |
| Percent All Racial Minorities | .115 | .099 | .226 | -.059 | .064 | -.332* | .003 | .258 |
| SWPBIS Implementation | -.112 | .005 | -.119 | -.037 | -.160 | -.096 | -.031 | -.128 |

*Note.* Misc. = Miscellaneous; ODR = Office Discipline Referral; ODRs/1k = Number of office discipline referrals administered per 1,000 students enrolled. SWPBIS = School-Wide Positive Behavior Interventions and Supports. *Disrespect* = Disrespect. *Disruption* = Disruption. *Verbal Abuse* = Abusive Language, Harassment/Teasing, Threat, Sexual Harassment. *Aggression* = Aggression/Fighting, Physical Contact, Bullying, Battery. *Property Damage* = Property Misuse, Property Damage < $1,000, Forgery/Theft, Larceny/Theft < $300. *Major Other* = Major Other. *Miscellaneous* = Inappropriate Display Of Affection, Possession/Use Of Combustibles, Lying/Cheating, Technology Violation, Tobacco, Safety Violations, Drug Use/Possession, Dress Code, Truancy/Skipping, Unauthorized Area, Weapons. Other Racial Minorities = American Indian, Asian, Pacific Islander/Native Hawaiian, Multi-Racial. $n = 40$. * $p < .05$. ** $p < .01$.

*Table 6*

*Multilevel Logistic Regression Unconditional Model Results Predicting Office Discipline Referral Receipt per Infraction Type*

| | Odds Ratio (and Confidence Interval) for ODR Receipt per Infraction Category | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Predictor | Any Category | *Disrespect* | *Disruption* | *Verbal Abuse* | *Aggression/ Fighting* | *Property Damage* | *Major Other* | *Misc.* |
| Fixed Effects: | | | | | | | | |
| Odds Ratio | 0.12*** | 0.03*** | 0.03*** | 0.02*** | 0.06*** | 0.01*** | 0.01*** | 0.01*** |
| 95% CI | 0.10 – 0.15 | 0.02 – 0.04 | 0.02 – 0.04 | 0.01 – 0.02 | 0.05 – 0.07 | 0.01 – 0.01 | 0.01 – 0.02 | 0.01 – 0.01 |
| Random Effects: | | | | | | | | |
| Variance | 0.439 | 0.836 | 0.728 | 0.512 | 0.428 | 0.315 | 0.765 | 1.013 |
| $\chi^2$ | 1065.54*** | 889.96*** | 663.07*** | 409.53*** | 656.26*** | 118.24*** | 373.56*** | 369.57*** |

*Note.* ODR = Office Discipline Referral.
$n$ = 24,512 students from 40 schools. Convergence criterion = .001. *** $p < .001$

*Table 7*

*School- and Individual-Level Variables Prediction of Office Discipline Referral Receipt*

| | ODR Receipt for Any Infraction Type | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | Model 1 | | | Model 2 | | | Model 3 | | |
| Fixed Effects: | $\gamma$ | SE | OR | $\gamma$ | SE | OR | $\gamma$ | SE | OR |
| Individual | | | | | | | | | |
| Intercept | -2.34*** | 0.10 | 0.10 | -1.36** | 0.44 | 0.26 | -1.42* | 0.54 | 0.24 |
| Black | 0.93*** | 0.10 | 2.53 | 0.99*** | 0.08 | 2.69 | 0.92 | 0.67 | 2.50 |
| Hispanic | -0.15* | 0.07 | 0.86 | -0.13** | 0.08 | 0.88 | 0.23 | 0.40 | 1.26 |
| Other Racial Minorities | 0.08 | 0.08 | 1.09 | 0.09 | 0.07 | 1.09 | -0.28 | 0.63 | 0.76 |
| School | | | | | | | | | |
| SWPBIS Implementation | | | | -0.01* | 0.01 | 0.99 | -0.01 | 0.01 | 0.99 |
| Interactions | | | | | | | | | |
| SWPBIS x Black | | | | | | | 0.00 | 0.01 | 1.00 |
| SWPBIS x Hispanic | | | | | | | 0.00 | 0.01 | 1.00 |
| SWPBIS x Other | | | | | | | 0.00 | 0.01 | 1.00 |
| | Model 1 | | | Model 2 | | | Model 3 | | |
| Random Effects: | Variance | | $\chi^2$ | Variance | | $\chi^2$ | Variance | | $\chi^2$ |
| Intercept ($\tau_{00}$) | 0.380 | | 509.68*** | 0.371 | | 514.45*** | 0.373 | | 512.63*** |
| Black Slope ($\tau_{11}$) | 0.343 | | 75.22** | 0.121 | | 75.16*** | 0.126 | | 74.62*** |
| Hispanic Slope ($\tau_{22}$) | 0.213 | | 46.45 | 0.044 | | 50.59 | 0.046 | | 49.43 |
| Other Slope ($\tau_{33}$) | 0.163 | | 37.40 | 0.028 | | 37.60 | 0.029 | | 36.94 |

*Note.* ODR = Office Discipline Referral; OR = Odds Ratio; SE = Standard Error; SWPBIS = School-Wide Positive Behavior Interventions and Supports. Reference category = White. Other = Other Racial Minorities = American Indian, Asian, Pacific Islander/Native Hawaiian, Multi-Racial.
$n$ = 24,512 students from 40 schools. Convergence criterion = .001. $^{*}p < .05$. $^{**}p < .01$. $^{***}p < .001$

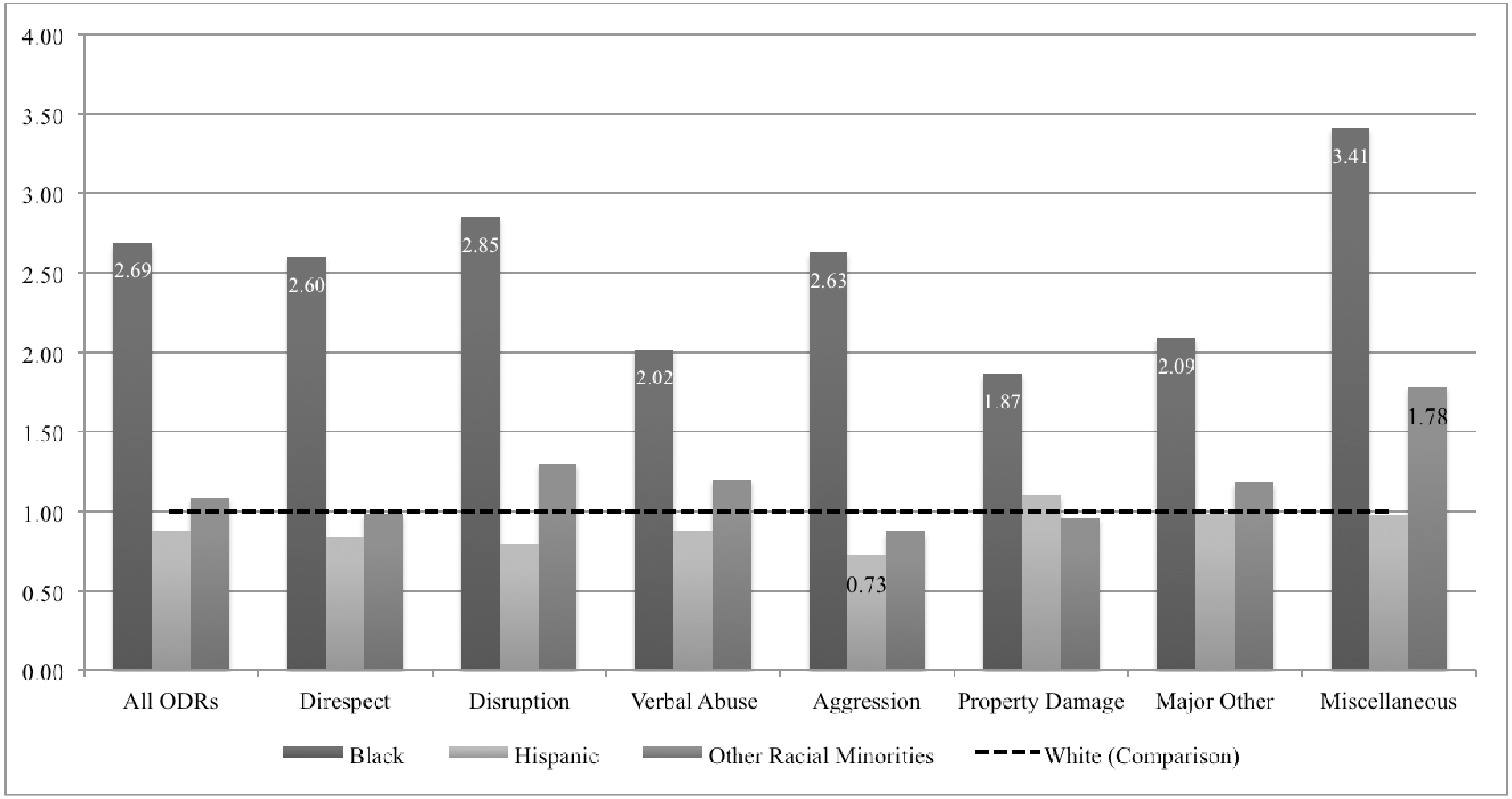


*Figure 3*

*Odds Ratios by Racial/Ethnic Group for Receiving an ODR per Infraction Type*

*Note.* Labels of columns indicate the odds ratio when statistically significant differences from the comparison group exist ($p < .001$ for Black students; $p < .05$. for other groups). ODR = Office Discipline Referral.

*Table 8*

*Comparison of Multilevel Logistic Model Results Predicting Office Discipline Referral Receipt per Infraction Category*

| | Odds Ratio and Confidence Interval for ODR Receipt per Infraction Category | | | | | | |
|---|---|---|---|---|---|---|---|
| Predictor | *Disrespect* | *Disruption* | *Verbal Abuse* | *Aggression* | *Property Damage* | *Major Other* | *Misc.* |
| Individual | | | | | | | |
| Intercept | 0.04*** (0.01 – 0.18) | 0.06*** (0.01 – 0.22) | 0.01*** (0.00 – 0.04) | 0.15*** (0.06 – 0.37) | 0.01*** (0.00 – 0.06) | 0.04*** (0.01 – 0.19) | 0.02*** (0.00 – 0.11) |
| Black | 2.60*** (2.01 – 3.37) | 2.85*** (2.30 – 3.51) | 2.02*** (1.61 – 2.52) | 2.63*** (2.19 – 3.16) | 1.87*** (1.40 – 2.48) | 2.09*** (1.55 – 2.82) | 3.41*** (2.45 – 4.75) |
| Hispanic | 0.84 (0.66 – 1.06) | 0.79 (0.56 – 1.12) | 0.88 (0.64 – 1.23) | 0.73* (0.58 – 0.92) | 1.10 (0.77 – 1.57) | 0.99 (0.75 – 1.30) | 0.98 (0.67 – 1.45) |
| Other Racial Minorities | 0.99 (0.77 – 1.28) | 1.30* (1.05 – 1.61) | 1.20 (0.88 – 1.64) | 0.87 (0.70 – 1.10) | 0.96 (0.57 – 1.65) | 1.18 (0.80 – 1.74) | 1.78* (1.11 – 2.86) |
| School | | | | | | | |
| SWPBIS Implementation | 0.99 (0.97 – 1.01) | 0.99 (0.97 – 1.00) | 1.00 (0.99 – 1.02) | 0.99* (0.98 – 1.00) | 0.99 (0.98 – 1.02) | 0.98 (0.97 – 1.00) | 0.99 (0.96 – 1.01) |

Note. Confidence intervals are in parentheses. ODR = Office Discipline Referral; OR = Odds Ratio; SE = Standard Error; SWPBIS = School-Wide Positive Behavior Interventions and Supports. Reference category = White. Other Racial Minorities = American Indian, Asian, Pacific Islander/Native Hawaiian, Multi-Racial. n = 24,512 students from 40 schools. Convergence criterion = .001.
* $p < .05$. *** $p < .001$

*Table 9*

*School- and Individual-Level Variables Prediction of Office Discipline Referral Receipt for Disrespect*

| | ODR Receipt for *Disrespect* | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | Model 1 | | | Model 2 | | | Model 3 | | |
| Fixed Effects: | $\gamma$ | SE | OR | $\gamma$ | SE | OR | $\gamma$ | SE | OR |
| Individual | | | | | | | | | |
| Intercept | -3.87*** | 0.16 | 0.02 | -3.31*** | 0.79 | 0.04 | -2.85** | 0.91 | 0.06 |
| Black | 0.95*** | 0.10 | 2.58 | 0.95*** | 0.13 | 2.60 | 0.34 | 1.06 | 1.41 |
| Hispanic | -0.22 | 0.12 | 0.80 | -0.18 | 0.12 | 0.84 | -0.84 | 0.67 | 0.43 |
| Other Racial Minorities | -0.54 | 0.09 | 0.58 | -0.01 | 0.13 | 0.99 | -1.02 | 1.14 | 0.36 |
| School | | | | | | | | | |
| PBIS Implementation | | | | -0.01 | 0.01 | 0.99 | -0.01 | 0.01 | 0.99 |
| Interactions | | | | | | | | | |
| SWPBIS x Black | | | | | | | 0.01 | 0.01 | 1.01 |
| SWPBIS x Hispanic | | | | | | | 0.01 | 0.01 | 1.01 |
| SWPBIS x Other | | | | | | | 0.01 | 0.01 | 1.01 |
| Random Effects: | Variance | | $\chi^2$ | Variance | | $\chi^2$ | Variance | | $\chi^2$ |
| Intercept ($\tau_{00}$) | 0.837 | | 498.39*** | 0.837 | | 460.04*** | 0.851 | | 466.84*** |
| Black Slope ($\tau_{11}$) | 0.247 | | 47.23* | 0.247 | | 57.15* | 0.256 | | 56.72* |
| Hispanic Slope ($\tau_{22}$) | 0.026 | | 41.00 | 0.026 | | 41.87 | 0.037 | | 41.39 |
| Other Slope ($\tau_{33}$) | 0.134 | | 24.90 | 0.134 | | 29.83 | 0.132 | | 29.32 |

*Note.* ODR = Office Discipline Referral; OR = Odds Ratio; SE = Standard Error; SWPBIS = School-Wide Positive Behavior Interventions and Supports. Reference category = White. Other Racial Minorities = American Indian, Asian, Pacific Islander/Native Hawaiian, Multi-Racial. $n$ = 24,512 students from 40 schools. Convergence criterion = .001. * $p < .05$. ** $p < .01$. *** $p < .001$

*Table 10*

*School- and Individual-Level Variables Prediction of Office Discipline Referral Receipt for Disruption*

| | ODR Receipt for *Disruption* | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | Model 1 | | | Model 2 | | | Model 3 | | |
| Fixed Effects: | $\gamma$ | SE | OR | $\gamma$ | SE | OR | $\gamma$ | SE | OR |
| Individual | | | | | | | | | |
| Intercept | -3.87*** | 0.14 | 0.02 | -2.88*** | 0.67 | 0.06 | -2.77* | 0.82 | 0.06 |
| Black | 1.05*** | 0.10 | 2.87 | 1.05*** | 0.10 | 2.85 | 0.88 | 0.70 | 2.42 |
| Hispanic | -0.23 | 0.17 | 0.79 | -0.23 | 0.17 | 0.79 | 0.11 | 1.12 | 1.12 |
| Other Racial Minorities | -0.26* | 0.10 | 1.30 | 0.26 * | 0.10 | 1.30 | 0.12 | 0.80 | 1.13 |
| School | | | | | | | | | |
| PBIS Implementation | | | | -0.01 | 0.01 | 0.99 | -0.01 | 0.01 | 0.99 |
| Interactions | | | | | | | | | |
| SWPBIS x Black | | | | | | | 0.00 | 0.01 | 1.00 |
| SWPBIS x Hispanic | | | | | | | 0.00 | 0.01 | 1.00 |
| SWPBIS x Other | | | | | | | 0.00 | 0.01 | 1.00 |
| Random Effects: | Variance | $\chi^2$ | | Variance | $\chi^2$ | | Variance | $\chi^2$ | |
| Intercept ($\tau_{00}$) | 0.649 | 311.20*** | | 0.641 | 303.79*** | | 0.650 | 304.60*** | |
| Black Slope ($\tau_{11}$) | 0.074 | 48.49 | | 0.074 | 48.34 | | 0.084 | 48.15 | |
| Hispanic Slope ($\tau_{22}$) | 0.377 | 57.77* | | 0.374 | 57.70* | | 0.416 | 57.26* | |
| Other Slope ($\tau_{33}$) | 0.057 | 23.67 | | 0.056 | 23.75 | | 0.062 | 23.70 | |

*Note.* ODR = Office Discipline Referral; OR = Odds Ratio; SE = Standard Error; SWPBIS = School-Wide Positive Behavior Interventions and Supports. Reference category = White. Other = Other Racial Minorities = American Indian, Asian, Pacific Islander/Native Hawaiian, Multi-Racial.
$n$ = 24,512 students from 40 schools. Convergence criterion = .001. * $p < .05$. *** $p < .001$

*Table 11*

*School- and Individual-Level Variables Prediction of Office Discipline Referral Receipt for Verbal Abuse*

| | ODR Receipt for *Verbal Abuse* | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | Model 1 | | | Model 2 | | | Model 3 | | |
| Fixed Effects: | $\gamma$ | SE | OR | $\gamma$ | SE | OR | $\gamma$ | SE | OR |
| Individual | | | | | | | | | |
| Intercept | -4.32*** | 0.13 | 0.01 | -4.46*** | 0.65 | 0.01 | -4.03*** | 0.76 | 0.02 |
| Black | 0.70*** | 0.11 | 2.01 | 0.70*** | 0.11 | 2.02 | 1.03 | 0.99 | 2.81 |
| Hispanic | -0.12 | 0.16 | 0.88 | -0.12 | 0.16 | 0.88 | -1.48 | 1.21 | 0.23 |
| Other Racial Minorities | 0.19 | 0.15 | 1.20 | 0.19 | 0.15 | 1.20 | -0.59 | 1.17 | 0.56 |
| School | | | | | | | | | |
| PBIS Implementation | | | | 0.00 | 0.01 | 1.00 | 0.00 | 0.01 | 1.00 |
| Interactions | | | | | | | | | |
| SWPBIS x Black | | | | | | | 0.00 | 0.01 | 1.00 |
| SWPBIS x Hispanic | | | | | | | 0.02 | 0.01 | 1.02 |
| SWPBIS x Other | | | | | | | 0.01 | 0.01 | 1.01 |
| Random Effects: | Variance | | $\chi^2$ | Variance | | $\chi^2$ | Variance | | $\chi^2$ |
| Intercept ($\tau_{00}$) | 0.508 | | 204.17*** | 0.524 | | 205.18*** | 0.523 | | 203.39*** |
| Black Slope ($\tau_{11}$) | 0.018 | | 57.83* | 0.018 | | 57.95* | 0.030 | | 56.53* |
| Hispanic Slope ($\tau_{22}$) | 0.185 | | 49.57 | 0.185 | | 49.73 | 0.199 | | 50.43 |
| Other Slope ($\tau_{33}$) | 0.016 | | 35.68 | 0.017 | | 35.76 | 0.061 | | 35.49 |

*Note.* ODR = Office Discipline Referral; OR = Odds Ratio; SE = Standard Error; SWPBIS = School-Wide Positive Behavior Interventions and Supports. Reference category = White. Other Racial Minorities = American Indian, Asian, Pacific Islander/Native Hawaiian, Multi-Racial.
$n$ = 24,512 students from 40 schools. Convergence criterion = .001. * $p < .05$. *** $p < .001$

*Table 12*

*School- and Individual-Level Variables Prediction of Office Discipline Referral Receipt for Aggression*

| | ODR Receipt for *Aggression* | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | Model 1 | | | Model 2 | | | Model 3 | | |
| Fixed Effects: | $\gamma$ | SE | OR | $\gamma$ | SE | OR | $\gamma$ | SE | OR |
| Individual | | | | | | | | | |
| Intercept | -3.04*** | 0.10 | 0.05 | -1.90*** | 0.45 | 0.15 | -2.24*** | 0.49 | 0.11 |
| Black | 0.96*** | 0.09 | 2.61 | 0.97*** | 0.09 | 2.63 | 1.48 | 0.76 | 4.41 |
| Hispanic | -0.32** | 0.11 | 0.73 | -0.31* | 0.11 | 0.73 | 0.59 | 0.60 | 1.81 |
| Other Racial Minorities | -0.16 | 0.11 | 0.85 | -0.13 | 0.11 | 0.87 | 0.81 | 0.79 | 2.26 |
| School | | | | | | | | | |
| PBIS Implementation | | | | -0.01* | 0.01 | 0.99 | -0.01 | 0.01 | 0.99 |
| Interactions | | | | | | | | | |
| SWPBIS x Black | | | | | | | -0.01 | 0.01 | 0.99 |
| SWPBIS x Hispanic | | | | | | | -0.01 | 0.01 | 0.99 |
| SWPBIS x Other | | | | | | | -0.01 | 0.01 | 0.99 |
| Random Effects: | Variance | | $\chi^2$ | Variance | | $\chi^2$ | Variance | | $\chi^2$ |
| Intercept ($\tau_{00}$) | 0.330 | | 289.19*** | 0.329 | | 300.74*** | 0.321 | | 292.25*** |
| Black Slope ($\tau_{11}$) | 0.142 | | 52.03* | 0.114 | | 57.34* | 0.119 | | 58.06* |
| Hispanic Slope ($\tau_{22}$) | 0.112 | | 57.54 | 0.144 | | 51.73 | 0.148 | | 49.74 |
| Other Slope ($\tau_{33}$) | 0.110 | | 48.42 | 0.096 | | 47.08 | 0.126 | | 48.20 |

*Note.* ODR = Office Discipline Referral; OR = Odds Ratio; SE = Standard Error; SWPBIS = School-Wide Positive Behavior Interventions and Supports. Reference category = White. Other Racial Minorities = American Indian, Asian, Pacific Islander/Native Hawaiian, Multi-Racial.
$n$ = 24,512 students from 40 schools. Convergence criterion = .001. * $p < .05$ ** $p < .01$. *** $p < .001$

*Table 13*

*School- and Individual-Level Variables Prediction of Office Discipline Referral Receipt for Property Damage*

| | ODR Receipt for *Property Damage* | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | Model 1 | | | Model 2 | | | Model 3 | | |
| Fixed Effects: | $\gamma$ | SE | OR | $\gamma$ | SE | OR | $\gamma$ | SE | OR |
| Individual | | | | | | | | | |
| Intercept | -4.95*** | 0.13 | 0.01 | -4.50*** | 0.85 | 0.01 | -4.19*** | 0.93 | 0.02 |
| Black | 0.62*** | 0.14 | 1.86 | 0.62*** | 0.14 | 1.87 | 0.50 | 0.89 | 1.64 |
| Hispanic | 0.09 | 0.18 | 1.10 | 0.09 | 0.18 | 1.10 | 0.05 | 1.22 | 1.04 |
| Other Racial Minorities | -0.03 | 0.26 | 0.97 | -0.04 | 0.26 | 0.96 | -3.61 | 2.10 | 0.03 |
| School | | | | | | | | | |
| PBIS Implementation | | | | -0.01 | 0.01 | 0.99 | -0.01 | 0.01 | 0.99 |
| Interactions | | | | | | | | | |
| SWPBIS x Black | | | | | | | 0.00 | 0.01 | 1.00 |
| SWPBIS x Hispanic | | | | | | | 0.00 | 0.01 | 1.00 |
| SWPBIS x Other | | | | | | | 0.04 | 0.02 | 1.04 |
| Random Effects: | Variance | | $\chi^2$ | Variance | | $\chi^2$ | Variance | | $\chi^2$ |
| Intercept ($\tau_{00}$) | 0.345 | | 68.82** | 0.352 | | 67.99** | 0.356 | | 68.25** |
| Black Slope ($\tau_{11}$) | 0.028 | | 31.84 | 0.027 | | 31.87 | 0.034 | | 31.52 |
| Hispanic Slope ($\tau_{22}$) | 0.174 | | 25.67 | 0.172 | | 25.67 | 0.189 | | 25.48 |
| Other Slope ($\tau_{33}$) | 0.426 | | 24.93 | 0.414 | | 25.06 | 0.486 | | 22.98 |

*Note.* ODR = Office Discipline Referral; OR = Odds Ratio; SE = Standard Error; SWPBIS = School-Wide Positive Behavior Interventions and Supports. Reference category = White. Other Racial Minorities = American Indian, Asian, Pacific Islander/Native Hawaiian, Multi-Racial.
$n$ = 24,512 students from 40 schools. Convergence criterion = .001. ** $p < .01$. *** $p < .001$

*Table 14*

*School- and Individual-Level Variables Prediction of Office Discipline Referral Receipt for Major Other*

| | ODR Receipt for *Major Other* | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | Model 1 | | | Model 2 | | | Model 3 | | |
| Fixed Effects: | $\gamma$ | SE | OR | $\gamma$ | SE | OR | $\gamma$ | SE | OR |
| Individual | | | | | | | | | |
| Intercept | -4.60*** | 0.16 | 0.01 | -3.23*** | 0.77 | 0.04 | -3.70*** | 0.93 | 0.02 |
| Black | 0.72*** | 0.15 | 2.06 | 0.74*** | 0.15 | 2.09 | 0.87 | 1.03 | 2.38 |
| Hispanic | -0.04 | 0.14 | 0.96 | -0.01 | 0.14 | 0.99 | 1.38 | 0.77 | 3.98 |
| Other Racial Minorities | 0.17 | 0.19 | 1.18 | 0.17 | 0.19 | 1.18 | 0.04 | 1.07 | 1.04 |
| School | | | | | | | | | |
| PBIS Implementation | | | | -0.02 | 0.01 | 0.98 | -0.01 | 0.01 | 0.99 |
| Interactions | | | | | | | | | |
| SWPBIS x Black | | | | | | | 0.01 | 0.01 | 1.01 |
| SWPBIS x Hispanic | | | | | | | -0.02 | 0.01 | 0.98 |
| SWPBIS x Other | | | | | | | 0.00 | 0.01 | 1.00 |
| Random Effects: | Variance | $\chi^2$ | | Variance | $\chi^2$ | | Variance | $\chi^2$ | |
| Intercept ($\tau_{00}$) | 0.704 | 181.64*** | | 0.740 | 196.43*** | | 0.712 | 189.16*** | |
| Black Slope ($\tau_{11}$) | 0.348 | 37.98 | | 0.128 | 38.12 | | 0.150 | 37.87 | |
| Hispanic Slope ($\tau_{22}$) | 0.125 | 28.35 | | 0.031 | 27.67 | | 0.012 | 25.11 | |
| Other Slope ($\tau_{33}$) | 0.287 | 31.04 | | 0.286 | 31.29 | | 0.088 | 30.99 | |

*Note.* ODR = Office Discipline Referral; OR = Odds Ratio; SE = Standard Error; SWPBIS = School-Wide Positive Behavior Interventions and Supports. Reference category = White. Other Racial Minorities = American Indian, Asian, Pacific Islander/Native Hawaiian, Multi-Racial.
$n$ = 24,512 students from 40 schools. Convergence criterion = .001. *** $p < .001$

*Table 15*

*School- and Individual-Level Variables Prediction of Office Discipline Referral Receipt for Miscellaneous*

| | ODR Receipt for *Miscellaneous* | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | Model 1 | | | Model 2 | | | Model 3 | | |
| Fixed Effects: | $\gamma$ | SE | OR | $\gamma$ | SE | OR | $\gamma$ | SE | OR |
| Individual | | | | | | | | | |
| Intercept | -5.32*** | 0.19 | 0.00 | -4.03*** | 0.90 | 0.02 | -3.31* | 1.29 | 0.04 |
| Black | 1.26*** | 0.17 | 3.51 | 1.23*** | 0.16 | 3.41 | -0.12 | 1.01 | 0.88 |
| Hispanic | -0.01 | 0.19 | 0.99 | -0.02 | 0.19 | 0.98 | -0.58 | 1.45 | 0.56 |
| Other Racial Minorities | -0.58* | 0.23 | 1.79 | -0.58* | 0.23 | 1.78 | 0.86 | 1.90 | 2.36 |
| School | | | | | | | | | |
| PBIS Implementation | | | | -0.02 | 0.01 | 0.99 | -0.02 | 0.02 | 0.98 |
| Interactions | | | | | | | | | |
| SWPBIS x Black | | | | | | | 0.02 | 0.01 | 1.02 |
| SWPBIS x Hispanic | | | | | | | 0.01 | 0.02 | 1.01 |
| SWPBIS x Other | | | | | | | 0.00 | 0.02 | 1.00 |
| Random Effects: | Variance | $\chi^2$ | | Variance | $\chi^2$ | | Variance | $\chi^2$ | |
| Intercept ($\tau_{00}$) | 0.934 | 148.11*** | | 0.905 | 144.35*** | | 0.953 | 150.41*** | |
| Black Slope ($\tau_{11}$) | 0.165 | 27.48 | | 0.141 | 27.27 | | 0.170 | 28.18 | |
| Hispanic Slope ($\tau_{22}$) | 0.037 | 24.25 | | 0.036 | 24.54 | | 0.036 | 25.32 | |
| Other Slope ($\tau_{33}$) | 0.537 | 34.74 | | 0.284 | 34.04 | | 0.362 | 34.10 | |

*Note.* ODR = Office Discipline Referral; OR = Odds Ratio; SE = Standard Error; SWPBIS = School-Wide Positive Behavior Interventions and Supports. Reference category = White. Other Racial Minorities = American Indian, Asian, Pacific Islander/Native Hawaiian, Multi-Racial.
$n$ = 24,512 students from 40 schools. Convergence criterion = .001. * $p < .05$. *** $p < .001$

## Chapter V: Discussion

Patterns in the use of office disciplinary referrals (ODRs) were investigated in 40 elementary schools that were implementing school-wide positive behavior interventions and supports (SWPBIS). Consistent with a recent national-level study of disciplinary disproportionality in elementary schools (Skiba et al., 2011), Black students were more than twice as likely (2.69) and Hispanic students were slightly less likely (0.88) than their White peers to receive an office discipline referral. However, the latter of these two gaps was not statistically significant in this study (the difference in odds for Hispanic students when compared to White students approached significance, but did not meet the a priori threshold). Consistent with overall referral rates, Black students were overrepresented in each referral category. Hispanic students were underrepresented for *Aggression*, but not for other categories. Finally, higher levels of PBIS implementation predicted lower overall ODR rates and lower ODR rates for *Aggression*, but the interaction between implementation and race/ethnicity did not predict ODR rates in any models.

Below is a discussion of this investigation's findings regarding racial/ethnic disparities in ODR categories for both Black and Hispanic students, followed by a synthesis of findings for *Aggression* ODRs. Then a discussion of the study's findings regarding PBIS implementation fidelity and its lack of significant effects on the discipline gap is provided. Next, implications for research and practice are discussed. Finally, three limitations of this study are noted.

**Overall and Categorical Disparities**

When considering disparate rates of referrals between students of various racial/ethnic groups, it is important to note that disparities were not uniform across infraction types. Overall, and for each infraction type, Black students were more likely than their White peers to receive a referral. However, this odds ratio ranged from 1.87 and 2.02 for *Property Damage* and *Verbal Abuse*, respectively, to 2.85 and 3.41 for *Disruption* and *Miscellaneous*, respectively. Nonetheless, Black students were disproportionately referred to the office across all infraction types, which is consistent with a recent national-level study of the discipline gap (Skiba et al., 2011).

Black students' overrepresentation across all infraction types indicates that the factors producing the discipline gap may impact all referral categories, even in elementary schools with high PBIS implementation fidelity. Implicit factors such as teachers' lower academic and behavioral expectations and prognoses for Black students (Downey & Pribesh, 2004; Pigott & Cowen, 2000; Tenenbaum & Ruck, 2007) may be one explanation. Many researchers and scholars have suggested that a cultural mismatch exists between a predominantly White female teaching workforce and Black students, noting that many teachers may interpret culturally normative behaviors of Black youth (e.g., freedom of expression) as being disrespectful, combative, or argumentative (Monroe, 2005). In fact, student behavioral ratings are optimized when their racial/ethnic identity matches that of the teacher rating them (Downey & Pribesh, 2004). However, the results of this study may provide more evidence that cultural mismatch alone cannot explain the disparities in referral patterns. One could argue that disciplinary decision-making regarding many of the problem behaviors in the *Miscellaneous* category (inappropriate display of affection, possession/use of combustibles, lying/cheating, technology

violation, tobacco, safety violations, drug use/possession, dress code, truancy/skipping, unauthorized area, and weapons), is a more objective process when compared to other ODR categories. However, this investigation found that Black students were 3.41 times as likely as White peers to receive an ODR for *Miscellaneous* reasons. This finding indicates that Black students are at a greater risk for being referred to the office, even when exhibiting behaviors that require less cultural translation.

The finding that Black students were referred at greater rates for all infraction types is inconsistent with initial investigations indicating that ODR disparities for Black students may be driven by subjective, culturally-defined categories (Raffaele-Mendez & Knoff, 2003; Skiba, Michael, Nardo, & Peterson, 2002). This discrepancy may be a result of methodological differences such as the unit of analysis examined or the use of multi-level modeling. When examining disparities using infractions as the unit of analysis, subjectivity may appear to be a driving factor as one is unable to take the multi-level nature of these processes into account. That is, group differences revealed by using infractions as a unit of analysis do not reflect a comparison of the average student within each group, but rather a comparison of each group's number of "frequent flyers." When using infractions as a unit analysis, a few students with very high rates of referral can produce group differences that are more reflective of them as individuals than the group as a whole. On the other hand, the weight given to frequent flyers is *reduced* when using students as a unit of analysis with a binary outcome of ODR receipt. Additionally, school-level factors are not taken into account without the multi-level analyses utilized by this study and other more recent investigations (Martinez, McMahon, & Treger, 2015; Skiba et al., 2011) that have consistently found Black students overrepresented across *all examined categories* rather than a few, more subjective categories. In fact, the unconditional

multilevel models of this current study reveal a significant amount of school-level variance in referral rates.

Hispanic ethnicity, on the other hand, did not predict statistically significant, lower odds for receiving ODRs overall, but did predict lower odds of receiving an *Aggression* infraction. These findings did not replicate Skiba and colleagues' (2011) findings of Hispanic elementary students' significantly lower odds of receiving ODRs overall and for *Minor Misbehaviors*, *Disruption*, *Noncompliance*, and *Other/Unknown*. This difference may be explained in part by lower rates of referrals in this investigation. The students in this sample were referred at a much lower rate (11.53% of students referred; 289 referrals per 1,000 students) than the elementary school students included in Skiba and colleagues' (2011) study (27.30%; 1,114 referrals per 1,000 students) and the national elementary school average reported by SWIS (468 per 1,000 students). With such a low rate of referral among the students participating in this study, a floor effect may reduce the likelihood of identifying groups that are underrepresented compared to White students.

Another explanation might be a difference in the population sampled. While this investigation included the same proportion of Hispanic students in the sample (20.9%) as Skiba and colleagues' (2011) study (20.9%), one should not assume that these populations are identical. Contextual differences in factors contributing to the discipline gap, such as academic achievement may contribute to differences in findings. For example, NAEP data indicates that Hispanic fourth-graders in Florida demonstrate significantly higher rates of reading proficiency (30%) and math proficiency (31%) compared to their Hispanic peers across the nation (18% and 24% respectively; National Center for Education Statistics, 2013). Additionally, national and cultural identity of Hispanic students in Florida may differ from a nationally representative

sample. For example, nearly two in three (64.9%) Hispanic Americans self-identify as being of Mexican origin (Pew Research Center, 2012) while only 14.6% of Hispanic Floridians claim Mexican identity (Pew Research Center, 2011).

Regardless of the consistency of these findings with previous studies, they indicate that Hispanic elementary school students did not face disparate ODR rates despite the meta-analytic finding of teachers holding lower academic and social expectations for Hispanic students (Tenenbaum & Ruck, 2007). Although Skiba and colleagues (2011) found that Hispanic elementary students were less likely than White peers to receive referrals, they also found that once referred to the office for the same behavior, Hispanic students are significantly more likely to face exclusionary discipline tactics such as out-of-school suspension or expulsion. Moreover, Hispanic students in secondary schools face increased risk at all stages of disciplinary procedures. These nuances in findings relative to risk associated with being Hispanic warrant more research to explore the factors contributing to Hispanic students' disciplinary experiences. Perhaps in the elementary school years, Hispanic students benefit from protective factors in the classroom that buffer risk factors contributing to disproportionality in ODRs at other stages of schooling and at other stages of discipline (e.g., suspension).

Regardless of the factors that contribute to Hispanic student disciplinary experiences, differences in whether Hispanic students were underrepresented, overrepresented, or referred at approximately the same rate when compared to their White peers across geographic regions, school levels, and stages of discipline provide a strong case for the importance of engaging in collaborative, data-driven problem-solving processes to address discipline disparities at the local district and school levels (McIntosh, Barnes, Eliason, & Morris, 2014; McIntosh, Girvan, Horner, Smolkowski, & Sugai, 2014; Osher et al., 2015). The profile of disproportional

representation among racial/ethnic minority students may vary across sites. Additionally, the factors that contribute to disproportionality may not be the same from location to location. Therefore, educators should consider their local context when analyzing their data and determining how to intervene to address the discipline gap.

**Referrals for Aggression**

Of note is that *Aggression*, the most common infraction type (37.97% of all ODRs), was the only infraction type that demonstrated statistically significant disparities between both Black and Hispanic students and their White peers. Students' risk for this infraction type also demonstrated the largest variance between students and between schools, indicating that its use may be susceptible to individual and contextual differences. In fact, *Aggression* was the only infraction type with an odds ratio related to PBIS implementation. The use of ODRs for *Aggression* varied greatly between schools and a school's fidelity of PBIS implementation explained some of its variance, with higher fidelity related to decreased use of the referral. The (a) violent nature and (b) high frequency of *Aggression* may cause educators implementing PBIS to place a high priority on reducing its occurrence, compared to other behaviors such as *Disruption* or *Disrespect*.

Additionally, the relationship between fidelity and *Aggression* ODRs could be a product of strong alignment of behavioral expectations or social-emotional curricula with the needs and functions of students exhibiting aggressive behavior. Regarding alignment of behavioral expectations, the expectations associated with PBIS implementation may be suited to prevent aggressive behavior (Sugai et al., 2000). For example, it may be easier for elementary school children to comprehend how being aggressive violates both the expectations to "be respectful" and "be safe" while making a verbally disruptive comment about one's personal life may not

seem to violate either. Additionally, social-emotional curricula and instruction that occur as part of PBIS may provide students with more alternative skills to this behavior than to other problem behaviors. In fact, violence prevention is a hallmark of social-emotional curricula. The mission, goals, and values of the Roots of Empathy, a company producing a comprehensive curricula, mentions one set of problem behaviors targeted for *reduction*: bullying, aggression, and violence (Roots of Empathy, 2015). Additionally, producers of the comprehensive Second Step curricula also market an independent *Bullying Prevention Unit* (Committee for Children, 2015), arguing that "a social-emotional skills-based approach should be accompanied by child- and adult-focused *bullying-specific* components" (emphasis added; p. 8, Committee for Children, 2013).

Finally, one should consider that the relationship between PBIS implementation and *Aggression* ODRs may be due to the higher prevalence of and variability of *Aggression* ODRs relative to other types. The limited variability and restricted range of other infraction types may hamper the ability to detect the presence of other relationships. Replications with samples that include more instances of and variability within other referral types would provide information regarding whether relationships exist not detected in the current study.

**Implementation Fidelity of SWPBIS**

Similar to the aforementioned relationship with ODRs for *Aggression*, SWPBIS implementation fidelity was related to reduced student risk for ODRs overall, a finding consistent with previous research (Bradshaw et al., 2010; Kaufman et al., 2010; Skiba et al., 2008; Tobin & Vincent, 2011; Vincent, Swain-Bradway, Tobin, & May, 2011; Vincent & Tobin, 2011). However, given that PBIS implementation did not interact with any racial category for overall ODRs or for any infraction type, there is no evidence to support racially differentiated effects of PBIS implementation on ODRs. Thus, this study did not find evidence that PBIS

implementation fidelity reduces the discipline gap for any racial/ethnic groups. This finding is consistent with a previous study that demonstrated that implementation fidelity was not related to racial disparities in overall ODR rates (Sandomierski, 2011). One hypothesis for the lack of relationships detected in studies examining the relationships between implementation fidelity and disproportionality in ODRs is that implementation of PBIS may not address the key factors that have developed and maintained inequitable disciplinary practices. Practices with empirical support for closing the discipline gap (Gregory, Allen, Mikami, Hafen, & Pianta, 2014; Gregory, Clawson, Davis, Gerewitz, 2014) have focused on improving student-teacher and peer *relationships;* however, some researchers have critiqued PBIS frameworks for not explicitly communicating positive relationships as a goal (Bear, 2008). It may be that such a focus on relationships, as demonstrated in secondary schools (Gregory & Ripski, 2008; Gregory & Weinstein, 2008), may help reduce cross-cultural factors (i.e. mismatch, stereotyping) that produce inequitable disciplinary practices at the elementary level.

Another hypothesis for the lack of relationships between SWPBIS fidelity and reductions in disproportionality is that the study used overall SWPBIS implementation fidelity scores from the BoQ (i.e., the total score). It is plausible that subscales within the BoQ (Kincaid, Childs, & George, 2010) measure specific components that account for variance in rates of ODRs across racial/ethnic groups. Tobin and Vincent (2011) found that an implementation item regarding the recognition of expected behavior was related to more equitable suspension practices. The authors noted the research literature on relationship building (see below for more information), suggesting that frequent positive reinforcement may build the trust necessary for quality relationships in the classroom. Future studies should include analysis of PBIS components to

evaluate the degree to which specific components' implementation fidelity relate to more equitable discipline practices.

**Implications for Research and Practice**

In regards to disciplinary disparities, the findings of this investigation provide more evidence that Black students are more likely and that Hispanic students are less likely than their White peers to receive an ODR in elementary schools. The results also provide evidence that such racial/ethnic differences exist in schools implementing SWPBIS with high levels of fidelity. Therefore, educators implementing PBIS should avoid the assumption that the approach produces disciplinary equity in their school(s) (Sandomierski, 2011). Special care should be taken to problem-solve implementation in classrooms and contexts in which disproportionality exists (see Osher et al., 2015).

Researchers should continue to utilize multi-level modeling for investigating the discipline gap. Disciplinary records (i.e. ODRs, suspensions, expulsions) are nested within individual students who are nested within in classrooms. Moreover, classrooms are nested within schools that are located within districts. The discipline gap may be a product of variables at multiple levels of the educational system and analyses methods that account for the relationships among these levels are necessary. This study focused on the receipt of ODRs for students nested within schools. Future research is needed that examines the role of classroom and district factors in disproportionality. Tools exist for measuring the implementation fidelity of behavior supports at the classroom level (i.e. *Classroom Ecology Checklist*; Reinke & Lewis-Palmer, 2005). Additionally, studies with larger numbers of schools across larger numbers of districts could lead to information on the role of school district factors.

In addition to research examining multi-level factors that contribute to the discipline gap, more research is needed to investigate the malleable educational practices that can reduce the gap. One example of such an investigation is a recent randomized controlled trial that found reduced classroom-level racial disparities in ODRs with professional development targeting teacher-student interactions for secondary school teachers (Gregory, Allen, Mikami, Hafen, & Pianta, 2014). Studies of restorative classroom disciplinary practices also have yielded equitable disciplinary outcomes (Gregory, Clawson, Davis, Gerewitz, 2014). Efforts to evaluate the merit of positive behavior interventions and supports for reducing disparities may benefit from classroom-level analysis using measures such as the Effective Behavior Support Survey (EBS; Sugai, Todd, & Horner, 2000) or the Classroom Systems subscale of the BoQ. This emphasis on classroom-level practices becomes particularly important in light of the lack of evidence for an interaction between universal-level PBIS implementation and students' race/ethnicity among ODRs. While disparities often are detected at the school- and district-level, solutions for closing the gap may need to be implemented at the classroom-level where decisions are made by teachers regarding who is referred to the office for disciplinary action.

Future research also should examine how student race/ethnicity may influence disciplinary decisions. Existing quantitative research literature has revealed that both student and teacher race impact teacher report of students' behavioral and academic skills (Downey & Pribesh, 2004),that teachers feel unprepared to meet the behavioral needs of youth (Skiba et al., 2006) and that teachers may negatively interpret the normative behavior of Black students (Monroe, 2005; Neal et al., 2003). Also, Black race has been found to be related to increased risk for disciplinary referrals even when controlling for student behavior ratings (Bradshaw et al., 2010; Rocque, 2010). Researchers also have utilized qualitative studies to investigate student

perspectives of disproportionality (Middleberg, 2014), implicit biases in multidisciplinary team meetings (Fletcher, 2014), and the suspension experiences of diverse students, parents, and educators (Gibson, Wilson, Haight, Kayama, & Marshall, 2014). However, no study to date has utilized qualitative methods to investigate student and/or teacher perspectives regarding how racial identity shapes classroom disciplinary decision-making. Given research indicating that relationship building between teachers and students is an important factor in reducing disproportionality in discipline, qualitative studies that investigate how relationships are built as well as how they contribute to student behavior and teacher decision-making would provide valuable information to inform school- and classroom-level intervention.

Despite the need for additional research into the causes of disproportional referral rates, efforts are underway to address the discipline gap. Culturally Responsive Positive Behavior Interventions and Supports (CRPBIS; Klingner et al., 2005) is a model that has garnered many supporters among scholars and educators. Above and beyond the application of PBIS models, CRPBIS seeks to enhance educators' cultural knowledge and self-awareness while increasing the school climates' cultural relevance, validity, and equity (Vincent, Randall, Cartledge, Tobin, & Swain-Bradway, 2011). "In a CRPBIS system, cultural and linguistic differences are not variables in problematic behavior. Cultural and linguistic differences are part of the solution and not the deficit" (Banks & Obiakor, 2015, p. 88). While a conceptual framework has been proposed (Vincent, Randall, Cartledge, Tobin, & Swain-Bradway, 2011), researchers are continuing to develop CRPBIS by suggesting the expansion of existing implementation measures and the systematic inclusion of minority cultures by leaders (Swain-Bradway, Loman, & Vincent, 2014). For example, a CRPBIS approach would involve the intentional consideration of how behavioral expectations may have varied cultural constructions, such as the steps required to

“be kind” to an upset peer. The varied cultural connotations of being publicly recognized for appropriate behavior also would be considered, with the awareness that some families may view such a transaction as bribery. In such a situation, a school may develop an array of school-wide approaches to recognize appropriate behavior, including more private means.

Culturally responsive practices can be developed through collaborative information sharing and problem solving that includes school staff *and families*. For example, the Wisconsin PBIS network promotes, among many other practices considered to be culturally responsive, “Conversations between the student's family and staff consistently include mutual problem solving, information about family values, and the student's interests and experiences” (p. 2, Wisconsin PBIS Network). Future research and evaluation should explore the nature of and the effectiveness of culturally responsive practices. Specific investigations of how PBIS practices were adapted, the processes used to make those decisions, and how the adaptations related to outcomes across racial/ethnic groups would inform how schools, districts, states, and other stakeholders approach the persistent problem of the discipline gap.

**Limitations**

This study used a statewide database to gather data from elementary schools across multiple districts; however, questions exist regarding the potential generalizability of findings. The participating elementary schools are all from Florida and all schools are receiving supports to implement PBIS. Results may not generalize to elementary schools outside of Florida or the southeast or to schools and districts that are not receiving technical assistance in PBIS implementation. Factors that caused schools and districts to request technical assistance in PBIS implementation also may produce a selection bias. For example, it is plausible that participating

schools and districts have historically faced school-wide behavior management challenges and have leaders that are prioritizing behavior issues and seeking solutions.

Another potential limitation is that a sample of schools receiving technical assistance in PBIS implementation may be skewed toward higher levels of implementation fidelity, thus producing a restricted range which limits the ability to detect relationships between fidelity and disciplinary practices (Sandomierski, 2011). As discussed above, a sample of schools implementing PBIS with higher levels of fidelity also may demonstrate a lower rate of ODRs (289 referrals per 1,000 students) that is not nationally representative (468 per 1,000 students). Such a lower rate of ODRs may reduce the variability required to detect relationships between other factors such as student race/ethnicity and school-level PBIS implementation. Additionally, given that definitions of problem behavior are established at the school-level, implementation of PBIS does not ensure consistency in disciplinary documentation processes across schools. Thus, schools may vary in their norms for recording and reporting of instances in which a student exhibits multiple simultaneous problem behaviors that qualify for a referral. Such a threat to the validity of ODRs is not expected to limit the detection of racial/ethnic differences.

A third limitation to this study is that certain key variables were not available for analysis. First, information on students' gender was not available at either the individual or school-level. Researchers have consistently found that gender and race interact in predicting students' risk for discipline (Finn & Servoss, 2013; KewalRamani et al., 2007; Raffaele Mendez & Knoff, 2003; Skiba et al., 2011; Wallace et al., 2011). Multilevel models that include student gender not only would allow for investigation into gender effects, but also more closely approximate the unique effects of other variables investigated. Furthermore, subscales of the Benchmarks of Quality (Kincaid, Childs, & George, 2010) were not included in the analyses.

Further analysis of the subscales included within the Benchmarks of Quality (BoQ; Kincaid, Childs, & George, 2010) would enable empirical evaluation of the potential mechanisms involved, such as "Lesson Plans for Teaching Expectations/Rules" and "Effective Procedures for Dealing with Discipline." Such analyses should not only investigate the relationship of these practices to student risk for ODRs for *Aggression*, but also disaggregate racial/ethnic categories to investigate the merits of the practices for producing *equitable* results.

The final limitations to this study include two related to internal validity. The first of these limitations is the correlational nature of the investigation, which limits the ability to infer causality from the detected relationships. The implementation and disciplinary records were examined at one point in time. Additionally, no control schools were included in the design.

The second limitation to internal validity was the number of schools involved. Given that the primary source of power in multilevel modeling is the number of level-2 units (Kreft, Kreft, & de Leeuw, 1998), the power of the analyses of implementation fidelity across 40 schools may have been limited. Analyses involving greater numbers of schools implementing SWPBIS would provide more power to detect relationships among student race, SWPBIS implementation fidelity, and the likelihood of receiving an ODR.

**Summary**

The American dream of equitable education remains elusive as discipline procedures disproportionately remove racial minority students from the classroom. Few studies have examined racial differences in referral categories, and only this study has examined the relationships between PBIS implementation fidelity, student race/ethnicity, and infraction type. Multilevel analysis of 40 schools from a statewide PBIS database found that when compared to White peers, Black students were overrepresented in ODRs across all infraction types while

Hispanic students were underrepresented in *Aggression* referrals and other racial/ethnic minority students were overrepresented in *Miscellaneous* referrals. PBIS implementation fidelity demonstrated a significant negative relationship with overall ODR rate and infractions for *Aggression*; however, PBIS implementation fidelity did not interact with students' race in predicting ODR levels and thus does not demonstrate evidence of producing more equitable discipline practices. Further research into the factors predictive of ODR risk should investigate the interaction of gender, race, and individual components of PBIS implementation fidelity, classroom-level fidelity, and culturally responsive practices.

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## Appendix A: RtI:B Database Infraction Types

Abusive Language
Aggression
Disrespect
Disruption
Dress Code
Forgery/Theft
Gang Affiliation/Display
Harassment/Teasing
Inappropriate Display of Affection
Inappropriate Language
Lying/Cheating
Physical Contact
Possession/Use of Combustibles
Property Damage
Property Misuse
Tardy
Teasing/Taunt
Technology Violation
Truancy/Skipping
Unauthorized Area
Other
School Defined
District Defined

## Appendix B: Benchmarks of Quality (BoQ) Scoring Form

Florida's Positive Behavior Support Project
RtI for Behavior

### School-wide Benchmarks of Quality: SCORING FORM (Revised)

School Name: _____ District: _____

Coach's Name: _____ Date: _____

**STEP 1**: Coach uses the Scoring Guide to determine appropriate point value. Circle ONLY ONE response.

**STEP 2:** Indicate your team's most frequent response. Write the response in column 2.
(in place ++, needs improvement +, or not in place - ). If there is a tie, report the higher score.

**STEP 3:** Place a check next to any item where there is a discrepancy between your rating and the team's rating.
Document the discrepancies on page 3.

| Critical Elements | STEP 1 | | | | | STEP 2 ++, +, or _ | STEP 3 ✓ |
|---|---|---|---|---|---|---|---|
| PBS Team | 1. Team has administrative support | 3 | 2 | 1 | 0 | | |
| | 2. Team has regular meetings (at least monthly) | | 2 | 1 | 0 | | |
| | 3. Team has established a clear mission/purpose | | | 1 | 0 | | |
| Faculty Commitment | 4. Faculty are aware of behavior problems across campus through regular data sharing | | 2 | 1 | 0 | | |
| | 5. Faculty involved in establishing and reviewing goals | | 2 | 1 | 0 | | |
| | 6. Faculty feedback is obtained throughout the year | | 2 | 1 | 0 | | |
| Effective Procedures for Dealing with Discipline | 7. Discipline process described in narrative format or depicted in graphic format | | 2 | 1 | 0 | | |
| | 8. Discipline process includes documentation procedures | | | 1 | 0 | | |
| | 9. Discipline referral form includes information useful in decision making | | 2 | 1 | 0 | | |
| | 10. Problem behaviors are defined | 3 | 2 | 1 | 0 | | |
| | 11. Major/minor behaviors are clearly differentiated | | 2 | 1 | 0 | | |
| | 12. Suggested array of appropriate responses to major (office-managed) problem behaviors | | | 1 | 0 | | |
| Data Entry & Analysis Plan Established | 13. Data system is used to collect and analyze ODR data | 3 | 2 | 1 | 0 | | |
| | 14. Additional data are collected (attendance, grades, faculty attendance, surveys) and used by SWPBS team | | | 1 | 0 | | |
| | 15. Data analyzed by team at least monthly | | 2 | 1 | 0 | | |
| | 16. Data shared with team and faculty monthly (minimum) | | 2 | 1 | 0 | | |
| Expectations & Rules Developed | 17. 3-5 positively stated school-wide expectations are posted around school | 3 | 2 | 1 | 0 | | |
| | 18. Expectations apply to both students and staff | 3 | 2 | 1 | 0 | | |
| | 19. Rules are developed and posted for specific settings (settings where data suggest rules are needed) | | 2 | 1 | 0 | | |
| | 20. Rules are linked to expectations | | | 1 | 0 | | |
| | 21. Staff are involved in development of expectations and rules | | 2 | 1 | 0 | | |

| Critical Elements | STEP 1 | | | | | STEP 2 ++, +, or - | STEP 3 ✓ |
|---|---|---|---|---|---|---|---|
| Reward/ Recognition Program Established | 22. A system of rewards has elements that are implemented consistently across campus | 3 | 2 | 1 | 0 | | |
| | 23. A variety of methods are used to reward students | | 2 | 1 | 0 | | |
| | 24. Rewards are linked to expectations and rules | 3 | 2 | 1 | 0 | | |
| | 25. Rewards are varied to maintain student interest | | 2 | 1 | 0 | | |
| | 26. Ratios of acknowledgement to corrections are high | 3 | 2 | 1 | 0 | | |
| | 27. Students are involved in identifying/developing incentives | | | 1 | 0 | | |
| | 28. The system includes incentives for staff/faculty | | 2 | 1 | 0 | | |
| Lesson Plans for Teaching Expectations/ Rules | 29. A behavioral curriculum includes teaching expectations and rules | | 2 | 1 | 0 | | |
| | 30. Lessons include examples and non-examples | | | 1 | 0 | | |
| | 31. Lessons use a variety of teaching strategies | | 2 | 1 | 0 | | |
| | 32. Lessons are embedded into subject area curriculum | | 2 | 1 | 0 | | |
| | 33. Faculty/staff and students are involved in development & delivery of behavioral curriculum | | | 1 | 0 | | |
| | 34. Strategies to share key features of SWPBS program with families/community are developed and implemented | | | 1 | 0 | | |
| Implementation Plan | 35. A curriculum to teach the components of the discipline system to all staff is developed and used | | 2 | 1 | 0 | | |
| | 36. Plans for training staff how to teach expectations/rules/rewards are developed, scheduled and delivered | | 2 | 1 | 0 | | |
| | 37. A plan for teaching students expectations/rules/rewards is developed scheduled and delivered | 3 | 2 | 1 | 0 | | |
| | 38. Booster sessions for students and staff are planned, scheduled, and delivered | | 2 | 1 | 0 | | |
| | 39. Schedule for rewards/incentives for the year is planned | | | 1 | 0 | | |
| | 40. Plans for orienting incoming staff and students are developed and implemented | | 2 | 1 | 0 | | |
| | 41. Plans for involving families/community are developed & implemented | | | 1 | 0 | | |
| Classroom Systems | 42. Classroom rules are defined for each of the school-wide expectations and are posted in classrooms. | | 2 | 1 | 0 | | |
| | 43. Classroom routines and procedures are explicitly identified for activities where problems often occur (e.g. entering class, asking questions, sharpening pencil, using restroom, dismissal) | | 2 | 1 | 0 | | |
| | 44. Expected behavior routines in classroom are taught | | 2 | 1 | 0 | | |
| | 45. Classroom teachers use immediate and specific praise | | 2 | 1 | 0 | | |
| | 46. Acknowledgement of students demonstrating adherence to classroom rules and routines occurs more frequently than acknowledgement of inappropriate behaviors | | 2 | 1 | 0 | | |
| | 47. Procedures exist for tracking classroom behavior problems | | 2 | 1 | 0 | | |
| | 48. Classrooms have a range of consequences/interventions for problem behavior that are documented and consistently delivered | | 2 | 1 | 0 | | |
| Evaluation | 49. Students and staff are surveyed about PBS | | 2 | 1 | 0 | | |
| | 50. Students and staff can identify expectations and rules | | 2 | 1 | 0 | | |
| | 51. Staff use referral process (including which behaviors are office managed vs. teacher managed) and forms appropriately | 3 | 2 | 1 | 0 | | |
| | 52. Staff use reward system appropriately | 3 | 2 | 1 | 0 | | |
| | 53. Outcomes (behavior problems, attendance, morale) are documented and used to evaluate PBS plan | 3 | 2 | 1 | 0 | | |

**Scoring the Benchmarks of Quality:** _____ / 107 = _____ **Benchmarks Score**
Total pts. / 107

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