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# Benchmarks of Equality? School-Wide Positive Behavior Interventions and Supports and School Discipline Risk and Disparities for Black and Hispanic Students

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Benchmarks of Equality?  
School-Wide Positive Behavior Interventions and Supports  
and School Discipline Risk and Disparities for Black and Hispanic Students

by

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A dissertation submitted in partial fulfillment  
of the requirements for the degree of  
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## Abstract

In U.S. schools, Black and Hispanic youth receive discipline in the form of office discipline referrals and out-of-school suspensions at a rate greater than their White peers. Contributing factors to this “discipline gap” may be found across a number of ecological variables. Therefore, multifaceted and systemic interventions such as school-wide positive behavior interventions and supports (SWPBIS) should be evaluated for their effectiveness in producing more equitable school discipline rates. In light of mixed evidence for the relationship of SWPBIS with discipline equity, the purpose of this study was to examine the merits of five critical elements of SWPBIS for reducing discipline rates for Black and Hispanic students and for closing the discipline gap. Among a sample of 322 Florida SWPBIS-implementing schools serving a total of 292,490 students, SWPBIS fidelity’s relationships with discipline rates and with disparities were investigated. The Benchmarks of Quality, a psychometrically sound measure of SWPBIS fidelity completed by a school-based team and an external coach, was completed at each school. Results of multiple linear regression analyses indicated that higher fidelity to SWPBIS *Classroom Systems* was related to decreased discipline risk for all students, including Black and Hispanic students, but not more equitable discipline practices. Higher fidelity to SWPBIS *Expectations* was related to higher suspension risk among Black students while higher levels of *Recognition* were related to more equitable suspension practices. No significant relationships were observed between *Lessons* and *Data Analysis* and disciplinary rates or equity. Implications for the research and practice of SWPBIS are discussed, along with connections to other lines of research addressing educational equity.

## Chapter I: Introduction

### The Discipline Gap

A vision for equitable education has existed for decades in the United States, but gaps have persisted between White students and students of color in rates of achievement (Barton & Coley, 2010), special education placement (Cross & Donovan, 2002; Ferri & Connor, 2005), and school discipline (Wallace, Goodkind, Wallace, & Bachman 2008). Some scholars have argued that the opportunity costs from these gaps have accrued as an *education debt* that perpetuates societal inequities, which, in turn, further preserve the very gaps that created them (Ladson-Billings, 2006). The current study focused on inequitable outcomes in school discipline (i.e., the discipline gap). The following introduction will review disparate discipline rates, the mechanisms producing the discipline gap, outline an eco-behavioral model effective at reducing school discipline rates, and raise research questions regarding the effectiveness of the model's implementation at producing more equitable discipline practices.

In the United States' public schools, Black students are up to 3.79 times as likely as their White peers to receive disciplinary measures in school, which include office discipline referrals (ODRs), suspensions, and expulsions (Skiba et al., 2011; Wallace et al., 2008). The gap for Black students is more pronounced for more severe sanctions (i.e., expulsion) and in secondary schools, where a gap for Hispanic students also is present (Finn & Servoss, 2013; KewalRamani, Gilbertson, Fox, & Provasnik, 2007; Skiba et al., 2011). At the elementary level, Hispanic students tend to be *less likely* than their White peers to receive an ODR, but more likely than

White peers to receive a suspension (Raffaele Mendez & Knoff, 2003; Rocque, 2010; Skiba et al., 2011). Moreover, Black and Hispanic students at all levels 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).

### **Mechanisms Producing the Discipline Gap**

While it may fit some socio-political perspectives and assumptions to assign blame to either racist teachers or cultural differences in behavior, objective and critical analysis is required for an accurate understanding of what is occurring (Frisby, 2013). A number of risk factors for discipline have been found by researchers, indicating that there may be a number of plausible explanations for racial/ethnic disparities in discipline. Researchers have suggested that multiple, inter-related causes for disparities in discipline outcomes exist: the 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 (Bradshaw, Mitchell, O'Brennan, & Leaf, 2010; Gregory, Skiba, & Noguera, 2010; Skiba, Michael, Nardo, & Peterson, 2002; Skiba et al., 2011). Each of these mechanisms is briefly reviewed below.

Socioeconomic status and race are undoubtedly interwoven in the United States (MaCartney, 2011), which may indirectly impact youth mental health via disparate exposure to trauma and violence (Kuther & Fisher, 1998). However, the persistence of the discipline gap despite statistically controlling for socioeconomic indicators (Wallace et al., 2008; Wu, Pink, Crain, & Moles, 1982) demonstrates that poverty explains only a portion of the discipline gap. Similarly, the correlation between academic performance and social behavior (Miles & Stipek, 2006) has caused some to argue the achievement gap and discipline gap to be “two sides of the

same coin” (Gregory, Skiba, & Noguera, 2010, p. 59), but the discipline gap remains when academic achievement is considered (Wehlage & Rutter, 1986).

Could group differences in behavior explain a portion of the discipline gap? Some data indicate that teacher-reported rates of problem behavior account for some of the variance in discipline rates (Finn & Servoss, 2014; Rocque, 2010; Wright, Morgan, Coyne, Beaver, & Barnes, 2014). In fact, racial/ethnic differences in adolescents’ internalizing and externalizing symptomatology have been documented (McLaughlin, Hilt, & Nolen-Hocksema, 2007). Some research indicates that Black children are exposed to more violence, an experience that is associated with frequency of antisocial behaviors (Schilling, Aseltine, & Gore, 2007). One study discovered the discipline gap to be insignificant when behavior ratings were controlled statistically (Wright et al., 2014) while several other studies have not produced this finding, but instead note Black students’ higher discipline risk to persist when controlling for ratings of behavior (Bradshaw et al., 2010b; Peguero, Popp, Shekarhkar, Latimore, & Koo, 2013; Rocque, 2010). These studies demonstrate that the discipline gap can only be explained *in part* by differences in rates of challenging behavior, which are still subject to potential racial biases of observers (Downey & Pribesh, 2004; Pigott & Cowen, 2000; Tenenbaum & Ruck, 2007).

Another potential explanation for the discipline gap is that Black students may be disciplined for different *reasons* than their White peers. Descriptive and discriminant analyses (Huberty, 1994) of small samples of secondary school students suggest that the discipline gap for Black students is driven by *subjectively* defined infractions (e.g., disrespect, defiance) rather than global behavior problems (Raffaele Mendez & Knoff, 2003; Skiba et al., 2002). On the other hand, more recent results from large-scale studies utilizing multi-level modeling in K-12 schools find disparities across *all* infraction categories (Barclay, 2015; Martinez, McMahon, & Treger,

2016; Skiba et al., 2011). Similar to research examining group differences in behavior, studies have resulted in varied conclusions regarding the *types* of infractions for which students of color receive disciplinary action.

What about educator bias in the initiation of discipline? The “differential selection hypothesis” (Gregory et al., 2010) posits that among students exhibiting equivalent behaviors within similar circumstances, students of color may be more likely to receive an ODR due to cultural mismatch, implicit bias, and/or negative expectations held by educators. Researchers have documented that teachers have differential expectations, ratings of behavior, and educational prognoses as a function of students’ race (Downey & Pribesh, 2004; Gilliam, Maupin, Reyes, Accavitti, & Shic, 2016; Pigott & Cowen, 2000; Tenenbaum & Ruck, 2007). Thus, it does seem very likely that discriminatory discipline, whether intentional or not, is one contributing factor to the discipline gap.

In a similar vein, the “differential processing hypothesis” (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 following an office discipline referral. Skiba and colleagues (2011) provided support for this hypothesis in a large national study, where Hispanic elementary school students received fewer ODRs but *more* suspensions and expulsions than their White peers. Furthermore, Black students were more likely to be suspended or expelled than White peers after being involved in the *same ODR infractions* (Skiba et al., 2011). Further evidence of the differential processing hypothesis is found in research demonstrating Black adolescents with the relatively darkest skin tones to be at almost three times the risk for being suspended as their Black peers with the lightest skin tone level (Hannon, DeFina, & Bruch, 2013).

Additionally, the relationship between race/ethnicity and discipline risk persists despite controlling for a number of ecological variables, particularly for Black students. Inequitable discipline rates occur within the context of family/community, school-based, and student-level factors (McElderry & Cheng, 2014; McIntosh, Girvan, Horner, Smolkowski, & Sugai, 2014). Thus, disparities are likely due to the reciprocal influence between individual characteristics (i.e., race, ethnicity, skin tone, and behavior) and home, school, and community factors. However, multiple regression analyses have revealed that being Black persists as a significant risk factor of discipline despite statistically controlling for *family structure* (Wallace et al., 2008), *teacher race/ethnicity* (Bradshaw et al., 2010), *home-based parental involvement* (Peguero et al., 2013), and *school-based parental participation* (McElderry & Cheng, 2014).

The persistence of the discipline gap despite controlling for likely contributors such as poverty, the achievement gap, behavior ratings, and a number of other variables provides evidence for the presence of racial biases in school discipline processes, procedures, and decision-making. Arguments that racial biases exist in discipline are further supported by evidence of differential processing and differential selection. It is clear that systematic efforts to address school discipline processes and procedures are needed. One preventive approach to school discipline that has received attention in the literature is school-wide positive behavior interventions and supports (SWPBIS).

### **SWPBIS: Effective and Equitable?**

SWPBIS is a set of universal prevention structures and procedures for facilitating students' social and academic success (Sugai & Horner, 2002). SWPBIS involves (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 supports (Sugai & Horner, 2006). SWPBIS has been demonstrated to be effective at reducing office discipline referral rates in schools (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). Decreased school-wide rates of in-school-suspension, out-of-school suspension, and expulsion have been documented as well (Bradshaw, Mitchell, & Leaf, 2010; Childs, Kincaid, George, & Gage, 2015).

The effectiveness of SWPBIS in reducing discipline rates has led some experts to propose it as a potential solution to discipline disparities between racial/ethnic groups (McIntosh, Barnes, Eliason, & Morris, 2014; McIntosh et al., 2014b). However, minimal evidence supports the effectiveness of SWPBIS implementation in closing the discipline gap for students of color. Studies investigating the benefits of SWPBIS have included racially/ethnically diverse samples of students, but it is unclear how universal the benefits of SWPBIS are across student subgroups. In one study of SWPBIS implementation in a diverse inner-city elementary school (44% Asian/Pacific Islander, 33% Black, 18% White, 5% Hispanic), ODR rates were reduced by 46% over two years (McCurdy, Mannella, & Eldridge, 2003); however, the data were not disaggregated by racial/ethnic subgroup. Thus, the data presented did not address any differential effects of SWPBIS across groups.

Some, but not all, studies investigating differential effects of SWPBIS across groups have found a reduced discipline gap. One investigation using data reported by 46 elementary, middle, and high schools found that implementation of SWPBIS, as measured by the Effective Behavior Support Survey (EBS; Sugai, Lewis-Palmer, Todd, & Horner, 2001a), was related to reductions

in discipline disparities (Tobin & Vincent, 2011). Another investigation used the School-wide Evaluation Tool (SET; Sugai, Lewis-Palmer, Todd, & Horner, 2001b) and Team Implementation Checklist (TIC; Sugai, Horner, & Lewis-Palmer, 2001) to identify 72 high implementing elementary schools and compare them to 81 low implementing counterparts. The study found statistically significant lower disparities among the high implementation group (Vincent, Swain-Bradway, Tobin, & May, 2011).

Other studies examining SWPBIS using the Benchmarks of Quality (BoQ) with different samples have *not* observed a relationship between implementation and a reduced gap in referrals or suspensions (Barclay, 2015; Sandomierski, 2011). Sandomierski (2011) utilized data from 83 elementary schools in the *School-Wide Information System* (SWIS; May et al., 2003) and *PBS Surveys* that demonstrated an interest in disaggregating discipline data by viewing an “Ethnicity Report” at least once. Chi-Square and descriptive analyses did not reveal a significant relationship between implementation fidelity and discipline disparities for Black or Hispanic students (Sandomierski, 2011). Similarly, a study utilizing multi-level regression analyses of 40 Florida elementary schools did not find a relationship between overall SWPBIS implementation fidelity and more equitable discipline rates (Barclay, 2015).

Thus, the research is unclear regarding whether SWPBIS implementation fidelity relates to decreases in the discipline gap. However, component-level analysis represents a growing approach to evaluating the SWPBIS framework. This approach involves the analysis of SWPBIS components as independent variables rather than as a unidimensional construct that includes a variety of practices and systems that fit within the framework. For example, some studies have highlighted the potency and importance of *classroom-based* practices within SWPBIS for producing lower discipline rates (Childs et al., 2015; Tobin & Vincent, 2011). Moreover, a



number of experimental studies have demonstrated the effectiveness of *classroom-level* coaching for educators in attaining more racially equitable discipline practices (Gregory, Allen, Mikami, Hafen, & Pianta, 2014; Gregory, Clawson, Davis, & Gerewitz, 2014). One recent case study highlighted a narrowing discipline gap within a high school employing SWPBIS *data-based* problem-solving processes to inform student supports (Scott, Hirn, & Barber, 2012). Finally, evidence of disciplinary equity has been related to high levels of *reinforcement* for appropriate behaviors (Tobin & Vincent, 2011), thereby, indicating that *behavioral recognition programs* require further investigation. Finally, more investigation is required to examine some scholars' argument that equity may be promoted by the clarity SWPBIS contributes to the defining and teaching of school behavioral expectations (McIntosh et al., 2014b).

Although evidence exists that certain components of SWPBIS may be relevant to reducing discipline gaps, extant research has not systematically explored the relationships between SWPBIS components and the rates and gaps of discipline experienced by Black and Hispanic students across K-12 schools. Therefore, the relationship between SWPBIS components (i.e., classroom management, reinforcement systems, data-based decision making) and disciplinary equity should be systematically investigated.

### **Purpose of the Current Study**

To date, no study has systematically assessed the relationship between SWPBIS implementation components and school discipline rates and disparities among Hispanic and Black students in K-12 schools. Therefore, the purpose of this study was to conduct a secondary analysis of five critical elements of SWPBIS implementation (*Classroom Systems, Expectations, Lessons, Recognition, and Data Analysis* [full names abbreviated; see Appendix A]) as measured by the Benchmarks of Quality (BoQ; Kincaid, Childs, & George, 2010), and their relationships

to Black and Hispanic<sup>1</sup> students' risk and risk ratios for receiving office discipline referrals and out-of-school suspensions. Specific research questions investigated included:

1. In elementary, middle, and high schools, to what degree is the implementation fidelity of each of the following components of school-wide positive behavioral interventions and supports related to reduced *risk* of receiving office discipline referrals among Black and Hispanic students:
  - a. *Classroom Systems?*
  - b. *Expectations?*
  - c. *Lessons?*
  - d. *Recognition?*
  - e. *Data Analysis?*
  
2. In elementary, middle, and high schools, to what degree is the implementation fidelity of each of the following components of school-wide positive behavioral interventions and supports related to reduced *risk ratios* for receiving office discipline referrals among Black and Hispanic students:
  - a. *Classroom Systems?*
  - b. *Expectations?*
  - c. *Lessons?*
  - d. *Recognition?*
  - e. *Data Analysis?*

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<sup>1</sup> Although disparities may exist for other racial/ethnic groups, the current investigation focuses on Black and Hispanic students due to insufficient sample sizes for other groups in the sample used to address the research questions.

3. In elementary, middle, and high schools, to what degree is the implementation fidelity of each of the following components of school-wide positive behavioral interventions and supports related to reduced *risk* of receiving out-of-school suspensions among Black and Hispanic students:
  - a. *Classroom Systems?*
  - b. *Expectations?*
  - c. *Lessons?*
  - d. *Recognition?*
  - e. *Data Analysis?*
  
4. In elementary, middle, and high schools, to what degree is the implementation fidelity of each of the following components of school-wide positive behavioral interventions and supports related to reduced *risk ratios* for receiving out-of-school suspensions among Black and Hispanic students:
  - a. *Classroom Systems?*
  - b. *Expectations?*
  - c. *Lessons?*
  - d. *Recognition?*
  - e. *Data Analysis?*

## **Hypotheses**

Given one recent study suggesting that *Classroom Systems* may be the most important component of SWPBIS (Childs et al., 2015) for reducing office discipline referrals and two independent and rigorous studies demonstrating more equitable discipline rates associated with classroom management (Gregory et al., 2014a; Gregory et al., 2014b), *Classroom Systems* is

expected to demonstrate some association with more equitable office discipline referral rates. Specifically, higher fidelity to *Classroom Systems* should relate to decreased discipline risk for each racial group as well as decreased discipline risk ratios for Black and Hispanic students. The current level of evidence for the other components under investigation is not sufficient to warrant hypotheses regarding their relationship to disciplinary equity.

### **Definitions of Key Terms**

**School-Wide Positive Behavior Interventions and Supports (SWPBIS).** A set of universal prevention structures and procedures for facilitating students' social and academic success, including (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 supports (Sugai & Horner, 2006).

**Expectations.** The degree to which a school has, with staff input, established and communicated 3-5 positively stated behavioral expectations and associated rules that apply to both students and staff in a variety of school settings (e.g., cafeteria, hallway, front office; Childs, Kincaid, & George, 2011).

**Lessons.** The degree to which a school has developed, with staff input, a behavioral curriculum that is embedded into daily instruction to explicitly teach the expected behaviors using at least three different teaching strategies (e.g., modeling, role-playing, videotaping; Childs, Kincaid, & George, 2011).

**Recognition.** The degree to which school faculty engage in a variety and hierarchy of practices for recognizing and rewarding students for the demonstration of behaviors that are identified in expectations and rules. Recognition also includes the degree to which students are

involved in identifying incentives, staff and faculty are provided incentives, and staff give a high ratio (e.g., 4:1) of recognition of appropriate behavior to correction of inappropriate behavior (Childs, Kincaid, & George, 2011).

**Classroom systems.** The degree to which PBIS practices were employed within a school's classrooms, including the visible posting of expectations, teaching of behavior lessons, high rates of immediate and specific praise, and consistent responses to and tracking of behavior problems (Childs, Kincaid, & George, 2011).

**Data analysis.** The degree to which a school regularly (i.e., at least monthly) uses a versatile data system that can monitor discipline incidents by a number of factors (e.g., frequency, location, behaviors, times, and students), and that includes other types of data (e.g., attendance, grades, surveys) to analyze patterns in student behavior and share findings with school faculty (Childs, Kincaid, & George, 2011).

**Office Disciplinary Referral (ODR).** "An event in which (a) a student engaged in a behavior that violated a rule/social norm in the school, (b) a problem behavior was observed by a member of the school staff, and (c) the event resulted in a consequence delivered by administrative staff who produced a permanent (written) product defining the whole event" (Sugai, Sprague, Horner, & Walker, 2000, p. 96).

**Suspension.** "A disciplinary action that is administered as a consequence of a student's inappropriate behavior, requires that a student absent him/herself from the classroom or from the school for a specified period of time" (Costenbader & Markson, 1998, p. 59).

**Risk.** The percentage of a group that receives a particular outcome (i.e., referral, suspension). This is equivalent to the likelihood of someone from that group receiving that outcome. In a school where 10% of all students received a suspension, a student would be

considered to have a 10% risk of being suspended. If 15% of all Black students were suspended, then a Black student in this school would be considered to have a 15% risk of being suspended.

**Risk Ratio.** Represent the likelihood of an outcome for one group in relation to a comparison group, as calculated by dividing the risk of a group (i.e., Black students) by the risk of a comparison group (White students). In a school with a 16% referral rate for Black students and an 8% rate for White students, Black students' risk ratio for referrals is considered 2.00. Black students in this school would be "twice as likely as White students to receive a referral." A risk ratio of 1.00 represents perfect disciplinary equity and some scholars have recommended aiming for risk ratios between 0.80 and 1.25 to consider outcomes equitable (McIntosh, Barnes, Eliason, & Morris, 2014).

**Disproportionality, Disparity, or Gap.** The existence of inequitable risk ratios across racial/ethnic subgroups within a student body. This may be documented at numerous levels (i.e., school, district, state). Using the parameters noted above from McIntosh and colleagues (2014a), a group may be considered to receive disparate discipline when its risk ratio exceeds 1.25.

**Students of color.** Students that claim a racial/ethnic identity other than non-Hispanic White. Includes Black, Hispanic, Asian American, Native American, Pacific Islander, Middle Eastern and North African students. This investigation primarily focuses on the experiences of Black and Hispanic students, as the participating schools included an insufficient number of other racial/ethnic groups (e.g., Hawaiian/Pacific Islander, Asian American, Native American).

## **Chapter II: Review of the Literature**

The following literature review first provides an overview of the nature and extent of educational inequities in academic achievement, placement, and school discipline. This is followed by a systematic review of ecological and behavioral factors influencing school discipline rates and disparities. Finally, an eco-behavioral framework for improving school climate and discipline is reviewed, including a discussion of how the model relates to factors producing the discipline gap.

### **Educational Inequity**

“Education, then, beyond all other devices of human origin, is the great equalizer of the conditions of men, the balance-wheel of the social machinery” (Mann, 1848, p. 669). A vision for equitable education has persisted for decades in the United States, starting with the case of *Brown v. Board* (1954) declaring the segregated schools of the day to be unconstitutional. More recently, the Individuals with Disabilities Education Improvement Act (2004; IDEIA) promoted disability identification procedures that consider environmental factors to ensure that disadvantaged groups of students were not unfairly assessed (Albrecht, Skiba, Losen, Chung, & Middelberg, 2012). The continued aim for equity is evident in the Every Student Succeeds Act (2015; ESSA), which, despite reducing many accountability regulations, maintained the mandate for disaggregation of accountability data across racial/ethnic lines. Despite these legislative efforts and others like them, gaps persist between White students and students of color in rates of achievement, special education placement, and exclusionary discipline. Such gaps conflict with

the ideals of social justice in education – fair access to the resources and benefits that schools have to offer for all individuals and groups (North, 2006). These disparities have led some scholars to lament: “If racial equity were a required course, most U.S. public school systems would receive a failing grade” (Gordon, Piana, & Keleher, 2000, p. 1).

**Academic achievement.** As early as 1969, an achievement gap between the nation’s White students and students of color has been consistently observed, despite some variability over time (Barton & Coley, 2010; Nelson, Palonsky, & McCarthy, 2004). Data collected through the National Assessment of Educational Progress (NAEP) have indicated that although various groups have made gains over time in mathematics and reading performance, the gaps between groups have persisted (Hemphill & Vanneman, 2011). In light of this persistence, Ladson-Billings (2006) suggested that the term *education debt* might be a more fitting description of the nation’s longstanding historical oppression of persons of color. This view considers today’s educational inequities a product of centuries of oppressive slavery, exclusion from postsecondary education, and years of segregation that produced generational poverty, illiteracy, and uncivil and unhealthy behavior. Thus, the social capital required for closing today’s achievement gap has been diminished by the cost of treating the social problems created by yesterday’s disparities (Ladson-Billings, 2006). Moreover, Darling-Hammond (2010) argued that today’s systematic educational inequities can be viewed as U.S. educators implicitly communicating that students of color are not worthy of investment, thus perpetuating student disengagement and poor performance as communities.

**Special education referral and placement.** Racial and ethnic disparities in special education placement rates have been documented since the 1970s. Recent estimates indicate that Black students are 1.5 times as likely as peers to be placed in special education (Ferri & Conner,



2005; U.S. Department of Education, 2010). Moreover, Black students are 2.86 and 2.28 times as likely to receive services for an intellectual disability and emotional-behavioral disturbance, respectively (U.S. Department of Education, 2010). One examination of a single urban district serving more than 18,000 students found Black students at higher risk within high-incidence disability categories that involve psychological and educational identification (2.49 for intellectual disability, 2.99 for emotional disability, 3.09 for specific learning disability) while being only 0.67 times as likely to receive services for low-incidence disabilities involving more medically-oriented identification (e.g., autism, hearing impairments, orthopedic impairments, traumatic brain injury; Sullivan & Bal, 2013). For decades, researchers most often have suggested that disproportionate special education placement reflects a system that interprets culturally-normative behaviors as pathological (Waitoller, Artiles, & Chiley, 2010). The results of an investigation by Skiba and colleagues (2006) revealed that when compared to students with the same disability, Black students with a disability are more likely to have been placed in restrictive educational environments.

Although special education services are intended to promote student success, many have argued that historically, special education in the United States has not been very “special” at all (Fuchs & Fuchs, 1995). For students receiving services for emotional and behavioral disorders, there is ample evidence documenting poor academic performance, increased disciplinary sanctions, and lower rates of high school completion (Bradley, Doolittle, & Bartolotta, 2008; Nelson, Benner, Lane, & Smith, 2004). Thus, racial disparities in special education placement rates may do more harm than good. Cross and Donovan (2002) argued that educators’ first-hand witness of the higher prevalence of students of color in special education may, consciously or unconsciously, lower academic and behavioral *expectations* for students of color. This in turn

may negatively impact the quality of services provided as support is allocated to students perceived to be more “teachable.”

To combat discriminatory factors in special education services, Cross and Donovan (2002) advocated for a response-to-intervention (RtI), or multi-tiered support, approach to evaluating special education eligibility and providing special education services, including early behavior screening techniques and evidence-based universal behavior management techniques. Since that call and many others like it, the multi-tiered framework for student service delivery (i.e. Multi-Tiered Support Systems; MTSS) has gained traction and widespread initiation (Hoover, Baca, Wexler-Love, & Saenz, 2008; Spectrum K12 School Solutions, 2011). Some researchers have empirically evaluated the potential of MTSS-related practices for their merits in promoting racial equity. For example, universal screening of behavioral and emotional risk – a more systematic and objective approach to special education referrals – is influenced less by student demographic factors (i.e., race, gender) than teacher nomination practices (Dever, Raines, Barclay, Mitchell, & Kamphaus, 2012; Raines, Dever, Kamphaus, & Roach, 2013). While this research highlights the potential of the MTSS framework to facilitate more equitable *processes* for supporting students, further research is required to examine the potential for an MTSS framework to produce significantly more equitable *outcomes* (Cramer, 2015). A number of scholars have proposed potential mechanisms by which these outcomes may be produced (Garcia & Ortiz, 2008; Klingner & Edwards, 2006; McKinney, Bartholomew, & Gray, 2010), but these hypotheses have yet to be empirically examined.

**Disciplinary practices.** Another area of racial inequity in education, racial disparities in school discipline practices, have been documented since the 1970s (Children’s Defense Fund, 1975; Wu et al., 1982). Some scholars have branded this phenomenon the “discipline gap”

(Losen, 2014), which is integrally related to the achievement gap (Gregory et al., 2010). There is evidence that, compared to their White peers, students of color are at greater risk for receiving office discipline referrals (ODRs), suspensions, expulsions, and even corporal punishment (APA Zero Tolerance Task Force, 2008). While Hispanic students' discipline gap may be limited to secondary schools, Black students appear to experience higher risk for discipline than peers at all stages of schooling (Skiba et al., 2011). Moreover, nation-wide rate decreases in ODR rates from 1996 to 2005 were not experienced by Black students (Wallace et al., 2008). Conversely, their rates of discipline increased over time (Wallace et al., 2008). The discipline gap has academic and instructional implications, as students' receipt of discipline removes them from the classroom, which results in lost instructional time (Skiba et al., 2011). Lost instructional time can accrue to create academic deficits (Scott & Barrett, 2004), thereby linking the discipline gap to the academic achievement gap (Gregory, Skiba, & Noguera, 2010).

In developing solutions for the discipline gap, researchers and practitioners alike can frame gaps within the linear process typically used by schools to discipline students. Typically, the first decision to deliver an ODR is made by a school staff member, which then leads to an administrator's decision regarding the need for further action (i.e., exclusionary practices of suspension or expulsion). Disparities may be produced at any combination of these two decision points. Equitable referral rates by staff do not preclude inequitable exclusion rates. For example, one national-level investigation of students in elementary and secondary schools found that 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).

Many schools and districts have standardized decision-making procedures for what behaviors warrant referrals or suspensions, such as the "Zero Tolerance" policies that define rule

violations that warrant a *suspension* regardless of extenuating circumstances. These policies are used by the vast majority of schools in the nation (Johnson, Boydon, & Pittz, 2001). Although popular, the approach lacks evidence supporting its effectiveness (APA Zero Tolerance Task Force, 2008; Johnson et al., 2001; Skiba & Peterson, 1999) and many have made the case that Zero Tolerance policies directly contribute to the “school-to-prison pipeline,” a trend that pushes students out of the classroom and into the juvenile justice system (APA Zero Tolerance Task Force, 2008; Noguera, 2003; Skiba, Arredondo, & Williams, 2014).

What patterns of disparities have been observed in office discipline referrals? Firstly, the nature and severity of office referral gaps appear to vary by school level. Compared to their White peers, Black *elementary school* 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). In contrast, Hispanic *elementary school* students, at the national level, are *less* likely than their White peers (0.76 times) to receive an ODR while Hispanic *middle school* students are 1.71 times as likely as their White peers to receive an ODR (Skiba et al., 2011). To date, disparate ODR rates for Hispanic high school students have yet to be examined, although a number of studies have investigated the discipline gap in exclusionary discipline, as outlined in the following paragraph.

What patterns of disparities have been observed in school exclusions (i.e., suspensions and expulsions)? The discipline gap in exclusion starts as early as preschool, where Black students are about twice as likely to be expelled as their White and Hispanic peers (Gilliam, 2005). Studies of out-of-school suspension (OSS) rates across the nation have found Black students to be 1.8 to 3.5 times more likely to be suspended than White students (Balfanz, Byrnes, & Fox, 2014; Finn & Servoss, 2014; Losen & Gillespie, 2012). Despite being at lower risk for ODRs (Skiba et al., 2011), Hispanic students in elementary and middle schools tend to be

excluded at a rate about 1.5 times that of their White peers (Skiba et al., 2011). Hispanic high school students are excluded at a rate of 1.18 times (Balfanz et al., 2014) to 1.64 times (Finn & Servoss, 2014) that of White peers. Analogous to most racial inequities, there is no single cause responsible for the discipline gap, but rather a myriad of factors (Skiba et al., 2008; Gregory et al., 2010). These factors are discussed in more depth below.

### **Factors of School Discipline Rates and Disparities**

Inequitable discipline rates exist within the larger context of school disciplinary practices and its web of contributing factors. From an ecological perspective (Bronfenbrenner, 1977), researchers may frame these contributors as family/community, school-based, and student-level factors (see Figure 1; McElderry & Cheng, 2014; McIntosh et al., 2014b). As suggested by Bronfenbrenner (see Figure 1; 1977), the child is at the center of these interacting ecological factors, with a reciprocal relationship existing between the child and the environment. For example, two children sharing the same neighborhood, school, and classroom will have divergent experiences. These differences could be due to the reciprocal influence of their individual characteristics (i.e., gender, race, ethnicity, skin tone, and behavior) and the traits of their families, educators, and community.

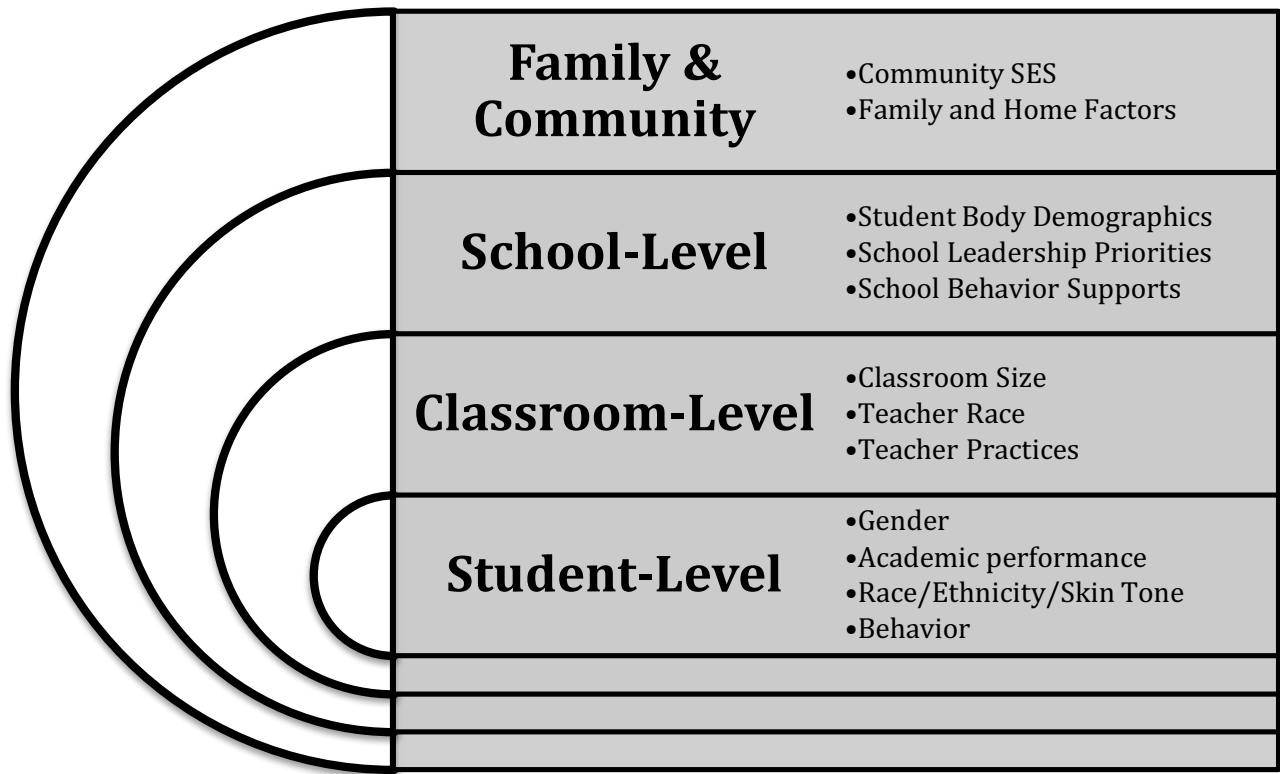


Figure 1

*Ecological Factors Related to School Discipline*

Often, discipline gap studies consider key ecological factors (e.g., family structure, parental education, urbanicity) exclusively as *control* variables rather than fully considering their contributions as *predictor* variables (see Wallace et al., 2008). Investigation of the discipline gap has been constrained by such approaches, likely a product of multicultural axioms that prevail within the academic community. Some education researchers have voiced concerns about the research community’s consideration of “large areas of analytical research as summarily off-limits... [which is] discouraging audiences from developing the thinking and reasoning skills necessary for carefully weighing evidence and arguments” (Frisby, 2013, p. 67). For example, researchers may believe that “criticizing the behavior of the poor minority parents is cruel, because it blames the victim and sides with the oppressor” (Frisby, 2013, p. 508).

However, avoiding a comprehensive approach to tearing down all oppressive barriers to success can effectively ignore the complex, inter-generational perpetuation of oppression (Ladson-Billings, 2006). For example, avoiding research into family and community factors can “side with the oppressor” by depriving families and communities of research-based partnership and support to foster positive social-emotional development for youth. On the other hand, not all investigations are informative of solutions. One recent twin study documented the influence of “nature,” or genetics, on student expulsion risk, offering no solution to educators aiming to enhance the well-being of youth (Beaver et al., 2016). When developing solutions, it is important to target more malleable factors to promote resilience (Gutkin, 2009; Luthar, Cicchetti, & Becker, 2000) – the ecological variables that “nurture” students’ risk for discipline. Many of these factors are reviewed below, but it is important to recognize the interconnected, interactional relationship between these variables. These relationships are taken into account by a large number of these investigations using multiple regression analyses.

**Family and community factors.** The following factors include variables from the family and community contexts that impact school discipline. Specifically, community socioeconomic status, and family and home factors are reviewed.

***Community socioeconomic status.*** One study found *community-level* socioeconomic status (SES) related to lower suspension rates, even while controlling for community-aggregated antisocial behavior (Hemphill, Plenty, Herrenkohl, Toumbourou, & Catalano, 2014). On the other hand, school-level rates of student antisocial behavior and drug use were absent from the list of significant predictors of school suspension rates (Hemphill et al., 2014), implying that a community’s socioeconomic status may be a better predictor of suspension rates than levels of

antisocial and risky behavior. Thus, community-level factors may detract from a logical correlation between frequency of antisocial behaviors and exclusionary discipline.

***Family and home factors.*** One early investigation (Wu et al., 1982) found increased suspension risk associated with *family-level* socioeconomic factors including paternal unemployment and free/reduced-price lunch eligibility. Additionally, more recent multi-level analyses have found student-level suspension risk factors to include parental socioeconomic status (SES) indicators (i.e., education and income levels; Hemphill et al., 2014). A number of multi-level analyses have found significant relationships between SES and discipline risk despite controlling for related factors such as race/ethnicity, family structure, parental involvement, and urbanicity (Balfanz, Byrnes, & Fox, 2014; McElderry & Cheng, 2014; Peguero, 2013).

One national investigation of secondary students found that when controlling for a number of parental variables (maternal age, education, income level, and English fluency), lower exclusionary discipline risk was related to higher parental participation rates (i.e., involvement in IEP, school events, and guidance counselor meetings; McElderry & Cheng, 2014). However, parental participation interacted with student race, suggesting that White students benefited more from parental participation than their Black peers (McElderry & Cheng, 2014). This may be due to *home-based* parental involvement being a more effective approach for Black parents to reduce their children's discipline rates (Hayes, 2012). Therefore, it appears that while parental involvement can influence student discipline risk, limited definitions of parental engagement (i.e., on-campus participation only) make it more difficult to determine whether racial or cultural differences in parental approaches may contribute to the discipline gap.

Do *socioeconomic* differences contribute to *racial* inequities in discipline? The relationship between poverty and race in the United States certainly makes it plausible for the



discipline gap to be partially explained by socioeconomic differences between groups. One national study examined this question and found the referral gap among secondary students to persist when statistically controlling for family structure, parental education, and urbanicity of residence (Wallace et al., 2008). However, risk for referral among students of color was reduced when these factors were taken into consideration, indicating that socioeconomic factors do explain a portion of the discipline gap.

**School-based factors.** The following factors involve variables from the school context that impact school discipline. Specifically, student body demographics, school leadership priorities, and school behavior supports are reviewed.

***Student body demographics.*** How schools employ disciplinary procedures has been found to vary systematically along a number of school-level dimensions. In fact, one study found that the addition of school-level variables (i.e., percentage black students, principal attitudes toward discipline) reduced the relationship between student race and suspension risk to non-significance (Skiba et al, 2014), implying that school-level features are among the primary factors producing the discipline gap. Other studies have found that larger high school enrollment was related to higher rates of suspensions (Finn & Servoss, 2014).

Not only do overall size and ratio of student bodies impact school discipline rates, but the presence of students of color appears to influence the overall school rates of discipline as well. Multilevel analyses conducted within urban districts (Anyon et al., 2014; Martinez, McMahon, & Treger, 2016) and with national datasets (Wright, Morgan, Coyne, Beaver, & Barnes, 2014) have revealed that a school's percentage of students of color is related to higher rates of referrals and suspensions. Moreover, schools with higher percentages of *either* Black students *or* Hispanic students are more likely to use suspension (Anyon et al., 2014; Welch & Payne, 2012). This

pattern indicates that the racial demographics of a student body can influence the discipline climate of the school, placing students of color at disparate risk for discipline.

***School leadership priorities.*** The investment of educational leaders in promoting students' prosocial skill development can have a significant effect on student discipline rates and the well-being of educators themselves (Bradshaw, Koth, Bevans, Ialongo, & Leaf, 2008). Cluster analysis of the 42-item Disciplinary Practices Survey produced a two-cluster solution representing two camps, wherein a reactive approach represented favorable attitudes towards exclusion and zero tolerance policies. Among the 1,068 school principals studied, lower discipline rates were documented in schools with principals that instead reported a more preventive-oriented approach to proactively addressing behavior problems (Skiba et al., 2014).

***School behavior supports.*** One recent examination provided some insight into the relationship between interventions and lower student-level risk for discipline (Anyon et al., 2014). In 183 Denver Public Schools, approximately 48% of students receiving an office referral during the year were provided with one of three "alternatives to suspension." The vast majority of these students received in-school suspension (ISS) and were 0.37 times as likely to be suspended as their peers. Similarly, students provided a restorative intervention, emphasizing reparation of harm done to others, were 0.73 times as likely to be suspended. On the other hand, the 4% of students provided with the third alternative, a behavioral contract, were 18.10 times as likely to receive an out-of-school suspension (Anyon et al., 2014). Reasons for the substantially increased likelihood of receiving an out-of-school suspension when getting a behavioral contract were not directly discussed by the authors. One hypothesis involves the small sample size of students who received a behavioral contract.

School-level human resources for supporting students' social-emotional well-being appear to contribute to discipline rates. The results of one national survey indicate that having access to a mental health consultant (i.e., psychologist, social worker) in preschool reduces the use of expulsion (Gilliam, 2005). This survey of 3,898 pre-kindergarten teachers found a rate of 9 expulsions per 1,000 students among teachers without access to a mental health consultant on-call or on-site. In contrast, an expulsion rate of 6 per 1,000 students was demonstrated by teachers with access to an on-site mental health consultant (Gilliam, 2005). Approximately 14% of teachers without access to an on-site mental health consultant had issued a suspension, compared to 8% of those without a consultant on-site. These differences were statistically significant, as were differences between the two groups and a "middle group" of teachers with access to an on-call mental health consultant (Gilliam, 2005).

In summary, the extant literature provides substantial evidence that school-based factors (i.e., school size, educator race, and behavior support practices) significantly contribute to the discipline gap. Furthermore, there is evidence that students of color are more likely than White peers to be exposed to the more adverse sides of these factors. Evidence exists that schools with higher percentages of students of color are more likely to implement harsh punishments (Welch & Payne, 2010) and are less likely to implement restorative discipline practices (Payne & Welch, 2015), which could explain such schools' higher ODR and suspension rates (Anyon et al., 2014; Martinez, McMahon, & Treger, 2016; Welch & Payne, 2012; Wright, Morgan, Coyne, Beaver, & Barnes, 2014). Furthermore, race-related funding disparities (Condrón & Roscigno, 2003) are likely connected to the quality of human resources for promoting positive student behavior (Gilliam, 2005). Thus, a lack of access for minority students to such practices likely explains a portion of the discipline gap.

**Classroom-level factors.** The following factors involve variables from the classroom context that impact school discipline.

**Classroom size.** The relationship between classroom size and discipline rates has received sparse attention in the research literature. One investigation utilizing multi-level modeling found a school's higher student-teacher ratios to be related to increased rates of referrals (Martinez, McMahon, & Treger, 2016). Relationships between classroom sizes and student outcomes is typically mediated by differences in learning conditions, as noted by Hattie's literature review (Hattie, 2009).

**Teacher race.** When investigating school-level differences in discipline rates, Theriot, Craun, and Dupper (2010) did not find the *principal's* race or gender to have a significant effect on discipline rates. However, some research points to the influence of *teacher* race on teacher-student interactions. When controlling for school context and overall classroom behavior ratings, Black teachers provide more favorable ratings of student externalizing behaviors than White teachers (Bates & Glick, 2013). Furthermore, when Black kindergarten teachers rated the behaviors of their Black students, lower levels of problem behaviors were reported than when White teachers rated their White students (Downey & Pribesh, 2004). 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) and according to a study using multi-level regression analyses of 381 classrooms (Bradshaw et al., 2010b), having a Black teacher appears to reduce students' risk for being referred. Thus, it appears that a teacher's interpretation of and response to student behavior (i.e., ODRs) is in part shaped by the teacher's race, with Black teachers typically providing more positive and favorable ratings of Black students and others.

More research is needed to investigate how discipline decision-making may be systematically influenced by a teachers' racial/ethnic identity.

***Teacher practices.*** Gregory and Weinstein (2008) surveyed students and teachers in one high school and found that students of color exhibit less defiant and more cooperative behavior with teachers that employ a “warm demander” approach (i.e., demonstration of caring and high expectations; Vasquez, 1988). One randomized controlled trial found decreased use of discipline, and a decreased Black-White discipline gap, among middle and high school teachers that received professional coaching in practices that arguably align with the “warm demander” approach –student emotional support, classroom organization, and instructional support (Gregory et al., 2014a).

**Student-level factors.** The following factors involve variables at the individual student level that impact school discipline. Student gender, academic performance, behavioral differences, and race/ethnicity are reviewed.

***Student gender.*** Male students are consistently at higher risk of ODRs (Skiba et al., 2011), suspensions (Hemphill et al., 2014; Skiba et al., 2002; Skiba & Rausch, 2006), and expulsions as early as pre-school (Gilliam, 2005). Increased risk among male students has been documented within each racial/ethnic group and persists when statistically controlling for other variables (Anyon et al., 2014; Bradshaw et al., 2010b; McElderry & Cheng, 2014; Peguero, 2013; Wright et al., 2014). Furthermore, some studies have demonstrated that race and gender intersect in predicting students' discipline risk (Wallace, Goodkind, Wallace, & Bachman, 2008). In secondary schools, suspension rates are highest for Black males; yet, Black female students are at greater suspension risk than their White male peers (KewalRamani et al., 2007; Raffaele Mendez & Knoff, 2003). Although gender plays a significant role in school discipline and

deserves exploration, an examination of the intersections of gender and race are outside the scope of many discipline gap investigations including the current study. Studies evaluating SWPBIS, including those examining equitable discipline rates, do not often collect data on gender. Further, one of the most commonly used data systems for analyzing school discipline (Schoolwide Information System; SWIS) readily produces reports for visually analyzing equity across races and ethnicities, but not across gender (May et al., 2003).

***Student academic performance.*** Researchers have recently drawn connections between the achievement gap and the discipline gap (Gregory et al., 2010). Students exhibiting poor academic performance are in fact more likely to display disruptive behavior – poor early literacy is related to aggressive behavior in later grades (Choi, 2007; Miles & Stipek, 2006). However, researchers have found that a national-level racial gap in suspension persists among high school students despite controlling for grade point average (Wehlage & Rutter, 1986).

***Student behavioral differences.*** As one might expect, student-level behavioral factors contribute significantly to students' discipline risk. This pattern has typically been documented by teacher-reported disruptive behavior in the school environment (Bradshaw et al., 2010b), but student-reported behaviors also are related to discipline risk (Hannon, DeFina, & Bruch, 2013). Among the many school discipline studies that have included separate data sources (i.e., teacher-report, student-report surveys) for rating behaviors, student behavior has been confirmed as a factor that contributes to increased discipline risk when operationalized in a number of ways: *delinquency* (Hannon, DeFina, & Bruch, 2013), *perceived demeanor* and *misconduct* (McCarthy & Hoge, 1987), *misbehavior* (skipping, fighting; Peguero et al., 2013), and *externalizing behavior* (Rocque, 2010). Hemphill and colleagues' 2014 survey of 3,129 teens in the United

States and Australia found elevated suspension risk associated with students' self-reported *antisocial, violent, and defiant behavior*.

Considering that behavior ratings explain a portion of why students receive discipline, might a portion of racial inequities in discipline be attributed to behavior? When adding behavior ratings to multiple regression models, multiple studies have found that Black and Hispanic students' risk of ODRs and suspension decreases (Finn & Servoss, 2014; Rocque, 2010). In fact, one study found the discipline gap reduced to non-significance (Wright et al., 2014), implying that differences in behavior ratings, although limited in their accuracy and fairness of measuring actual behavior (Abikoff, Courtney, Pelham, & Koplewicz, 1993; Downey & Pribesh, 2004), may explain all group differences in discipline. However, this finding is not consistent with other studies finding that after accounting for behavior ratings, Black students' increased risk for disciplinary action remains (Bradshaw et al., 2010b; Peguero, 2013; Rocque, 2010). One study found that a Black student had 24-80% higher odds of receiving a referral compared to a White peer with identical disruptive behavior ratings (Bradshaw et al., 2010b).

*Racial/ethnic differences in infraction types?* With some evidence indicating that Black students are more likely to be reported as *disruptive* by educators (Epstein et al., 2005), it is plausible that Black students may be disciplined for different *reasons* than their White peers. Moreover, disparities in disciplinary practices among Black students may be driven by a few specific behaviors rather than global behavior problems. Investigations of the *reasons* for discipline referrals can compensate for the challenges associated with teasing apart educator bias from their ratings of student behavior. Using discriminant analysis (Huberty, 1994) of ODRs in urban middle schools, Skiba and colleagues (2002) found that ODRs involving more subjective, culturally defined educator decision-making (i.e., disrespect, excessive noise, threat, and

loitering) were more likely to belong to Black students. Conversely, ODRs for more objective infractions (i.e., 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 suspensions in a large Florida school district (Raffaele Mendez & Knoff, 2003).

However, these findings are not consistent with more recent research, as outlined in the following three studies. One large national-level study including over 120,000 elementary school students found that Black elementary students were 4 times as likely as their White peers to be referred for the subjective offenses of *disruption* and *noncompliance*, but were 6 times as likely as White peers to be referred for being *tardy* and 3 times as likely for *use or possession* of a substance or weapon, relatively objective offenses (Skiba et al., 2011). Similar results were found in another recent multi-level regression analysis of students' elementary and middle schools, where Black students were more likely than their Hispanic peers to receive ODRs across all five categories (illicit behavior, disruptive behavior, non-physical aggression, physically aggressive behavior, and insubordination; Martinez, McMahon, & Treger, 2016). Moreover, Barclay (2015) used similar methodology and found a discipline gap for Black students across all seven categories of ODRs (disrespect, disruption, verbal abuse, aggression, property damage, major other, and miscellaneous) in 40 Florida elementary schools. These findings, using more rigorous research methodologies, suggest that the discipline gap cannot be explained by racial differences in infraction types. The discipline gap, for Black students at least, appears to be present across a number of "equal opportunity offenses."

***Student race/ethnicity.*** A collection of studies have found student race to be related to discipline risk (Anyon et al., 2014; Balfanz, Byrnes, & Fox, 2014; Bradshaw, Mitchell, O'Brennan, & Leaf, 2010; McElderry & Cheng, 2014; Peguero et al., 2013; Rocque, 2010;



Wallace et al., 2008; Wu et al, 1982). While race is not inherently an ecological or behavioral factor, it is a social construct that is embedded within teacher-student interactions (Haney-Lopez, 1994). Such phenomena can hold significant implications for students and educators. One meta-analysis of over 30 studies found that educators consistently have lower academic and social expectations for Black and Hispanic students than for White and Asian students (Tenenbaum & Ruck, 2007).

Furthermore, cultural *connotations* of student race also can impact educator perceptions of student behavior and academic potential. For instance, one study revealed that a student behavior such as a walking pattern can impact educators' perceptions of students. In this study, White and Black students who walked with a "stroll" associated with Black culture 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, McCray, Webb-Johnson, & Bridgest, 2003). Some results suggested that these assumptions were harsher for the "strolling" of White students than Black students, a phenomenon that Neal and colleagues (2003) suggested to reveal that educators perceive an even greater deviance among White students engaging in behavior that is considered typical of Black students.

One could make the argument that educators' lower expectations and higher suspicions of Black and Hispanic students impact the discipline such students receive. In fact, there is some empirical evidence of these disciplinary biases. The case for racial bias is furthered by the correlation of discipline risk with "racial" phenotypes (Hannon, DeFina, & Bruch, 2013). Among Black adolescents, darker skin tone (as measured by a 10-point scale) was associated with elevated risk for suspension, as documented using data from the National Longitudinal Survey of

Youth (1997). Students with the darkest skin tone were at almost 3 times the risk for being suspended as their peers with the lightest skin tone level (Hannon, DeFina, & Bruch, 2013).

Research clearly demonstrates that race is a key factor contributing to students' risk for both discipline referrals (Skiba et al., 2002; Skiba et al., 2011) and suspensions (Balfanz, Byrnes, & Fox, 2014; Finn & Servoss, 2014; Losen & Gillespie, 2012; Raffaele Mendez & Knoff, 2003; Skiba et al., 2002; Wallace et al., 2008). In a national-level study, Hispanic and Black elementary school students – despite being at *lower* risk for receiving an ODR – were *more likely* than White peers to be suspended or expelled (Skiba et al., 2011). Among high school students, being Hispanic is related to increased risk for being suspended, along with increased length of suspension, despite controlling for socioeconomic status (Balfanz, Byrnes, & Fox, 2014). In analyses of elementary and secondary students in one large school district, being Hispanic was related to increased risk for receiving an ODR (but not OSS), despite controlling for socioeconomic status (Anyon et al., 2014). There is evidence that youth from other ethnic minority groups, such as students of Multi-Racial or American Indian/Alaska Native background, also are placed at greater risk for exclusionary discipline than their White peers (Anyon et al., 2014; Vincent, Sprague, & Tobin, 2012).

Could racial differences in discipline be a byproduct of other variables at play? There is evidence that other variables contribute to the disparities, but cannot fully explain the gaps. Multiple regression analyses have revealed that being Black persists as a significant risk factor of discipline despite controlling for *socioeconomic factors* (Anyon et al., 2014; Balfanz, Byrnes, & Fox, 2014; Wu et al, 1982), *family structure* (Wallace et al., 2008), *student behavior ratings* (Bradshaw et al., 2010b; Peguero, 2013; Rocque, 2010), *student academic performance* (Peguero, Popp, Shekarhkar, Latimore, & Koo, 2013), *teacher race/ethnicity* (Bradshaw et al.,

2010b), *home-based parental involvement* (Peguero et al., 2013), and *school-based parental participation* (McElderry & Cheng, 2014). This evidence, along with the evidence that students' skin tone correlates with discipline risk (Hannon et al., 2013), makes a compelling case for the presence of racial bias in school discipline procedures. However, a few studies have separately demonstrated a reduction of the discipline gap for Black students to non-significance when controlling for school-level factors (Skiba et al., 2014) and previous problem behavior (Wright et al., 2014), suggesting that the gap is a complex phenomenon produced as an interaction between ecological and behavioral factors.

*A racial gap in bias and/or behavior?* If student behavioral differences do not explain the discipline gap, why does a student's race or skin tone consistently relate to risk for discipline? One of the key difficulties in this line of research is teasing educator bias in disciplinary decision-making apart from actual differences in student behavior (Morrison & Skiba, 2001). As highlighted previously, a discipline referral is a product of an *interaction* between a student and teacher. Classroom discipline is a product of a student's challenging behavior and the teacher's capacity and expectations for managing the behavior within the classroom or referring the student to the administrative offices.

This interaction framework is critical to examining the discipline gap. Educators report Black students to exhibit higher rates of externalizing behaviors (Bates & Glick, 2013), but such research is plagued with measurement concerns surrounding internal validity. If racial bias were present, how well could an educator's report of behavior operate independently from this bias? Researchers have argued that even the most systematic rating of children's behavior is susceptible to differences in cross-cultural norms and biases, and the reliance on them for clinical decision-making "appears to [hold] the very real potential to repeat the historical problems of

culturally biased [intelligence] testing, and all its attendant problems” (Reid, 1995, p. 557).

Researchers emphasizing group differences in behavior suggest that the case for the bias hypothesis “compares frequencies, proportions, percentages, and other univariate statistics to bolster a ‘racist conspiracy’ argument” (Beaver, Wright, & DeLisi, 2011, p. 128). On the other hand, those testing the hypotheses regarding racial bias claim “there is no evidence whatsoever that African American or other students of color exhibit higher rates of misbehavior” (Skiba & Leone, 2001, p. 35).

Some have argued that even if racial differences in behavior are substantiated, this does not place the blame squarely on the students and families, but rather on the ecological context as a whole, including greater societal factors (Ladson-Billings, 2006). Some researchers have argued that racial differences in cultural norms and exposure to violence may moderate how mental health challenges are manifested or expressed across groups (Epstein et al., 2005; McLaughlin, Hilt, & Nolen-Hocksema, 2007; Schilling, Aseltine, & Gore, 2007). Furthermore, brief interactions that can unintentionally communicate negative insults to racial groups, termed racial micro-aggressions, have received heightened attention for their insidious effects on youth (see Sue, Lin, Torino, Cadopilupo, & Rivera, 2009). Such regular negative experiences may make self-regulation more challenging for Black students, a skill that Black students may already be at a disadvantage with due to elevated exposure to community violence (Schilling, Aseltine, & Gore, 2007).

Moreover, a large line of research is established around the “oppositional culture” theory. This theory posits that peer norms among Black youth are oppositional to positive academic behaviors at school, which can systematically produce group differences in misbehavior. This is often framed as the social pressure to avoid behaviors that could be considered “acting White”

(Fordham & Ogbu, 1986). However, Downey and Pribesh (2004) doubt that “oppositional culture” explains the discipline gap as the effects of teacher-student racial match on discipline risk are comparable across both kindergarten and eighth grade. They argue that such results are more aligned with the teacher bias hypothesis, as “oppositional culture” peer influences should be greater in adolescence than early childhood.

If racial biases were present in school discipline systems, they may be visible to students themselves. White and Black students do appear to have divergent perceptions of and experiences with their schools. This phenomenon was documented by Bottiani, Bradshaw, and Mendelson (2014) in their investigation of 18,397 students (66% White; 34% Black) and 2,391 school staff (86% White; 8% Black) across 53 schools. Compared to their White peers in the same schools, Black youth reported lower levels of staff caring and equitable treatment, even when controlling for a plethora of student-level factors (i.e., SES, gender, age) and school-level factors (i.e., SES, teacher qualifications, minority enrollment, school size). Black students not only reported different perceptions of their student-teacher relationships, but they also did not benefit as much as White peers from higher staff morale. Higher levels of staff-reported organizational health demonstrated a positive relationship to students overall, but not for Black students. In fact, more organizationally healthy schools had a wider racial gap in students’ perceptions of fair treatment (Bottiani, Bradshaw, & Mendelson, 2014).

A cultural mismatch between a mostly White education workforce (Goldring, Gray & Bitterman, 2013) and their ethnic minority students can certainly create tension, regardless of teacher intentions. Wallace and colleagues (2008) shared the following story that was disclosed to them during their study of school discipline (p. 11):

"A White male teacher was running late for class. Upon his arrival, the Black male student met the teacher at the door and said, 'Man, I was just fixin' to bounce on you.' To the student's bewilderment, the teacher wrote him up to be suspended. The teacher (mis)interpreted the phrase, 'fixin' to bounce on you,' as a threat of physical violence, when from the student's perspective he was noting the teacher's tardiness and jokingly saying that he was just about to leave the classroom (i.e., 'bounce')."

When one talks to Black students and families about their experiences, a theme of discriminatory treatment is almost unavoidable. However, many voices within the Black community see disciplinary disparities as a problem of both educator discrimination and student behavior. When investigators in another ethnographical study (Gibson et al., 2014) asked students about the discipline gap, one family member lamented the instructionally-deprived principal's office, noting "They just sitting in there and they just have a social hour. [Educators believe] they're not gonna make it anyway. So are you [educators] ...indirectly letting them fail, or you indirectly do not care? Because I watch your interactions. You interact with 'em very different." (p. 277).

Gibson, Wilson, Haight, Kayama, and Marshall (2014) found accusations of educator prejudice, within-group criticism, and success stories. One Black student noted "they think we lie all the time" (p. 277), while a Black educator candidly put it: "Culturally, we tend to act up a little more. We're a little more defensive" (p. 277). While the solutions to the discipline gap are elusive, the commitment to finding them can bring differing perspectives together. Researchers that focus more on the behavior side have noted that schools should take "proactive measures to identify and intervene early with at-risk youth" (Wright et al., 2014, p. 8). One White educator noted:

“They're behind in school, they're being bullied in school, they're being abused at home, they're taking care of their siblings... and the list goes on and on and on. Those are the things we should be fighting because those are the things that are causing ... the behavior” (Gibson et al., 2014).

A Black administrator explained his success in working with a Black student this way:

“I brought him in and we had a long conversation and he admitted what he had done wrong, but he said he was only trying to protect his friend who was in a chokehold by a teacher. And I said, ‘What could you have done differently, rather than pushing the teacher? Could you have tried to help—to talk to your friend, [say] stop struggling, calm down.’ So I did end up just dismissing him for a day in lieu of a suspension. And he did ask me, ‘Can I do anything else?’ And I said, ‘No.’ I said, ‘When you interfere, obstruct a teacher—and push a teacher— there's going to have to be some consequence.’ So he'll be out a day for dismissal. He's a Black youngster. At least I saved him from a suspension. He did apologize to the teacher.” (Gibson et al., 2014, p. 279)

In conclusion, the existence of the discipline gap is explained by a number of variables found within the ecology of school discipline that involve students, schools, and communities. Empirical evidence supports the contributions of behavioral differences, educator race and biases, school racial composition and priorities, and socioeconomic factors. A solution to the gap should involve a proactive, ecological, and behavioral problem-solving approach. One framework using such an approach is school-wide positive behavior interventions and supports (SWPBIS), which has demonstrated effectiveness in promoting pro-social behavior and reducing school discipline rates. Therefore, it is necessary for discipline gap research to consider SWPBIS.

## **Promoting Positive Behavior and Reducing Discipline with SWPBIS**

SWPBIS is one of the most frequently utilized and evaluated frameworks for promoting positive behavior and reducing school discipline rates. Over 21,000 schools across the United States have been trained on SWPBIS practices (Horner, 2013). SWPBIS 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.

When SWPBIS is implemented with fidelity, students regularly receive explicit instruction of 3-5 school-wide behavioral expectations. When expected behaviors are exhibited by students, recognition or positive reinforcement is consistently provided in the form of behavior-specific praise, tangible rewards, and preferred activities. Consistent consequences also are administered for inappropriate behaviors, such as time out and withdrawal from preferred activities. Student behavior and staff responses are monitored in all school settings to enable data-based decision making by teams of educators in order to match students' needs to a multi-tiered system of supports (Sugai & Horner, 2006).

There is evidence that SWPBIS implementation is related to improved academic performance (Bradshaw, Waasdorp, & Leaf, 2012; Horner et al., 2009), decreased use of special education services (Bradshaw et al., 2012) and counseling services for at-risk students (Bradshaw, Waasdorp, & Leaf, 2015), as well as more satisfactory levels of principal behavior management effectiveness and of educators' emotional exhaustion, staff job satisfaction, and self-efficacy (Bradshaw, Koth et al., 2008; Bradshaw et al., 2009; Richter, Lewis, & Hagar,



2011; Ross, Romer, & Horner, 2011). Yet, school discipline rates are among the most commonly used dependent variables in studies evaluating the effectiveness of SWPBIS.

A multitude of studies have documented reduced ODR rates in schools – mostly elementary schools – implementing SWPBIS (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; Tobin & Vincent, 2011). Exclusionary discipline practices such as suspension and expulsion are not only in conflict with the inclusionary vision of PBIS frameworks (Sailor, Dunlap, Sugai, & Horner, 2008), but SWPBIS implementation has been documented to decrease rates of in-school-suspension, out-of-school suspension, and expulsion (Bradshaw et al., 2010a; Childs, Kincaid, George, & Gage, 2015; Vincent, Sprague, & Gau, 2012). The vast majority of these studies have documented SWPBIS effectiveness with either *pre-post design case studies* (e.g., Taylor-Greene & Kartub, 2000) or *randomized control trials* that place a control group on a waitlist (e.g., Barrett, Bradshaw, & Lewis-Palmer, 2008; Horner et al., 2009; Nelson et al., 2002).

Only a few recent investigations have other research designs such as *correlating* continuous measures of SWPBIS implementation fidelity with continuous dependent variables (Childs et al., 2015; Vincent & Tobin, 2010). Childs and colleagues (2015) found SWPBIS implementation, as measured by the Benchmarks of Quality (BoQ; Kincaid, Childs, & George, 2010) in 1,122 Florida schools across grades K-12, to be related to lower rates of office referrals, in-school-suspensions, and out-of-school suspensions. Vincent and Tobin (2010) evaluated a sample of 77 K-12 schools using a national database and found that among elementary schools, *classroom* PBIS implementation was related to reduced suspension rates while PBIS

implementation in *school-wide* settings was related to *increased* suspension rates. In contrast, the reverse was true in high schools; *classroom* implementation related to higher suspension rates while *school-wide* implementation related to lower suspension rates (Vincent & Tobin, 2010). Vincent and Tobin admitted that PBIS components relating to higher exclusionary discipline was very puzzling (2010). To make better sense of these phenomena, more research on the effects of SWPBIS components is warranted with larger samples (Vincent & Tobin, 2010). One of the aims of this study is to contribute to this gap in knowledge.

### **SWPBIS and the Discipline Gap**

To resolve discipline disparities, school-wide interventions such as SWPBIS must be evaluated according to their merits and potential for impacting the mechanisms maintaining inequity. While the SWPBIS framework does not explicitly target implicit racial biases or stereotypes held among educators, it may hold some potential for reducing the discipline gap. In fact, some scholars have recently argued that “equity-implicit” approaches may hold more potential for producing equity than experts had originally thought (Gregory et al., 2014a).

Implementation of PBIS aims to move educators away from a punitive approach to discipline associated with the discipline gap (Payne & Welch, 2010) and towards a positive approach that recognizes appropriate student behavior (Sugai & Horner, 2006). SWPBIS also provides a framework for training students in social skills (Sugai & Horner, 2006), a method proven very effective with Black youth (Utley, Greenwood, & Douglas, 2010) who may experience such early challenges (Wright et al., 2014). SWPBIS may also hold potential for improving student academic performance (Horner et al., 2009), which has been linked to the discipline gap (Gregory et al., 2010). The overarching focus of SWPBIS on improving school climate and student behavior (Bradshaw, Koth, Thornton, & Leaf, 2009) aligns it to these two

potential factors of the discipline gap. Thus, this approach was reviewed in consideration of its potential for producing more equitable outcomes for students.

Studies investigating the benefits of SWPBIS have included ethnically diverse samples of students, but the degree of effectiveness with particular subgroups is unclear. In one instance of SWPBIS implementation in a diverse, urban elementary school (44% Asian/Pacific Islander, 33% Black, 18% White, 5% Hispanic), ODR rates were reduced by 46% over the course of two years of consultation with external behavioral healthcare providers (McCurdy, Mannella, & Eldridge, 2003). Significant positive results were observed among ODRs for both disruption and fighting. However, results were not disaggregated according to racial/ethnic groups (McCurdy et al., 2003). Bottiani, Bradshaw, and Mendelson (2014) demonstrated the significant value of group-level analysis when they found school organizational health related to better overall student-teacher relationships, but wider gaps between White and Black students' report of receiving fair treatment. Similar evaluation practices have not made their way into discipline research until fairly recently. A growing number of schools utilize the Schoolwide Information System (SWIS; May et al., 2003) for reporting their discipline data, but fewer than one in three of these schools utilize SWIS tools for disaggregating discipline by ethnicity (McIntosh, Eliason, Horner, & May, 2014). Yet, such data are invaluable for evaluating whether *all* students are benefiting from the practices.

Only a few studies have intentionally investigated the relationship between SWPBIS and racial disparities in discipline (Barclay, 2015; Sandomierski, 2011; Vincent, Tobin, Swain-Bradway, & May, 2011). In correlational analyses of 83 elementary schools (Sandomierski, 2011) via the national Schoolwide Information System (SWIS), SWPBIS implementation (ranging 48 – 99%) as measured by total BoQ (Kincaid, Childs, & George, 2010) scores was

related to a reduction in overall rates of ODRs and suspensions, but not to decreased racial disparities. The majority of schools were implementing with high levels of fidelity (average of 81%), but still experienced racial disparities for Black students (Sandomierski, 2011). The relationship between SWPBIS implementation and disparities was examined descriptively, finding the ODR risk ratio (likelihood of Black students to be referred compared to all other peers) to average 3.91 and 3.43 in low and high implementing schools, respectively. Risk ratios for OSSs averaged 1.89 and 2.39 in low and high implementing schools, respectively. However, Chi-square analyses did not find these differences to be statistically significant (Sandomierski, 2011).

In a different sample of SWPBIS-implementing schools, Barclay (2015) also found a non-significant relationship between implementation fidelity and the discipline gap. The study investigated disparities in rates of seven different ODR categories within 40 Florida elementary schools implementing SWPBIS with high levels of fidelity (average of 85%). Racial disparities in discipline were found in these schools, with Black students being 2.69 times as likely as White peers to receive an ODR. Disparate rates of referrals for Black students were found across all categories, as Black students ranged from being 1.87 to 3.41 times as likely as White peers to receive ODRs for *property damage* and *miscellaneous*. Furthermore, overall SWPBIS implementation measured by the total score on the Benchmarks of Quality (BoQs; Kincaid, Childs, & George, 2010) was related to lower ODR rates, but was not related to more equitable rates within any category (Barclay, 2015). Individual components of SWPBIS were not separately examined for their merits in reducing ODR rates and disparities. Furthermore, Barclay (2015) examined only elementary schools and did not control for school-level demographic

variables (e.g., enrollment size, percentage of students of color) or examine suspension rates as dependent variables.

The aforementioned two studies (Barclay, 2015; Sandomierski, 2011) suggest that SWPBIS implementation, when conceptualized as a continuous variable of fidelity and measured by the BoQ, does not reduce racial disparities in ODR rates. However, one study found some contrasting evidence when using a dichotomous operationalization of SWPBIS with the School-wide Evaluation Tool (SET; Horner et al., 2009) and Team Implementation Checklist (TIC; Sugai, Horner, & Lewis-Palmer, 2001) scores. Vincent and colleagues investigated 72 elementary schools with high levels of implementation (i.e., 80%) and 81 elementary schools with a lower level or no reported level (Vincent et al., 2011). Across these schools averaging about 18% Black students and 50% White students, Chi-square analyses revealed that the discipline gap in ODRs for Black students was significantly smaller among higher implementing schools across three years (Vincent et al., 2011).

In conclusion, studies targeting the relationship between SWPBIS implementation and the discipline gap have provided mixed findings. Conflicting findings may be due to a number of factors including the sample size, SWPBIS measure and operationalization, and available range of implementation. More investigation into the nature of SWPBIS' benefits across student racial/ethnic groups is warranted. Compared to previous studies (i.e., Barclay, 2015), research could provide *broader* (across school levels) and *deeper* (component-level analysis) understanding of the framework's relationship to the discipline gap. This study aimed to contribute to both of these efforts.

## **Benchmarks of Equality? Components of SWPBIS and the Discipline Gap**

The mixed evidence of SWPBIS and discipline disparities raises questions about whether the model, as a whole, addresses the causes of the discipline gap. Some components of the model may be more conducive to promoting equity in school discipline. The discussion below summarizes the foundational research literature and rationale for examining the SWPBIS framework at a component-level.

**Expectations.** The SWPBIS component involving clearly and consistently communicating school behavioral expectations may produce more equitable discipline procedures. McIntosh and colleagues (2014b) argued:

“SWPBIS is particularly relevant to the challenge of disproportionality because of its focus on establishing a clear, consistent, and positive social culture. *Identifying* and teaching clear expectations can reduce ambiguity for both students (e.g., it is not assumed that all students know how to be respectful at school) and adults (e.g., expectations and violations are clearer, reducing ambiguity)” (p. 12; emphasis added).

Tobin and Vincent (2011) empirically evaluated this component using two separate items (e.g., expectations defined, problem behaviors defined) from the Effective Behavior Support Survey (EBS Survey; Sugai, Todd, & Horner, 2000). Across 46 schools, the researchers did not find a significant relationship between these items and the Black-White suspension gap (Tobin & Vincent, 2011). No studies to date have examined the discipline gap in relationship to a psychometrically sound scale for measuring the establishment of behavioral expectations (e.g., BoQ *Expectations & Rules Developed*; Cohen, Kincaid, & Childs, 2007). Therefore, the present study aimed to assess the degree to which more equitable discipline rates may relate to the BoQ subscale *Expectations & Rules Developed* (abbreviated to *Expectations*).

**Lessons.** As McIntosh and colleagues (2014b) argued, “identifying and *teaching* clear expectations can reduce ambiguity” (p. 12; emphasis added) and thereby promote equity in school discipline. Tobin and Vincent (2011) empirically evaluated the SWPBIS practice of explicitly teaching behavioral expectations using a single EBS Survey item (“Expected student behavior & routines in classrooms are taught directly”) and did not find a significant relationship with the discipline gap in suspension rates between Black and White students. The present study aimed to further this line of research with a psychometrically sound scale for measuring the fidelity with which schools teach behavioral expectations (e.g., BoQ *Lesson Plans for Teaching Expectations/Rules*; Cohen, Kincaid, & Childs, 2007).

**Recognition.** When McIntosh and colleagues (2014) proposed a multicomponent intervention to reduce racial disparities in school discipline, they noted that “systems for identifying and *acknowledging positive behaviors* by students, particularly students of color, may be particularly effective for countering the default formation and operation of negative stereotypes” (p. 12; emphasis added). Tobin and Vincent (2011) found a statistically significant association between behavior recognition practices and more equitable school suspension rates. Schools that scored higher on the single item “Expected student behaviors are acknowledged regularly (positively reinforced) (>4 positives to 1 negative)” experienced a decreased gap in suspension rates between Black students and White students (Tobin & Vincent, 2011). However, psychometrically sound scales for measuring behavior recognition systems (e.g., BoQ *Reward/Recognition Program Established*; Cohen, Kincaid, & Childs, 2007) have not been utilized to test the relationship between expectations and more equitable rates of suspension or ODRs. Therefore, the present study aimed to assess the degree to which more equitable

suspension and ODR rates may relate to the SWPBIS component of establishing *Reward/Recognition Program Established* (abbreviated to *Recognition*) as measured by the BoQ.

**Classroom systems.** Recent research has highlighted the relationship between *classroom-based* practices and lower discipline rates and disparities (Childs et al., 2015; Tobin & Vincent, 2010). Moreover, a few experimental studies have demonstrated the effectiveness of *classroom coaching*. Educators in middle and high schools attained more racially equitable discipline practices using a classroom coaching model that did not explicitly target equity (Gregory et al., 2014a; Gregory et al., 2014).

One study has investigated the role of classroom implementation as measured by the Effective Behavior Support Survey (EBS Survey; Sugai, Todd, & Horner, 2000) in 46 elementary, middle, and high schools. This study found that among the four subscales of the EBS Survey (i.e., schoolwide, non-classroom, classroom, and intensive intervention), *Classroom Management Systems* was related to more equitable exclusionary discipline practices. Therefore, this study investigated how the *Classroom Systems* (abbreviated to *Classroom*) component of SWPBIS relates to equitable discipline rates across school levels.

**Data analysis.** The results of one high school case study suggest that the practice of *data-based problem-solving* holds some promise for producing more equitable discipline practices. Scott, Hirn and Barber (2012) described the process of one Midwestern high school engaging in monthly ODR data meetings to analyze the contextual predictors of behavior and achieve consensus on interventions to prevent future problematic behavior (i.e., rules, routines, and arrangements). In the second year of these meetings, disaggregation was introduced into the process to allow the team to analyze ODR data of minority youth separately from White peers. In three consecutive monthly meetings, the consultant (and lead author) produced data discounting



the team's hypotheses that ODR disparities were a result of (a) core subject academic performance, (b) inexperienced teachers, and (c) teacher ethnicity (Scott et al., 2012).

In the fourth month's analysis of ODRs among minority youth, two specific peak times/problems were identified: (a) 9:00-9:30 *tardiness* and (b) the ODR category of *disrespect*. These were targeted respectively with the staff (a) providing extra prompts and praise for student punctuality and (b) defining, teaching, and modeling respectful interactions. With these interventions in place, Scott and colleagues (2012) compared ODR rates for the Year 2 Spring to the "baseline" rates of Year 1 Spring. Descriptive analyses revealed an overall decrease of average daily ODRs from 20.8 to 7.4 (64.4% decrease), as well as a reduction in disparities between the groups. Minority students were 7.05 and 3.92 times as likely as peers to receive an ODR in Year 1 and Year 2 Spring semesters, respectively (Scott et al., 2012). These results demonstrate that one high school was able to engage in a process that reduced the discipline gap by 44.4%.

Hence, the *Data Entry & Analysis Plan* (abbreviated to *Data Analysis*) component of SWPBIS in the BoQ (Kincaid, Childs, & George, 2010) was also analyzed in relation to equitable discipline practices. Current measures of SWPBIS fidelity (i.e., BoQ, EBS, SET) do not include the disaggregation of discipline data that is recommended by experts as *culturally responsive* practice (McIntosh et al., 2014b). Nonetheless, a school's score on this BoQ subscale may be a proxy for estimating the likelihood that a school team is engaged in the practices outlined by Scott and colleagues (2012).

### **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 White students and students of color in rates of achievement, special education placement, and school discipline. 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 disparate rates of discipline in secondary schools.

Students' discipline risk is related to a range of factors that extend well beyond their actual behavior to include systemic factors such as home and community socioeconomic influences, school size and enrollment demographics, teacher race/ethnicity, and school priorities and practices. A student's race/ethnicity, and even their skin tone, is related to discipline risk. Educators now wrestle with racial disparities in the form of both an "achievement gap" and "discipline gap." In the realm of school discipline, Dr. King's dream of a nation where children "will not be judged by the color of their skin, but by the content of their character" is yet to be realized.

This discipline gap appears to be a complex product of the entanglement of race and poverty, the achievement gap, behavioral differences, cultural mismatch, racial stereotyping, and differential processing. As a conflict prevention strategy suggested to have potential effects, school-wide positive behavior interventions and supports (SWPBIS) has demonstrated effectiveness as a framework for reducing overall school discipline rates. However, there is minimal evidence regarding the relationship of SWPBIS implementation *fidelity* to overall discipline rates and the discipline gap for students of color.

Furthermore, various components of SWPBIS appear to have unique contributions to the operations of schools. Overall, SWPBIS aims to promote active educational engagement, consistent responses to behaviors, behaviorally descriptive ODRs, and data-based problem-

solving (Sugai & Horner, 2006) through a framework of multiple interrelated practices and procedures (Cohen, Kincaid, & Childs, 2007). Some evidence is emerging for the effectiveness of some of these components. Therefore, components of SWPBIS (i.e., expectations, lessons, recognitions, classroom systems, data entry and analysis) should be investigated for their merits in promoting equitable disciplinary procedures.

### **Chapter III: Method**

This chapter outlines the design of the present study. Data sources are defined and are followed by the study's inclusion criteria and how the data were cleaned and verified. A description is provided of the schools' demographic characteristics followed by descriptions of the independent and dependent variables and how they were measured. Finally, the data analysis procedures are outlined.

#### **Data Sources**

Archival data from the 2015-2016 school year were used from the Florida Positive Behavior Support Evaluation System (PBSES). This database is designed and utilized by the Florida Positive Behavior Interventions and Supports (PBIS) Project, an organization supported by the Florida Department of Education to provide schools (a total of 1,623 in 2015-2016) training and ongoing technical assistance for PBIS implementation. The PBSES database is used for monitoring school-level implementation of PBIS and relevant outcomes (e.g., discipline, attendance). School implementation data are recorded in the PBSES Database such that each row represents one school. Information from each school includes district and school identification numbers unique to the database, school demographics, total and subscale scores from a PBIS implementation fidelity measure (see Appendix A), and school-level discipline indicators (e.g., number of students receiving disciplinary sanctions).

Several discipline indicators are gathered from each school that voluntarily submits an annual *Equity Report*, which includes the disaggregated discipline frequency (total number of occurrences, number of students receiving discipline) per racial/ethnic group. Such disaggregated

data are not available from schools not submitting an *Equity Report*. Furthermore, submitting disaggregated data is a prerequisite for the Florida PBIS Project to provide technical assistance relevant to the discipline gap. While studies have found male students at greater risk for ODRs (Skiba et al., 2011), suspensions (Hemphill et al., 2014; Skiba & Rausch, 2006), and expulsions (Gilliam, 2005), the *Equity Report* did not include discipline data disaggregated by student gender. Finally, although schools also submit information regarding the school-level percentage of students falling into each of three ODR “categories” for the year (i.e., 0-1 ODR, 2-5 ODRs, 6 or more ODRs), the *Equity Report* does not provide this level of information for race/ethnicity.

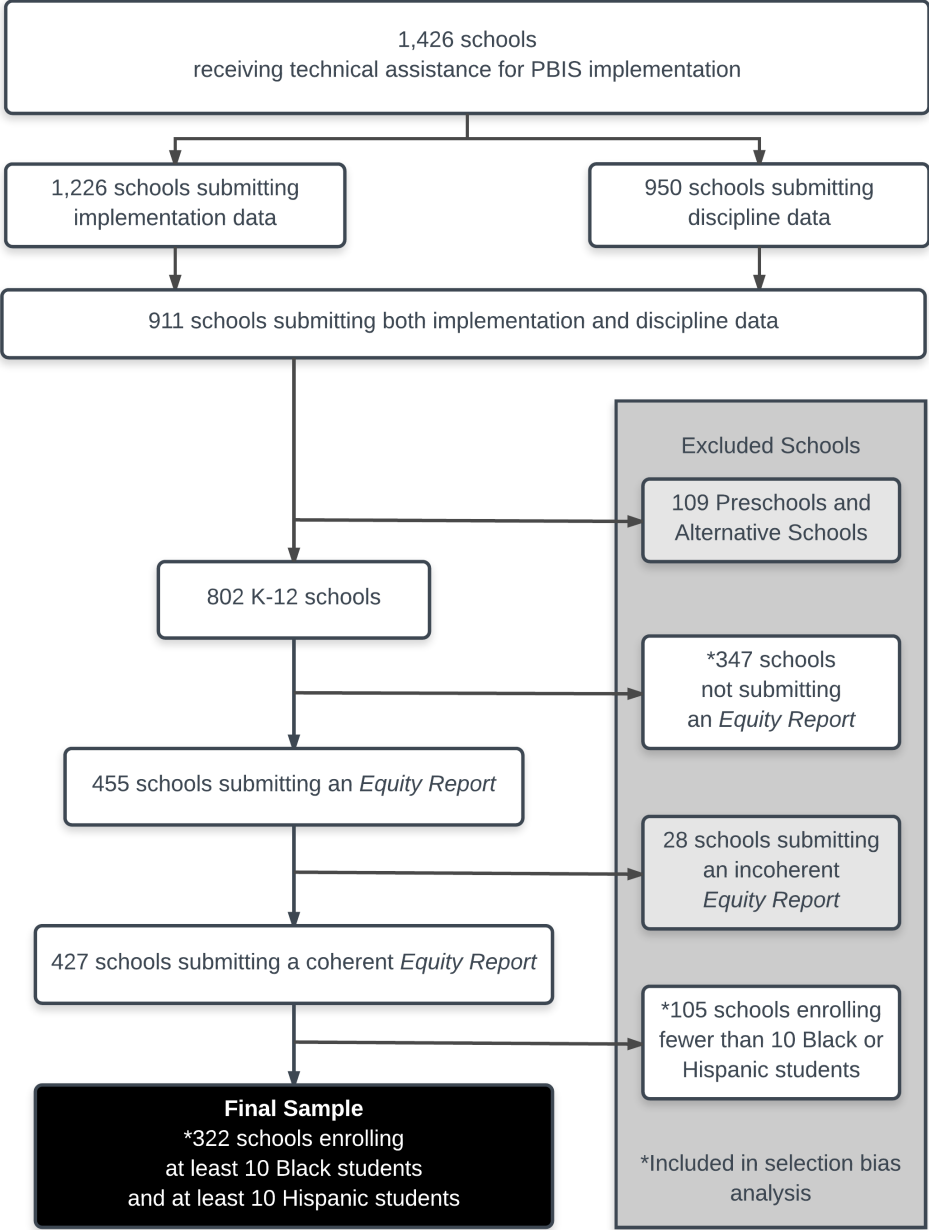
### **Inclusion Criteria**

To be considered for inclusion in the current study, a school must have, for the 2015-2016 school year, (a) received technical assistance on PBIS implementation that included monitoring of fidelity via the PBSES Database and (b) elected to provide a complete and coherent (i.e., data submitted included values that fell within possible ranges) *Equity Report* of racially disaggregated school enrollment, attendance, and discipline rates. Additionally, to obtain reliable estimates of discipline risk, the schools must also (c) have had no fewer than 10 students in any of the studied groups (e.g., Black, Hispanic, White).

### **Data Collection and Cleaning**

The Florida PBIS Project engages in extensive data cleaning methods to identify potential data entry and submission errors. This process typically involves ongoing communication between the Project and participating districts to address inconsistencies in the data. Data from the Florida Department of Education are used to verify enrollment per school and racial/ethnic subgroup. However, no discipline data are available from a third party to verify the accuracy of

discipline data submitted. The following information outlines the selection process used for identifying schools that matched the inclusion criteria of the study (see Figure 2).



*Figure 2*  
*School Selection Process*

All data were collected from Florida PBIS Project personnel by requesting a dataset to include the aforementioned variables. Out of the 1,426 elementary, middle, and high schools

receiving training and ongoing technical assistance for PBIS implementation in 2015-2016, a total of 802 had submitted implementation and discipline data. Out of the 802 schools submitting data, 455 schools (57%) completed an *Equity Report*. A total of 28 schools were removed for submitting illogical values within their *Equity Reports* (e.g., risk indices exceeding 1.00, aggregated numbers incompatible with disaggregated data).

To ensure reliable estimates of discipline rates, a total of 105 schools were removed from analysis for having less than 10 Black or Hispanic students enrolled. Furthermore, to include Asian American students in the analyses by excluding schools with less than 10 Asian American students, 39% of the remaining 322 schools would have been removed from the sample. Having a sufficient number of Asian American students was therefore not utilized as an inclusion criterion and the decision was made to focus specifically on Black and Hispanic students. The final sample included 322 schools (206 elementary, 73 middle, 43 high) enrolling a total of 292,490 students.

To identify potential selection biases in the sampling process, all schools submitting implementation and discipline data without inconsistencies ( $n = 774$ ) – regardless of submission of *Equity Reports* and enrollment – were analyzed. Included schools ( $n = 322$ ) were compared to excluded schools ( $n = 452$ ; see Table 1). Schools meeting all of the inclusion criteria ( $n = 322$ ) enrolled more students ( $t [772] = 2.57$ ;  $p = .011$ ) and had smaller percentages of students of color ( $t [772] = 3.28$ ;  $p = .001$ ). Additionally, the inclusion requirement of enrolling more than 10 Black and Hispanic students may have excluded smaller schools (i.e., those enrolling between 83 and 257) and extremely homogenous schools (i.e., those with greater than 98.65%).

Table 1

*Comparison of Excluded and Included Schools*

	Excluded Schools ( <i>N</i> = 452)	Included Schools ( <i>N</i> = 322)
<i>Enrollment</i>		
Mean (SD)	822.45 (441.03)	908.35 (496.79)
Range	83 – 3,123	257 – 3,410
<i>Percentage Students of Color</i>		
Mean (SD)	58.67% (26.20%)	52.76% (23.12%)
Range	0 – 100%	9.75% – 98.65%
<i>Average Total BoQ Score</i>		
Mean (SD)	79.39 (17.00)	81.89 (16.58)
Range	24 – 100	8 – 100

*Note:* BoQ = Benchmarks of Quality. Excluded Schools included those not submitting an *Equity Report* and those with fewer than 10 Black or Hispanic students. Schools submitting incoherent *Equity Reports* were excluded from this comparison.

Additionally, the final sample was biased towards higher levels of SWPBIS implementation ( $t [772] = 2.06; p = 0.040$ ). The inclusion criteria of *Equity Report* submission may have contributed to the selection bias. Schools electing to submit an *Equity Report* to the Florida PBIS Project are likely to be in more advanced stages of implementation, as they are seeking technical assistance in enhancing their SWPBIS systems to produce more equitable outcomes. If districts and schools are following an implementation science approach, seeking equitable innovations may not occur until after SWPBIS has been explored, installed, and initially implemented (Fixsen et al., 2005). Furthermore, submitting a coherent *Equity Report* requires that a school have the capacity to (a) collect racial/ethnic information for each discipline incident, (b) aggregate and summarize the data, and (c) submit such information to the Florida PBIS Project. Therefore, schools removed for having invalid data in their *Equity Report* may be more likely to be at earlier stages of implementation, particularly in the development of data



entry and analysis systems. Further descriptive analyses of the final sample are delineated in Chapter IV.

**Sample Characteristics**

The characteristics of the 322 participating schools and 292,490 students are described in further detail below as well as in Tables 1 and 2. Among the 322 participating schools, 206 were elementary schools, 73 were middle schools, and 43 were high schools. The number of students who were enrolled in participating elementary, middle, and high schools were 144,118 (49.27%), 66,677 (22.80%), and 81,695 (27.93%), respectively. The average enrollment was 699.60, 913.38, and 1,899.88, respectively. Of the enrolled students, approximately 54,570 (18.66%) were Black, 82,283 (28.13%) Hispanic, 136,910 (46.81%) White, and 18,727 (6.40%) of other ethnicities (see Figure 3; 6,426 [2.20%] Asian American, 11,533 [3.94%] Multi-Racial, and 768 [0.26%] American Indian).

Table 2

*Cross-Section of Enrollment per School Level*

	<i>Overall</i>	<i>School Level</i>		
		<i>Elementary</i>	<i>Middle</i>	<i>High</i>
Total Number of Schools	322	206	73	43
Total Number of Students	292,490	144,118	66,677	81,695
Average (SD) Enrollment Size	908.35 (496.79)	699.60 (171.57)	913.38 (256.25)	1,899.88 (640.04)

*Note:* SD = Standard Deviation.

Table 3

*Descriptive Analyses of Enrollment*

<i>Variable</i>	<i>Mean</i>	<i>SD</i>	<i>Min.</i>	<i>Max.</i>
School Enrollment	908.35	496.78	257	3,410
Black Students	436.10 (19.47%)	394.34 (17.58%)	26 (1.20%)	1,907 (85.02%)
Hispanic Students	604.84 (26.99%)	412.68 (18.40%)	35 (1.56%)	1,989 (88.68%)
White Students	1,059.07 (47.24%)	518.56 (23.12%)	30 (1.35%)	2,024 (90.25%)

Note: n = 322 schools.

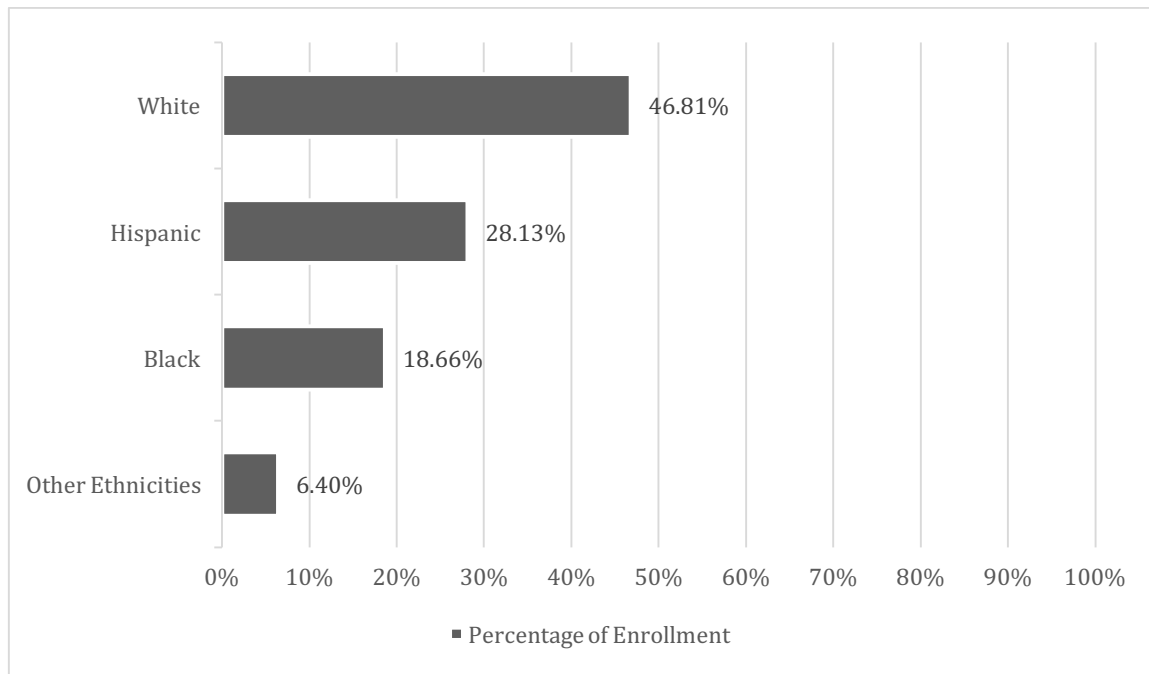


Figure 3

*Student Race/Ethnicity in Participating Schools*

**Study Variables and Measures**

**Dependent variables.** The school discipline practices of ODRs and OSSs were analyzed as dependent variables. A school’s ODR rate has been argued to be a valid indicator of school-wide behavioral problems and climate (Irvin, Tobin, Sprague, Sugai, & Vincent, 2004) and some evidence supports the validity of OSSs for measuring the problem behaviors of youth (Morgan-

D'Atrio, Northrup, LaFleur, & Spera, 1996). These two indicators of behavior are commonly used in PBIS research and evaluation studies. Using data provided by the PBSES database and the Florida Department of Education, the following indicators were produced for each school's overall student population and for Black and Hispanic students.

***ODR and OSS risk.*** Schools entered the number of students receiving an ODR as well as the number of students receiving an OSS during the school year into the PBSES database. To calculate a student-level risk for each variable, these numbers were divided by the school's reported enrollment from the Florida Department of Education. Similarly, the risk within each student group was calculated by dividing the number of disciplined students within each group by the group's school enrollment. For example:

$$\frac{\text{Number of Black Students Receiving an ODR}}{\text{Number of Black Students Enrolled}} = \text{ODR Risk for Black Students}$$

***ODR and OSS risk ratios.*** A risk ratio, a suggested practice for calculating discipline disparities (Boneshefski & Runge, 2014), was computed for Black and Hispanic students. The risk ratio represents a group's risk for receiving discipline, compared to the risk of a comparison group. Risk ratio values over 1.0 indicate that the risk for the racial/ethnic group is higher than White peers, while values less than 1.0 indicate lower risk than White peers. In this study, White students served as the comparison for each racial/ethnic group examined. For example:

$$\frac{\text{Risk for Black Students}}{\text{Risk for White Students}} = \text{Risk Ratio for Black Students}$$

Some discipline gap studies have not specified White students as a comparison group (see Raffaele Mendez & Knoff, 2003). These studies most often utilized descriptive analyses examining whether discipline rates are proportional to representation within the student body. However, more recent investigations employing regression analyses similar to this study have used White students as the comparison group for each racial/ethnic minority group (see

Bradshaw et al., 2010; Skiba et al., 2014; Vincent et al., 2012). To contribute to this growing body of literature with a common metric, White students were utilized as a comparison group for this study.

**Independent variables: Fidelity of SWPBIS implementation.** The School-Wide Benchmarks of Quality (BoQ; Kincaid, Childs, & George, 2005, 2010) was used to measure the degree to which a school was implementing SWPBIS with fidelity. As an internationally used measure with strong psychometric properties (Cohen, Kincaid, & Childs, 2007; George & Childs, 2012), the 53-item scale creates a total score ranging from 0 to 100. 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* subscale with the *Classroom Systems* subscale.

Studies examining the psychometric properties of the BoQ have provided evidence to support its use. Strong internal consistency has been demonstrated in previous research for the total score (.96; Cohen et al., 2007) and the present investigation found internal consistency for the five relevant subscales to range from .75 to .87. Cohen, Kincaid, and Childs (2007) found strong internal consistency (.96), test-retest reliability (.94), and inter-rater reliability (.87). Significant, moderate correlations also have been found with the School-Wide Evaluation Tool (.51,  $p < .05$ ; Horner et al., 2004; .53,  $p < .0001$ ; Childs, Kincaid, & George, 2011) and the Implementation Phases Inventory (.59,  $p < .01$ ; Bradshaw, Debnam, Koth, & Leaf, 2009). The

BoQ also has demonstrated relationships with school-level rates of ODRs and OSSs (Childs et al., 2015).

Administration procedures for the BoQ were standardized across schools. At each school, a team of teachers, administrators, and student services personnel formed a PBIS team, with 3 to 8 members typically participating. This team was responsible for assessing the degree to which each of the activities assessed by the items was implemented in their school. Independently from the team, a PBIS coach completed his or her own version of the BoQ 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 was likely to change over the course of the year, scores were most likely to reflect the most recent status of implementation as of the reporting date. Procedures of including a PBIS coach for BoQ completion are intended to mitigate biases inherent to self-report of organizational behavior (Podsakoff, MacKenzie, Lee, & Podsakoff, 2003; Donaldson & Grant-Vallone, 2002). Some PBIS coaches are internal school staff members while others may serve multiple schools (e.g., 2-10) within or across school districts.

The PBSES Database provided access to each school's overall BoQ score as well as the subscales or critical elements (see Appendix A for full list). What follows is an overview of each of the subscales used to measure the study's independent variables and then the results of a confirmatory factor analysis used to provide additional evidence for the reliability and validity of the factors with the current sample. See Table 4 for a summary of each of the BOQ subscales examined.

Table 4  
*Overview of Benchmarks of Quality Subscales*

Subscale Name	Sample Item	# of Items	Score Range	$\alpha$ (from Cohen et al., 2007; Childs et al., 2011)
<i>Expectations</i>	3-5 positively stated school-wide expectations are posted around school.	5	0 – 11	.78
<i>Lessons</i>	A behavioral curriculum includes teaching expectations and rules.	6	0 – 9	.85
<i>Recognition</i>	A system of rewards has elements that are implemented consistently across campus.	7	0 – 16	.86
<i>Classroom Systems</i>	Classroom rules are defined for each of the school-wide expectations and are posted in classrooms.	7	0 – 14	.87
<i>Data Analysis</i>	Data system is used to collect and analyze ODR data.	4	0 – 8	.75

Note:  $\alpha$  = internal consistency estimate reported from initial development

***Expectations.*** With 5 items and a score range of 0 to 11, the *Expectations & Rules Developed* subscale of the BoQ measures the degree to which a school has established and communicated behavioral expectations and rules. Example items include “Expectations apply to both students and staff” and “Rules are linked to expectations.” In the development of the BoQ, an internal consistency estimate of .76 for *Expectations & Rules Developed* was found (Cohen et al., 2007).

***Lessons.*** With 6 items and a score range of 0 to 9, the *Lesson Plans for Teaching Expectations/Rules* subscale of the BoQ measures the degree to which a school plans to intentionally and explicitly teach the expected behaviors. Example items include “A behavioral curriculum includes teaching expectations and rules.” and “Lessons use a variety of teaching

strategies.” In the development of the BoQ, an internal consistency estimate of .87 for *Lesson Plans for Teaching Expectations/Rules* was found (Cohen et al., 2007).

**Recognition.** With 7 items and a score range of 0 to 16, the *Reward/Recognition Program Established* subscale of the BoQ measures the degree to which a school has established practices for recognizing and rewarding students for demonstrating the expected behaviors. Example items include “A variety of methods are used to reward students,” and “Ratios of acknowledgment to corrections are high.” In the development of the BoQ, an internal consistency estimate of .87 for *Reward/Recognition Program Established* was found (Cohen et al., 2007).

**Classroom systems.** With 7 items and a score range of 0 to 14, the *Classroom Systems* subscale of the BoQ measures the degree to which PBIS practices were employed within a school’s classrooms. Example items include “Classroom rules are defined for each of the school-wide expectations and are posted in classrooms” and “Classroom teachers use immediate and specific praise.” For each of the 7 items, two points are awarded if the item is evident in most classrooms (>75%), one point if in many classrooms (50-75%) and no points if only evident in a few (<50%). As the newest subscale to the BoQ, developers have reported the *Classroom Systems* to demonstrate an internal consistency estimate of .90 (Childs, Kincaid, & George, 2011).

**Data analysis.** With 4 items and a score range of 0 to 8, the *Data Entry and Analysis Plan Established* subscale of the BoQ measures the degree to which a school uses a data system regularly to analyze and improve behavioral patterns. Example items include “Data system is used to collect and analyze ODR data” and “Data analyzed by team at least monthly.” In the

development of the BoQ, an internal consistency estimate of .74 for *Data Entry and Analysis Plan Established* was found (Cohen et al., 2007).

**Confirmatory factor analysis.** To verify the factor structure of the Benchmarks of Quality (BoQ; Kincaid et al., 2010) using the current sample, a confirmatory factor analysis was conducted using a mean- and variance-adjusted weighted least square approach (WLSMV) with Mplus version 7.31. Items were treated as ordered, categorical variables while the matrix was analyzed as a polychoric matrix. In the present sample of 322 schools implementing SWPBIS and producing *Equity Reports* without missing data, the BoQ model demonstrated acceptable fit according to the root mean square error of approximation (Criterion of  $< 0.06$  for acceptable fit; RMSEA = .047), and comparative fit index (Criterion of  $\geq 0.95$  or acceptable fit; CFI = .943; Gravetter & Wallnau, 2016). Statistically significant lack of fit was indicated by the Chi-Square,  $\chi^2(1,280, N = 322) = 2,201.66, p < .001$ , an index that can be significantly inflated by large sample sizes.

With the exception of the loading for Item 8 (-0.234), loadings averaged .811 and ranged from .575 (Item 9; “Discipline referral form includes information useful in decision making”) to .966 (Item 20; “Rules are linked to expectations”). Correlations between factors ranged from .576 (*Classroom Systems* and *Data Analysis*) to .808 (*Classroom Systems* and *Recognition*). As items ranged from a 0-1 dichotomous scale to an ordinal scale of 0-3, subscale scores were created by calculating the percentage of total points possible on each respective scale. Four of five factors demonstrated a non-significant level of skew ( $\pm 2$ ; Gravetter & Wallnau, 2016), with the exception of *Expectations* (-2.50). Three of the five factors demonstrated significant kurtosis ( $> 2$ ; Gravetter & Wallnau, 2016): *Expectations* (8.07), *Recognition* (2.46), and *Classroom* (2.75). More details regarding the model results may be found in Appendix B, and other



psychometrics are outlined in Table 5. Cronbach’s alpha was obtained using the Statistical Package for Social Sciences (SPSS; Nie, Bent, & Hull, 1970) version 23.0.

Table 5

*Psychometrics of Selected Benchmarks of Quality Subscales*

Factor	# of Items	Loading Range	Average Inter-Item Correlation	Cronbach’s $\alpha$
Data Analysis	4	.775 – .893	.430	.752
Expectations	5	.793 – .966	.445	.780
Recognition	6	.844 – .901	.528	.856
Lesson Plans	7	.850 – .946	.505	.850
Classroom Systems	7	.854 – .897	.497	.872

Note.  $n = 322$

**Covariates.** Several covariates were included in the current study to control for the influence of variables likely related to discipline risk. For each school, the PBSES database includes the *level* of the school (i.e., elementary, middle, high), the number of students enrolled, and the percentage of students of color. Extant research has revealed higher discipline rates in middle and high schools (Skiba et al., 2011; Vincent & Tobin, 2010), and, thus, two binary dummy variables were included to indicate whether a school was a middle school or a high school. School size was included in consideration of the fact that higher enrollment rates correlate with higher discipline rates (Finn & Servoss, 2014; Martinez et al., 2016). Finally, each school’s racial/ethnic composition was included as high percentages of students of color have been associated with increased school rates of discipline, including referrals and suspensions (Anyon et al., 2014; Martinez et al., 2016; Wright et al., 2014; Welch & Payne, 2012).

## Data Analysis

To address the research questions, multiple linear regression analyses were employed using Mplus version 7.31. All independent variables were entered along with covariates (school size, percentage students of color, middle school, high school) in each of ten multiple regression models, one for each of the dependent variables. Each model included a dependent variable of either a risk or risk ratio for a specified racial group (all students, Black, Hispanic; see Table 6). The independent variables of SWPBIS component fidelity (e.g., percentage of possible subscale points on *Expectations*, *Data Analysis*, etc.), percent students of color, and school size were mean-centered while middle and high school status were binary. To account for non-normality in the independent and dependent variables, maximum likelihood estimation with robust standard errors (MLR) was utilized. Correlations among the SWPBIS components (BoQ subscales) were expected (Cohen, Kincaid, & Childs, 2007) and were examined for multicollinearity (see Table 7) using SPSS (Nie, Bent, & Hull, 1970) version 23.0, but did not exceed .800 (ranging from .558 to .766). Results from the CFA conducted within Mplus version 7.31 accounted for measurement error, producing slightly larger bivariate correlations (ranging from .576 to .808).

Table 6

### *List of Multiple Regression Models*

Independent Variables (all models)	Model	Dependent Variable		
		Outcome	Indicator	Students
School Size	1	Office Discipline Referral	Risk	All
% Students of Color	2			Black
Middle School	3			Hispanic
High School	4		Risk Ratio	Black
BoQ: Expectations	5		Hispanic	
BoQ: Recognition	6	Out-of-School Suspension	Risk	All
BoQ: Lessons	7			Black
BoQ: Classroom	8			Hispanic
BoQ: Data Analysis	9		Risk Ratio	Black
	10		Hispanic	

Table 7

*Bivariate Correlations of Benchmarks of Quality Subscales*

	Lessons	Recognition	Classroom	Analysis
Expectations	.558*	.618*	.670*	.476*
Lessons		.596*	.588*	.516*
Recognition			.705*	.582*
Classroom				.482*

Note.  $n = 322$  schools. \*  $p < .01$ .

Unstandardized regression coefficients, standard errors and  $p$ -values were produced for each independent variable's relationship to the dependent variable. The R-squared ( $r^2$ ) value was reported for each model to provide an index of the amount of variance accounted for by the model. Starting with an overall alpha level of .05, a Bonferonni correction was used with each model to control for Type 1 error rate across 10 models, resulting in an adjusted alpha level of 0.005 for each model (Holm, 1979).

To further previous literature examining the interactions between SWPBIS components and school level (Vincent & Tobin, 2010), component-by-level interactions for middle schools and high schools (e.g., Expectations X Middle School) were independently examined for each of the ten models. Each component-by-level interaction term was added independently to the base model (all independent variables without interaction terms). Non-significant interactions were removed from the base model before adding another term. None of the interaction terms contributed significantly to the models, as changes in R-squared ranged from .000 to .019, averaging .004 (or 0.4% change). Therefore, no interaction terms were included in the final models. Results reported in the following chapter therefore do not include interaction terms.

## Chapter IV: Results

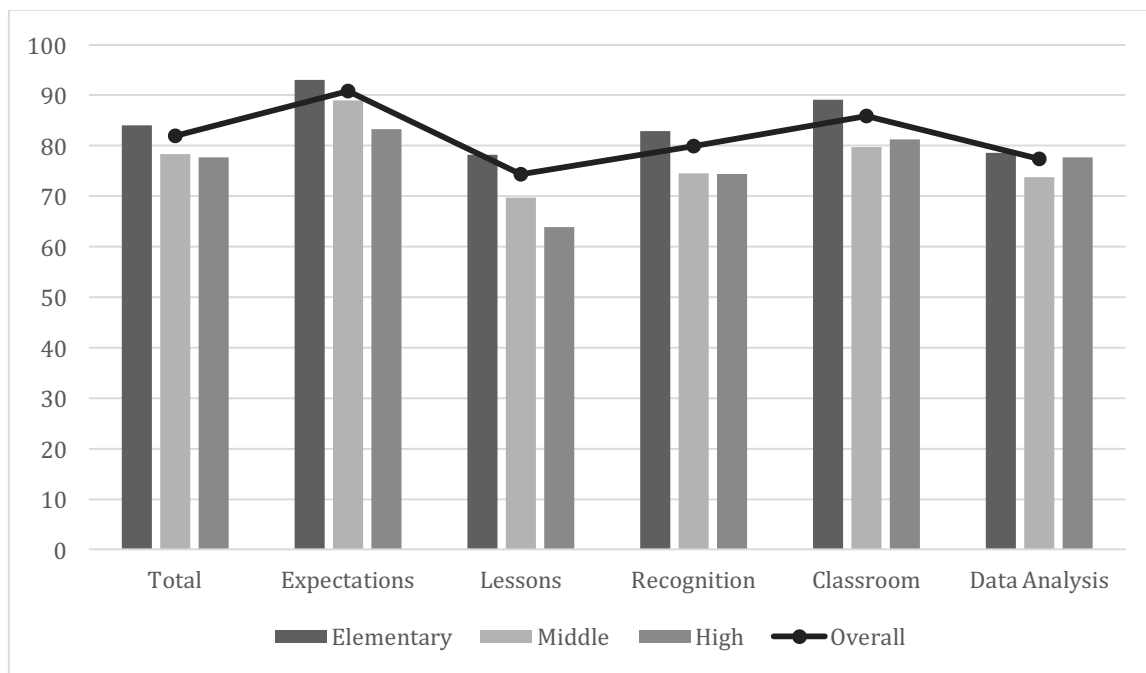
The following chapter outlines the results of the present study. First, the results of descriptive and correlational analyses are provided. These data are followed by an overview of results from multiple regression analyses designed to answer the research questions presented.

### Descriptive Analyses

**Fidelity of SWPBIS implementation.** Benchmarks of Quality scores were calculated as a percentage of the total 107 available points. Schools averaged a total BoQ score of 81.89 ( $SD = 16.58$ , range 8–100), with elementary schools demonstrating the highest average score (84.05,  $SD = 14.60$ ) while middle and high schools averaged lower total scores (78.32 and 77.65, respectively;  $SD = 18.33$  and 20.50, respectively; see Figure 4). In the present sample, 80% ( $n = 259$ ) of schools met the Florida PBIS Project’s criterion for “High Implementation” – a score of 70 or higher.

**Fidelity of SWPBIS components.** The level of implementation fidelity of each SWPBIS component was measured by the obtained percentage of the overall available points per subscale. For each component, the full range of scores was demonstrated. The highest average level of fidelity was found in *Expectations* ( $M = 90.85$ ,  $SD = 15.41$ ), followed by *Classroom* (85.91,  $SD = 19.08$ ), *Recognition* (79.89,  $SD = 20.58$ ), *Data Analysis* (77.33,  $SD = 23.65$ ), and *Lessons* (74.36,  $SD = 27.59$ ). The most variability was found in schools’ implementation of *Lessons* ( $SD = 27.59$ ), followed by *Data Analysis* ( $SD = 23.65$ ), *Recognition* ( $SD = 20.58$ ), *Classroom* ( $SD = 19.08$ ), and *Expectations* ( $SD = 15.41$ ).

Furthermore, there was variability across components in the number of schools meeting a score of 70 or higher – a criterion used by the Florida PBIS Project for designating “high implementation” levels. Using this metric, the relative positions of components mirrored those identified by average scores. Approximately 91.6% ( $n = 295$ ) of schools demonstrated a score of 70 or higher for *Expectations*, followed by 83.2% ( $n = 268$ ) for *Classroom*, 75.2% ( $n = 242$ ) for *Recognition*, 71.4% ( $n = 230$ ) for *Data Analysis*, and 60.2% ( $n = 194$ ) for *Lessons*.



Note.  $n = 206$  elementary schools, 73 middle schools, 43 high schools

Figure 4

#### Average Fidelity of SWPBIS Implementation

Across all five implementation components, elementary schools demonstrated relatively higher implementation levels than middle and high schools (see Figure 4). These school level differences were more pronounced for some components than others. Average fidelity differences between school levels were most pronounced in *Lesson Plans for Teaching Expectations/Rules*, for which the average elementary school (78.21,  $SD = 25.55$ ) demonstrated

22% higher fidelity than for the average high school (63.82,  $SD = 34.64$ ). School level differences were least pronounced in *Data Entry & Analysis Plan Established*, for which the average elementary school (78.64,  $SD = 22.47$ ) demonstrated 6% higher fidelity than for the average middle school (73.80,  $SD = 26.94$ ).

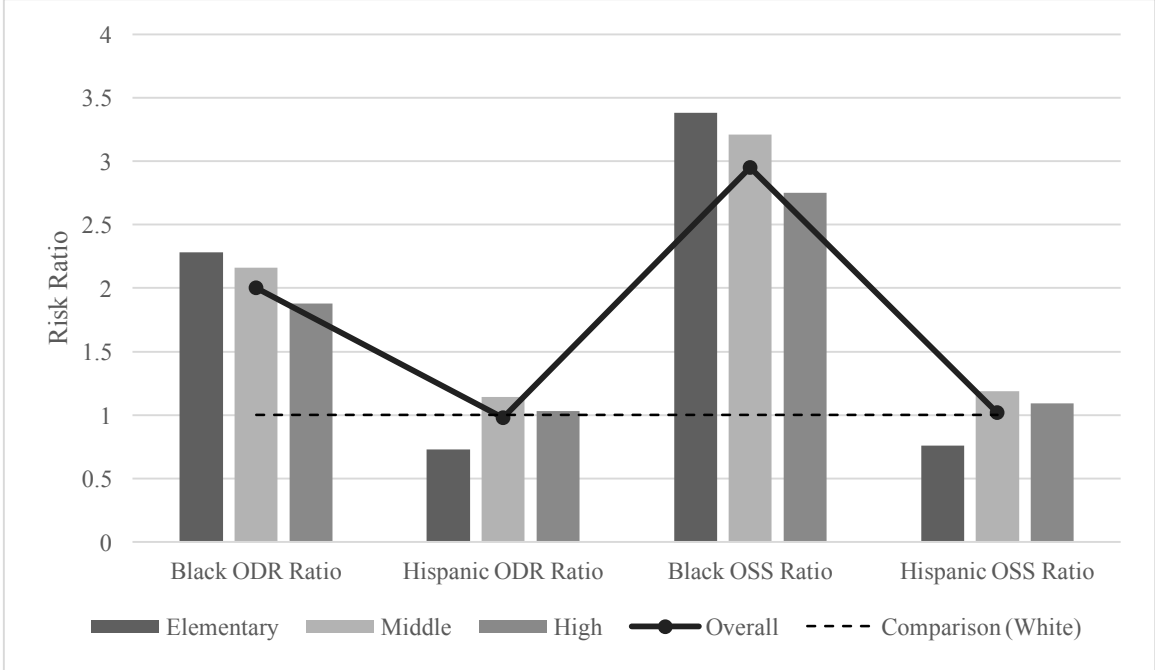
**ODR risk.** In the aggregated sample of students, 18.07% ( $n = 52,853$ ) received an office discipline referral (ODR), with the school-level ODR rate averaging 16.37% ( $SD = 12.84\%$ , range: 5.44% - 58.70%). Elementary school students experienced an ODR risk (9.76%) lower than that of middle (26.81%) and high schools (25.59%). In the overall sample, Black students held the highest risk of receiving an ODR (30.44%) while Hispanic and White youth experienced mostly comparable rates of ODRs (14.88% and 15.24%, respectively).

**OSS risk.** In the aggregated sample of students, 5.81% ( $n = 16,994$ ) received an out-of-school suspension (OSS), with the school-level OSS rate averaging 5.59% ( $SD = 6.09\%$ , range: 0% - 32.38%). Middle school students experienced the highest OSS risk (10.37%), followed by students in high school (6.64%) and elementary school (3.23%). Similar to ODR rates, Black students held the highest risk of receiving an OSS (12.35%) while Hispanic and White youth experienced mostly comparable rates of OSSs (4.26% and 4.18%, respectively).

**ODR risk ratios.** In the aggregated sample, Black students were 2.00 times as likely as White students to receive an ODR. Compared to White peers, Hispanic students were 0.98 times as likely. White students were 0.74 times as likely as students of color to receive an ODR. Disparities, as measured by Black students' ODR risk ratios, were most pronounced among elementary school students (2.28 ratio), followed by middle school students (2.16), and high school students (1.88). Hispanic youth experienced less risk than White peers in elementary

school (0.73), similar risk in high school (1.03) and higher risk in middle school (1.14). ODR risk ratios are displayed visually in Figure 5.

**OSS risk ratios.** In the aggregated sample of students, Black students were 2.95 times as likely as White students to receive an OSS. Compared to White peers, Hispanic students were 1.02 times as likely. White students were 0.58 times as likely as students of color to receive an OSS. Disparities, as measured by Black students’ OSS risk ratios, were most pronounced among elementary school students (3.38 ratio), followed by middle school students (3.21), and high school students (2.75). Hispanic youth experienced less risk than White peers in elementary school (0.76), but more risk in middle school and high school (1.19 and 1.09, respectively). ODR risk ratios per group and school level are displayed visually in Figure 5.



*Figure 5*  
*Discipline Risk Ratios for Aggregated Sample*

Descriptive analyses of independent and dependent variables are described in Table 8 and a cross-section across the elementary, middle, and high school levels are outlined in Table 9.

Table 8

*Descriptive Analyses of Independent and Dependent Variables*

<i>Variable</i>	<i>Mean</i>	<i>SD</i>	<i>Min.</i>	<i>Max.</i>	<i>Skew.</i>	<i>Kurt.</i>
Implementation Fidelity (BoQ)	81.89	16.58	8	100	-1.521	2.470
BoQ: Expectations	90.85	15.41	0	100	-2.502	8.065
BoQ: Recognition	79.89	20.58	0	100	-1.566	2.457
BoQ: Lessons	74.36	27.59	0	100	-1.154	0.732
BoQ: Classroom	85.91	19.08	0	100	-1.662	2.750
BoQ: Data Analysis	77.33	23.65	0	100	-1.237	1.286
ODR Risk	16.37%	12.84%	5.44%	58.70%	0.956	0.336
Black Students	26.89%	19.43%	0.00%	89.72%	0.703	-0.202
Hispanic Students	12.52%	11.59%	0.00%	60.99%	1.128	0.887
White Students	13.83%	11.15%	0.00%	54.43%	1.026	0.769
Other Students of Color	18.79%	17.68%	0.00%	95.65%	1.284	1.597
ODR Ratio						
Black Students	2.54	2.76	0.00	35.05	7.027	68.338
Hispanic Students	0.99	0.73	0.00	5.45	2.758	12.674
White Students	0.84	0.64	0.00	8.14	6.120	58.603
Other Students of Color	1.49	1.48	0.00	11.69	3.234	14.343
OSS Risk	5.59%	6.09%	0.00%	32.38%	1.954	4.444
Black Students	10.29%	10.39%	0.00%	52.38%	1.420	1.911
Hispanic Students	3.90%	4.63%	0.00%	23.73%	1.631	2.444
White Students	4.53%	5.69%	0.00%	62.24%	4.154	33.147
Other Students of Color	6.78%	9.21%	0.00%	75.00%	3.057	14.779
OSS Ratio						
Black Students	2.96	3.17	0.00	24.80	3.702	19.204
Hispanic Students	1.06	1.37	0.00	14.09	4.619	32.697
White Students	0.82	0.89	0.00	8.40	4.676	31.858
Other Students of Color	1.93	4.37	0.00	65.69	11.241	158.14

*Note:* Skew. = Skewness. Kurt. = Kurtosis. BoQ = Benchmarks of Quality (Range 0 – 100). ODR = Office discipline referral. OSS = Out-of-school suspension. *n* = 322 schools.



Table 9

*Cross-Section of Sample per School Level*

	Overall	School Level		
		Elementary	Middle	High
Avg. SWPBIS Fidelity (BoQ)	81.89 (16.58)	84.05 (14.60)	78.32 (18.33)	77.65 (20.50)
BoQ: Expectations	90.85 (15.41)	93.07 (11.83)	89.04 (16.73)	83.30 (23.72)
BoQ: Recognition	79.89 (20.58)	78.21 (25.55)	69.71 (26.53)	63.82 (34.64)
BoQ: Lessons	74.36 (27.59)	82.92 (18.47)	74.57 (22.78)	74.42 (23.58)
BoQ: Classroom	85.91 (19.08)	89.08 (16.42)	79.74 (23.33)	81.23 (19.90)
BoQ: Data Analysis	77.33 (23.65)	78.64 (22.47)	73.80 (26.94)	77.03 (23.13)
Aggregated ODR Risk	18.07%	9.76%	26.81%	25.59%
Black Students	30.44%	18.64%	46.73%	40.97%
Hispanic Students	14.88%	6.01%	24.63%	22.50%
White Students	15.24%	8.19%	21.64%	21.80%
Other Students of Color	16.74%	9.79%	23.94%	24.05%
Aggregated ODR Ratio				
Black Students	2.00	2.28	2.16	1.88
Hispanic Students	0.98	0.73	1.14	1.03
White Students	0.74	0.74	0.68	0.75
Other Students of Color	1.10	1.20	1.11	1.10
Aggregated OSS Risk	5.81%	3.23%	10.37%	6.64%
Black Students	12.35%	7.56%	23.20%	13.41%
Hispanic Students	4.26%	1.72%	8.58%	5.32%
White Students	4.18%	2.24%	7.22%	4.87%
Other Students of Color	5.45%	3.45%	8.77%	6.44%
Aggregated OSS Ratio				
Black Students	2.95	3.38	3.21	2.75
Hispanic Students	1.02	0.76	1.19	1.09
White Students	0.58	0.55	0.53	0.60
Other Students of Color	1.30	1.54	1.21	1.32

*Note:* Standard deviations are in parentheses. Avg. = Mean. BoQ = Benchmarks of Quality. ODR = Office discipline referral. OSS = Out-of-school suspension.

## Correlational Analyses

School-level correlational analyses were conducted to examine the relationships between school-level demographic characteristics and key independent and dependent variables (see Table 10). School size, measured by total enrollment, was negatively associated with implementation of *Expectations* ( $r = -.159$ ) and positively associated with ODR rate ( $r = .243$ ). The percentage of students of color in a school was negatively associated with three PBIS implementation components (*Recognition*, *Classroom*, and *Data Analysis*;  $r$  range:  $-.168$  to  $-.209$ ) and positively associated with OSS rate. Each PBIS implementation component except *Data Analysis* was negatively associated with school-wide discipline indicators ( $r$ s range from  $-.193$  to  $-.387$ ), with *Classroom* consistently demonstrating the relatively largest correlation ( $r$ s range from  $-.385$  to  $-.387$ ). Middle schools were associated with lower levels of implementation of *Classroom Systems* ( $r = -.175$ ) and higher discipline rates ( $r$ s range from  $.468$  to  $.498$ ). High schools were associated with lower levels of *Expectations* ( $r = -.193$ ) and *Lessons* ( $r = -.150$ ) and higher ODR rates ( $r = .302$ ). All of the aforementioned associations were significant at the .01 level.

Table 10

### *Bivariate Correlations of SWPBIS Fidelity and Discipline Rates with Demographics*

<i>Benchmarks of Quality:</i>	School Enrollment	% SoC	Middle Schools	High Schools
Expectations	-.159*	-.105	-.064	-.193*
Lessons	-.085	-.074	-.091	-.150*
Recognition	-.099	-.168*	-.140	-.105
Classroom	-.079	-.209*	-.175*	-.097
Data Analysis	-.001	-.188*	-.081	-.005
<i>Discipline Rates:</i>				
Overall ODR Risk	.243*	.061	.498*	.302*
Overall OSS Risk	.065	.239*	.468*	.082

*Note.* SoC = Students of Color; ODR = Office Discipline Referral; OSS = Out-of-School Suspension;  $n = 322$  schools. \*  $p < .01$ .

Correlational analyses of relationships between PBIS implementation fidelity and discipline rates, including risk and risk ratios, were comparable to school-wide discipline indicators (see Table 11). Each SWPBIS implementation component except for *Data Analysis* was negatively associated with the ODR and OSS risk for Black and Hispanic students ( $r$ s ranged from  $-.177$  to  $-.329$ ), with *Classroom* consistently demonstrating the relatively largest correlation within each indicator ( $r$ s range from  $-.272$  to  $-.329$ ). Another exception to this rule was that while *Expectations* was negatively associated with ODR risk for both groups, it was not significantly associated with OSS risk for either group. Further, no statistically significant relationships were observed between SWPBIS components and risk ratios. Thus, correlations between SWPBIS component fidelity and risk tended to be small, whereas associations between the components and risk ratios were not significant.

Table 11

*Bivariate Correlations of SWPBIS Fidelity with Discipline Risk and Risk Ratios for Students of Color*

	Black Students				Hispanic Students			
	Risk		Risk Ratio		Risk		Risk Ratio	
	ODR	OSS	ODR	OSS	ODR	OSS	ODR	OSS
<i>Benchmarks of Quality:</i>								
Expectations	-.211*	-.119	.056	.080	-.177*	-.140	.054	.057
Lessons	-.232*	-.217*	.073	.100	-.190*	-.187*	.084	.109
Recognition	-.243*	-.238*	.058	.048	-.204*	-.217*	.075	.087
Classroom	-.328*	-.329*	.076	.053	-.272*	-.312*	.074	.072
Data Analysis	-.118	-.138	-.139	-.127	-.052	-.052	.064	.092

*Note.* SoC = Students of Color; ODR = Office Discipline Referral; OSS = Out-of-School Suspension;  $n = 322$  schools. \*  $p < .01$ .

Further correlational analyses were conducted to examine the relationships among the discipline risk indices investigated as dependent variables (see Table 12). All discipline risk indices were positively associated with one another, ranging from  $.602$  (Hispanic ODR Risk with

Overall OSS Risk,  $p < .01$ ) to .922 (Overall ODR Risk and Black ODR Risk,  $p < .01$ ). Overall, associations appeared to be stronger between pairs of indices sharing the same disciplinary procedure (i.e., ODR or OSS) than those sharing the same racial/ethnic group (i.e., Black or Hispanic). These moderately high correlations indicate that there may be a degree of multicollinearity between the risk indices.

Table 12

*Bivariate Correlations of Discipline Risk*

<i>Risk Indices:</i>	Overall ODR Risk	Black ODR Risk	Hispanic ODR Risk	Overall OSS Risk	Black OSS Risk
Black ODR Risk	.922*				
Hispanic ODR Risk	.869*	.826*			
Overall OSS Risk	.773*	.690*	.602*		
Black OSS Risk	.726*	.785*	.622*	.870*	
Hispanic OSS Risk	.715*	.688*	.754*	.845*	.786*

*Note.* ODR = Office Discipline Referral; OSS = Out-of-School Suspension;  $n = 322$  schools.  
\*  $p < .01$ .

Correlational analyses also were conducted to examine the relationships among the discipline risk ratios investigated as dependent variables (see Table 13). Pairs of discipline ratios that share a group or procedure were positively associated with one another, ranging from .247 (Black and Hispanic OSS Ratios,  $p < .01$ ) to .498 (Hispanic ODR and OSS Ratios,  $p < .01$ ). Non-significant associations involved ratios of differing groups and procedures (i.e., Hispanic ODR and Black OSS, Hispanic OSS and Black ODR). These low-level correlations demonstrate that each ratio has a large amount of unique variance from the others, and therefore may be included in the present study as distinct measures of disciplinary equity.

Table 13

*Bivariate Correlations of Discipline Risk Ratios*

<i>Risk Ratios:</i>	Black ODR Ratio	Hispanic ODR Ratio	Black OSS Ratio
Hispanic ODR Ratio	.329*		
Black OSS Ratio	.398*	.139	
Hispanic OSS Ratio	.084	.498*	.247*

*Note.* ODR = Office Discipline Referral; OSS = Out-of-School Suspension; *n* = 322 schools.  
\* *p* < .01.

**Multiple Regression Analyses**

As noted in Chapter III, a total of 10 multiple regression models were analyzed. The following summarizes the results of these models by research question.

**Research question 1.** The first research question (To what degree is the implementation of SWPBIS components related to *reduced risk* of receiving *office discipline referrals* among Black and Hispanic students?) was addressed by designing a multiple linear regression model to examine the relationship between fidelity of select SWPBIS components (*Expectations, Lessons, Rewards, Classroom, Analysis*) and covariates (school size, percentage students of color, middle school status, and high school status) with school-level ODR risk overall and per subgroup (see Table 14). The results indicate that the fidelity of the *Classroom* components of SWPBIS was significantly related to overall ODR risk ( $b = -0.147, SE = 0.043, p = .001$ ) as well as the ODR risk for Black students ( $b = -0.220, SE = 0.065, p = .001$ ).

Table 14

*Multiple Linear Regression Models for ODR Risk*

	Unstandardized Regression Coefficients		
	Overall ODR Risk	Black ODR Risk	Hispanic ODR Risk
Intercept	9.123* (0.721)	16.335* (1.140)	6.765* (0.606)
<i>Covariates:</i>			
School Size	-0.007* (0.002)	-0.007 (0.004)	-0.001 (0.002)
% SoC	0.056 (0.023)	-0.013 (0.034)	0.031 (0.021)
Middle School	18.314* (1.478)	28.423* (2.293)	15.886* (1.438)
High School	23.168* (4.109)	30.804* (6.290)	16.149* (3.868)
<i>Benchmarks of Quality:</i>			
Expectations	-0.001 (0.057)	0.058 (0.080)	0.031 (0.053)
Lessons	-0.023 (0.025)	-0.018 (0.038)	-0.014 (0.053)
Recognition	-0.010 (0.036)	0.003 (0.055)	-0.009 (0.032)
Classroom	-0.147* (0.043)	-0.221* (0.064)	-0.094 (0.038)
Data Analysis	0.039 (0.025)	0.021 (0.039)	0.044 (0.022)
<b>Model Summary</b>			
$R^2$	0.517* (0.044)	0.494* (0.043)	0.472* (0.046)

*Note.* Standard Errors are noted in parentheses. SoC = Students of Color. ODR = Office Discipline Referral. Reference category for ratios = White Students.  $n = 322$  schools. \*  $p < .005$ .

The results also indicate that the covariate of school size was significantly and negatively related to overall ODR risk ( $b = -0.007$ ,  $SE = 0.002$ ,  $p = .003$ ). Furthermore, the rates of referral for students of each group were significantly higher in middle schools (Overall  $b = 18.314$ ,  $SE = 1.478$ ,  $p < .001$ ; Black  $b = 28.423$ ,  $SE = 2.293$ ,  $p < .001$ ; Hispanic  $b = 15.886$ ,  $SE = 1.438$ ,  $p < .001$ ) when compared to elementary and high schools. Significantly higher rates of referral were observed in high schools (Overall  $b = 23.168$ ,  $SE = 4.109$ ,  $p < .001$ ; Black  $b = 30.804$ ,  $SE = 6.290$ ,  $p < .001$ ; Hispanic  $b = 16.149$ ,  $SE = 3.868$ ,  $p < .001$ ) when compared to elementary and middle schools. Models analyzed for ODR risk produced R-squared values indicating that the models predicted 51.7% of the variance in overall ODR risk, 49.4% for Black students, and 47.2% for Hispanic students.

**Research question 2.** The second research question (To what degree is implementation of SWPBIS components related to *reduced risk ratios* for receiving *office discipline referrals* among Black and Hispanic students?) was addressed by designing a multiple linear regression model to examine the relationship between fidelity of select SWPBIS components (*Expectations, Lessons, Rewards, Classroom, Analysis*) and covariates (school size, percentage students of color, middle school, high school) with school-level ODR risk ratios per subgroup (see Table 15). Significant relationships were not found in these models, and R-squared values indicated that the models predicted 6.5% and 6.6% of the variance in ODR risk ratios for Black and Hispanic students, respectively.

Table 15

*Multiple Linear Regression Models for ODR Ratios*

	Unstandardized Regression Coefficients	
	Black ODR Ratio	Hispanic ODR Ratio
Intercept	-12.806* (7.095)	-14.586 (7.078)
<i>Covariates:</i>		
School Size	0.019 (0.011)	0.019 (0.011)
% SoC	-1.182 (0.508)	-1.174 (0.507)
Middle School	5.758 (5.121)	6.407 (5.136)
High School	-11.328 (14.124)	-10.499 (14.173)
<i>Benchmarks of Quality:</i>		
Expectations	0.645 (0.549)	0.639 (0.547)
Lessons	-0.304 (0.223)	-0.313 (0.222)
Recognition	-0.489 (0.318)	-0.500 (0.317)
Classroom	-0.636 (0.402)	-0.639 (0.402)
Data Analysis	0.318 (0.277)	0.352 (0.274)
<b>Model Summary</b>		
$R^2$	0.065 (0.028)	0.066 (0.028)

*Note.* Standard Errors are noted in parentheses. SoC = Students of Color. ODR = Office Discipline Referral. Reference category for ratios = White Students.  $n = 322$  schools.

\*  $p < .005$ .

**Research question 3.** The third research question (To what degree is implementation of SWPBIS components related to *reduced risk* of receiving *out-of-school suspensions* among

Black and Hispanic students?) was addressed using a multiple linear regression model to examine the relationship between fidelity of select SWPBIS components (*Expectations, Lessons, Rewards, Classroom, Analysis*) and covariates (school size, percentage students of color, middle and high school) with school-level OSS risk overall and per subgroup (see Table 16). The results indicate that the fidelity of the *Classroom* components of SWPBIS were significantly related to lower OSS risk overall ( $b = -0.080, SE = 0.028, p = .004$ ) and lower risk for Black students ( $b = -0.145, SE = 0.036, p < .001$ ), and lower risk for Hispanic students ( $b = -0.057, SE = 0.020, p = .005$ ). Contrary to potential hypotheses regarding SWPBIS components, fidelity to *Expectations* was related to higher OSS risk for Black students ( $b = 0.130, SE = 0.043, p = .002$ ). The relationship between fidelity to *Data Analysis* and higher OSS risk for Hispanic students approached significance ( $b = 0.027, SE = 0.010, p = .007$ ).

Table 16

*Multiple Linear Regression Models for OSS Risk*

	Unstandardized Regression Coefficients		
	Overall OSS Risk	Black OSS Risk	Hispanic OSS Risk
Intercept	2.886* (0.311)	5.469* (0.524)	1.726* (0.217)
<i>Covariates:</i>			
School Size	-0.003* (0.001)	-0.004 (0.002)	-0.002 (0.001)
% SoC	0.070* (0.014)	0.057 (0.020)	0.034* (0.010)
Middle School	7.698* (0.878)	14.279* (1.501)	6.445* (0.657)
High School	7.199* (1.408)	11.826* (2.635)	5.309* (1.165)
<i>Benchmarks of Quality:</i>			
Expectations	0.039 (0.029)	0.130* (0.043)	0.030 (0.020)
Lessons	-0.017 (0.013)	-0.022 (0.023)	-0.008 (0.009)
Recognition	-0.018 (0.019)	-0.009 (0.029)	-0.007 (0.013)
Classroom	-0.080* (0.028)	-0.145* (0.036)	-0.057 <sup>+</sup> (0.020)
Data Analysis	0.029 (0.016)	0.005 (0.024)	0.027 <sup>+</sup> (0.010)
<b>Model Summary</b>			
$R^2$	0.427* (0.042)	0.416* (0.042)	0.416* (0.046)

*Note.* Standard Errors are noted in parentheses. SoC = Students of Color. OSS = Out-of-School Suspension. Reference category for ratios = White Students.  $n = 322$  schools.

<sup>+</sup>  $p < .01$ . \*  $p < .005$ .



The results also indicate that the covariate of school size was significantly and negatively related to overall OSS risk ( $b = -0.003$ ,  $SE = 0.001$ ,  $p < .001$ ). Furthermore, students in schools with a *higher percentage of students of color* experienced higher risk of suspension ( $b = 0.070$ ,  $SE = 0.014$ ,  $p < .001$ ), including a significant relationship for Hispanic students ( $b = 0.034$ ,  $SE = 0.010$ ,  $p = .005$ ) and Black students ( $b = 0.057$ ,  $SE = 0.020$ ,  $p = .005$ ). Finally, greater OSS risk was experienced by students in *middle schools* (Overall  $b = 18.314$ ,  $SE = 1.478$ ,  $p < .001$ ; Black  $b = 28.423$ ,  $SE = 2.293$ ,  $p < .001$ ; Hispanic  $b = 15.886$ ,  $SE = 1.438$ ,  $p < .001$ ) and *high schools* (Overall  $b = 23.168$ ,  $SE = 4.109$ ,  $p < .001$ ; Black  $b = 30.804$ ,  $SE = 6.290$ ,  $p < .001$ ; Hispanic  $b = 16.149$ ,  $SE = 3.868$ ,  $p < .001$ ). R-squared values indicated that models analyzed for OSS risk predicted 51.7% of the variance in overall OSS risk, 49.4% for Black students, and 47.2% for Hispanic students.

**Research question 4.** The fourth research question (To what degree is implementation of SWPBIS components related to *reduced risk ratios* for receiving *out-of-school suspensions* among Black and Hispanic students?) was addressed using a multiple linear regression model to examine the relationship between fidelity of select SWPBIS components (*Expectations, Lessons, Rewards, Classroom, Analysis*) and covariates (school size, percentage students of color, middle and high school) with school-level ODR risk overall and per subgroup (see Table 17). The results indicate that the fidelity of the *Recognition* components of SWPBIS were significantly related to lower, or more equitable, OSS ratios for Black students ( $b = -2.414$ ,  $SE = 0.816$ ,  $p < 0.002$ ) and Hispanic students ( $b = -2.418$ ,  $SE = 0.814$ ,  $p < 0.003$ ).

Results also indicate that in schools with a *higher percentage of students of color*, lower OSS ratios were found for Black students ( $b = -2.611$ ,  $SE = 0.774$ ,  $p = 0.001$ ) and Hispanic students ( $b = -2.588$ ,  $SE = 0.773$ ,  $p = 0.001$ ). Conversely, larger or more disparate OSS ratios

were experienced in *middle schools* by Black students ( $b = 98.860, SE = 22.140, p < 0.001$ ) and Hispanic students ( $b = 93.183, SE = 22.094, p < 0.001$ ) when compared to elementary schools. Greater suspension disparities were not observed in high schools. Both models analyzed for OSS ratios produced an R-squared value indicating that the model predicted 10.5% of the variance in OSS ratios.

Table 17

*Multiple Linear Regression Models for OSS Ratios*

	Unstandardized Regression Coefficients	
	Black OSS Ratio	Hispanic OSS Ratio
Intercept	-113.916* (22.607)	-115.890* (22.568)
<i>Covariates:</i>		
School Size	0.034 (0.039)	0.033 (0.039)
% SoC	-2.611* (0.774)	-2.588* (0.773)
Middle School	92.860* (22.140)	93.183* (22.094)
High School	18.529 (66.977)	19.837 (66.974)
<i>Benchmarks of Quality:</i>		
Expectations	2.098 (0.966)	2.071 (0.964)
Lessons	-0.960 (0.522)	-0.972 (0.521)
Recognition	-2.414* (0.816)	-2.418* (0.814)
Classroom	-0.681 (0.796)	-0.670 (0.794)
Data Analysis	0.468 (0.758)	0.508 (0.755)
<b>Model Summary</b>		
$R^2$	0.105* (0.030)	0.105* (0.030)

*Note.* Standard Errors are noted in parentheses. SoC = Students of Color. OSS = Out-of-School Suspension. Reference category for ratios = White Students.  $n = 322$  schools. \*  $p < 0.005$ .

## Chapter V: Discussion

Relationships between SWPBIS fidelity and discipline rates and disparities were investigated among a sample of 322 Florida SWPBIS-implementing schools serving a total of 292,490 students. Consistent with previous research (Finn & Servoss, 2014; Martinez et al., 2016; Skiba et al., 2011), the present study found higher ODR and OSS risk in middle schools. Furthermore, suspension risk was significantly higher for students in schools with higher concentrations of students of color – a pattern found in other investigations within urban districts (Anyon et al., 2014; Martinez et al., 2016) and with national datasets (Wright et al., 2014). However, the present study found that schools with greater percentages of students of color demonstrated a more equitable suspension gap for *both* Black and Hispanic students.

The present study added to the research literature on the relationship between the discipline gap and implementation of five critical components of SWPBIS – *Expectations, Lessons, Recognition, Classroom, and Data Analysis*. When controlling for school demographic variables (i.e., level, size, and racial/ethnic make-up), implementation of *Classroom Systems* was related to lower school-wide referral and suspension risk, but had a non-significant relationship with the discipline risk for Black and Hispanic students. Additionally, the implementation of *Recognition* was related to a more equitable suspension gap for Black students, while implementation fidelity of *Expectations, Lessons* and *Data Analysis* was not significantly related to lower discipline risk or more equitable ODR rates. Interaction effects were not found between

each of the SWPBIS components and school levels (e.g., middle, high), which may be related to limitations in measurement but may also support generalization of findings across school levels.

Below is a more in-depth discussion of this investigation's findings regarding racial/ethnic discipline disparities for Black and Hispanic students in SWPBIS-implementing schools. This discussion is followed by a synthesis of findings regarding SWPBIS components and lower discipline *rates* for racial/ethnic groups as well as smaller discipline *disparities* for racial/ethnic groups. Next, implications are discussed for research focused on SWPBIS and other frameworks for promoting educational equity. Finally, implications are noted for practice as well as the limitations of the current investigation.

### **Discipline Disparities in SWPBIS Schools**

Discipline disparities were evident in the studied sample of schools, 80% of which met the Florida PBIS Project criteria for “high implementation” (70%, average fidelity = 81.89%). In the average school from this sample, Black students were 2.54 times as likely as White peers to receive an ODR and 2.96 times as likely to be suspended. Hispanic students experienced discipline at roughly the same rate as their White peers (0.99 ODR Ratio, 1.06 OSS Ratio). These results demonstrate that schools implementing SWPBIS are not immune to discipline gaps present in other samples of schools for both ODRs (Skiba et al., 2011) and suspensions (Balfanz, Byrnes, & Fox, 2014; Finn & Servoss, 2014; Losen & Gillespie, 2012; Skiba et al., 2011). Sandomierski (2011) and Vincent and colleagues (2011) likewise found discipline disparities to be present in schools implementing SWPBIS with fidelity.

### **SWPBIS Components and School Discipline: Rates and Equity**

The vast majority of investigations evaluating SWPBIS have utilized either *pre-post design case studies* (e.g., Taylor-Greene & Kartub, 2000) or *randomized control trials* (e.g.,

Barrett, Bradshaw, & Lewis-Palmer, 2008; Horner et al., 2009; Nelson et al., 2002). The present study contributes to the small, but growing number of studies that have *correlated* continuous measures of SWPBIS implementation fidelity with continuous dependent variables (Childs et al., 2015; Vincent & Tobin, 2010). Utilizing such a design can enable scholars to ask research questions regarding the relationships between discrete components of SWPBIS fidelity and the discipline risk (and risk ratios) for various groups, such as students of color, under more naturalistic conditions than those typically found in experimental designs (Cobb, Confrey, DiSessa, Lehrer, & Schauble, 2003).

Furthermore, research designs also benefit from considering both *absolute* risk (risk) and *relative* risk (risk ratio) as two distinct but valuable indicators of school discipline rates. Evaluating relationships between SWPBIS fidelity and *absolute* risk can answer the question of “Does SWPBIS implementation fidelity relate to having fewer school discipline incidents for Black students?” while evaluating *relative* risk may provide insight to the question “Does SWPBIS implementation fidelity relate to Black and White students having more comparable rates of school discipline?” For populations at greater risk (Black students) than the comparison group (White students), smaller risk ratios may be interpreted as more comparable, or “more equitable,” discipline rates.

Both absolute and relative risk indices place the other index in context. For example, a 2.00 ODR risk ratio for Black students in a school may be a product of the average levels of absolute risk in the present sample (e.g., 15% of White students and 30% of Black students), but might be interpreted differently if it were a product of significantly lower levels of risk (e.g., 3% of White students and 6% of Black students). Further, this example highlights a limitation of small absolute risk numbers. Although all schools in the present sample *enrolled* at least 10

students from each studied group, 25% of schools reported overall ODR rates lower than 5.84% or overall OSS rates lower than 1.20%.

It is possible that previous studies examining the relationship between SWPBIS and indicators of disciplinary equity (e.g., risk ratios) producing mixed results could be due to differences in overall levels of *absolute* risk. However, it also is plausible that differences in measurement could explain the differences. While Vincent and colleagues (2011) found more equitable discipline rates in elementary schools demonstrating high levels of implementation as measured by the SET and TIC (School-wide Evaluation Tool; Team Implementation Checklist), two investigations utilizing the Benchmarks of Quality did not find such a relationship (Sandomierski, 2011; Barclay, 2015). Therefore, a primary goal of the present study was to take a *components*-level approach to analyzing the relationship between SWPBIS and disciplinary equity using the Benchmarks of Quality. This investigation aimed to ask “How might some critical elements of SWPBIS relate to discipline equity for Black and Hispanic students?”

**Classroom systems.** Four of the five SWPBIS components examined (i.e., *Expectations, Lessons, Recognition, and Classrooms*) demonstrated significant bivariate correlations with school-wide referral and suspension risk. However, when controlling for school level and demographics as well as other SWPBIS components, only the fidelity of SWPBIS *Classroom Systems* was related to lower *school-wide* referral and suspension risk. This finding was consistent with previous research (Childs et al., 2015) and provides additional evidence regarding the importance of classroom systems within SWPBIS. What might explain this seemingly unique contribution to student outcomes? The *Classroom Systems* subscale may either represent (a) an indicator of the prevalence of SWPBIS across the school or (b) a prerequisite for producing student outcomes (Childs et al., 2015). The first hypothesis raised by Childs and

colleagues (2015) suggests that the BoQ *Classroom Systems* subscale may relate to discipline rates differently as a function of its measurement. The subscale is unique within the instrument as the only factor that is measured in terms of *breadth* rather than *depth*. While other subscales are used to measure the quality of school-wide expectations or recognition systems (i.e., input from students and staff, varied delivery), the *Classroom Systems* subscale aims to quantify the prevalence of SWPBIS practices across the classrooms within a school (i.e., 50-75%, greater than 75%). The subscale may therefore represent a measurement approach (i.e., prevalence) that is more conducive to detecting relationships between SWPBIS implementation and school-wide disciplinary outcomes. According to Childs and colleagues' (2015) second hypothesis, the attainment of greater prevalence of PBIS practices across classrooms may be more effective for impacting discipline rates than the improvement of school-wide processes and procedures for PBIS practices. That is, students may benefit from school-wide PBIS components to the extent to which those components are reflected in the average classroom's climate.

In addition to overall risk, the present study extended the research literature by investigating the degree to which this relationship might apply to students of color. The results indicated that implementation fidelity to SWPBIS *Classroom Systems* was related to significantly lower referral and suspension risk for *Black* students, a phenomenon not directly assessed by previous studies investigating SWPBIS and exclusionary discipline (Bradshaw, Mitchell, & Leaf, 2010; Childs et al., 2015; Vincent, Sprague, & Gau, 2012).

Fidelity of *Classroom Systems* related to discipline risk for Black students, but did the fidelity of *Classroom Systems* relate to smaller school-level discipline gaps? Tobin and Vincent (2011) found the *Classroom Management Systems* subscale of the Effective Behavior Support Survey (EBS Survey; Sugai, Todd, & Horner, 2000) related to a reduced discipline gap in 46

elementary, middle, and high schools. The present study aimed to further this line of inquiry with the BoQ *Classroom Systems* subscale in a larger sample (322 elementary, middle, and high schools), but did not find a significant relationship between the measure's scores and indicators of disciplinary equity. Differences in instrumentation may contribute to these differences. Compared to the Benchmarks of Quality (Kincaid et al., 2010) used in the present study, Tobin and Vincent (2011) utilized the EBS Survey (Lewis & Sugai, 1999), which includes items related to academic instruction (e.g., instruction's alignment with student ability, student rates of success). Tobin and Vincent (2011) may have therefore captured variance in discipline equity that is explained by differences in *instructional* practices.

**Expectations.** School-level implementation of SWPBIS *Expectations* was expected to have a negative relationship with school discipline indicators (Skiba et al., 2014), but the present study found divergent results – a statistically significant positive relationship between SWPBIS *Expectations* and Black students' suspension risk. That is, schools implementing SWPBIS *Expectations* with greater fidelity suspended a *greater* percentage of enrolled Black students. However, a direct association was not found between SWPBIS *Expectations* and school-wide suspension risk as reported by Tobin and Vincent (2011) in ethnically diverse elementary schools. Such nuances speak to the need for more research examining the benefits of school-wide initiatives across racial/ethnic groups. More research is needed to explain the relationship between higher fidelity of *Expectations* and higher suspension risk for Black students.

A key factor to explaining the relationship between *Expectations* and Black students' suspension risk may be a school's *organizational health* (i.e., positive interactions and climate, access to resources, collegial leadership). Bradshaw, Koth, Bevans, Ialongo, and Leaf (2008) found SWPBIS implementation to increase a school's organizational health, which may not



translate directly into success for Black students. In a separate study, Bottiani, Bradshaw, and Mendelson (2014) found that Black students' sense of equity and teacher-student relationships did not benefit from organizational health to the degree to which their White peers reported. Administrators thoroughly implementing positively stated expectations and rules may experience a benefit in organizational health and assume it to be experienced by all staff and students. Such administrators may therefore be less forgiving (i.e., more likely to suspend) of students that defy behavioral expectations in a climate that they perceive to be positive. This unexpected phenomenon may increase Black students' suspension rates specifically, as they may not experience the more positive climate reported by others (Bottiani et al., 2014).

*Cross-cultural translation* of behavioral expectations may also partly explain the association with higher suspension risk. Across the variety of schools that have defined “Be Respectful” as an expectation, who was involved in the defining the associated rules? How might their understanding of the rules be discrepant from the students'? Vincent and colleagues (2011) highlighted that according to discourse theory, instances of overlapping speech (two persons speaking simultaneously) might be interpreted in some linguistic cultures (i.e., linguistically conditioned sociocultural subtext) as a sign of social engagement but as a sign of “disrespect” in others. “In some cases, a behavioral ‘violation’ could be seen as a violation of one specific linguistically conditioned sociocultural subtext rather than as a categorically inappropriate behavior” (p. 221, Vincent et al., 2011). Higher implementation of *Expectations* might thereby increase the rate at which a mostly White educational staff (Goldring, Gray & Bitterman, 2013) evaluates Black students' behavior with a subtext that is discrepant from the students'. For example, establishing the behavioral expectation of “Be Respectful” and an associated rule of “listen to instruction” might be understood by teachers to exclude overlapping speech while

understood by some students to include overlapping speech. The institutionally-established code may increase the likelihood that such behavior is considered a violation warranting discipline.

One limitation to the BoQ *Expectations* subscale is that multiple items on this subscale may remain static over time. Four of the subscale's five items refer to a single, historical implementation event (i.e., developing and posting expectations and associated rules with staff involvement) while other subscales capture ongoing practices (e.g., current rates of reinforcement, team meetings, and data analysis). Thus, scores on this subscale may not differentiate between schools with outdated and under-utilized posters and those that are actively updating and enhancing behavioral expectations. Aligned with these concerns, the *Expectations* subscale demonstrated the highest average rate of implementation (90.85) and largest amount of non-normality, with significantly negative skew and the largest amount of kurtosis. This measurement limitation combined with the unexpected finding regarding Black students' suspension risk should cause some caution in the interpretation of the results.

**Lessons.** The fidelity of *Lesson Plans for Teaching Expectations/Rules* was included in this investigation of critical components of SWPBIS. However, when controlling for school level and demographics as well as other SWPBIS components, this component was not related to lower discipline rates or gaps. While this finding does not negate the value of developing school-wide lesson plans, it may point to the role that *Classroom Systems* serves as a mechanism for student support. Students may only benefit from the lesson plans of behavioral curriculum to the degree to which they are utilized regularly in the classroom. Future research may consider investigating the relations between the *Lesson Plans* subscale and related items on the *Classroom Systems* subscale (i.e., "Classroom routines and procedures are explicitly identified," "Expected behavior routines in classroom are taught").

**Recognition.** While previous research using the Benchmarks of Quality (BoQ; Kincaid et al., 2010) did not find a significant relationship between overall SWPBIS fidelity and a reduced discipline gap (Barclay, 2015; Sandomierski, 2011), the present investigation provides evidence that a key *component* within the framework has a direct relationship with school-level equity in discipline – a *Reward/Recognition Program*. Tobin and Vincent’s (2011) analysis of SWPBIS similarly found more equitable discipline related to improvements over time in classroom-based acknowledgment of expected student behaviors. The present study provides more evidence to support the relationship between recognition systems and lower school suspension gaps for Black and Hispanic students.

Tobin and Vincent (2011) found more equitable suspension rates associated with a change over time in a *single item* measuring *classroom-based* positive-to-negative interaction ratios with a *3-point scale*. While the BoQ includes an item similar to that used by Tobin and Vincent (2011; “Ratios of acknowledgement to corrections are high”), the *Recognition* subscale also includes six other items as part of a psychometrically-sound measure of the *school-wide* establishment of a recognition system on a *16-point scale*. Other items from the *Recognition* scale measure (a) the prevalence of the practice across campus, (b) the variety of methods used, and (c) the rewards’ verbal link to school expectations and rules, as well as (d) the degree to which students are involved in identifying incentives, and (e) the inclusion of incentives and recognitions for faculty and staff.

Why might recognizing and acknowledging positive student behavior contribute to equity in discipline? Why might this practice have a greater effect on the suspension rates for students of color than for white students? Scholars have suggested two theories – trusting teacher-student relationships (Gregory & Weinstein, 2004) and counter-stereotypical acknowledgment

(McIntosh et al., 2014). Tobin and Vincent (2011) argued that *trusting teacher-student relationships* may mediate the relationship between high reinforcement-to-correction ratios and disciplinary equity. They noted findings from teacher and student surveys (Gregory & Weinstein, 2008) that students of color behave less defiantly and more cooperatively with teachers that use a “warm demander” approach (i.e., demonstration of caring and high expectations; Vasquez, 1988). Indeed, educational interventions that improve student trust (Yeager et al., 2014) are associated with discipline equity (Yeager, Purdie-Vaughns, Hooper, & Cohen, 2017). However, empirical evidence has yet to document a relationship between behavioral recognition practices (e.g., interaction ratios, variety of rewards) and student report of student-teacher relationship factors (e.g., trust, care, expectations).

Counter-stereotypical acknowledgment represents another mechanism that might explain the relationship between SWPBIS *Recognition* practices and more equitable suspension risk. According to McIntosh and colleagues (2014), counter-stereotypical acknowledgment occurs when school staff are actively identifying and acknowledging positive behaviors exhibited by students stereotyped to demonstrate problematic behavior patterns. They argued that this can change “their underlying assumptions, biases, and ultimately perceptions of ambiguous student behavior” (McIntosh et al., 2014, p.13). The tendency of a mostly White education workforce (Goldring, Gray & Bitterman, 2013) to have lowered ratings of Black students’ behavior (Bates & Flick, 2013; Downey & Pribesh, 2004) might be counteracted by a school-wide commitment to acknowledge students for demonstrating appropriate behavior. Rather than having a suspicious approach to having “eyes constantly on them” (Gibson et al., 2014, p. 277), school-wide *Recognition* practices may facilitate educators’ efforts to “catch students being good.” In light of these “positive behavior narratives,” administrators may be less likely to suspend students.

In addition to the theories of counter-stereotypical acknowledgment (McIntosh et al., 2014) and trusting teacher-student relationships (Gregory & Weinstein, 2004), a few additional mechanisms might be considered for explaining why students of color might benefit more than White students from *Recognition* – positive peer pressure and school climate for staff. One marker of a quality school-wide *Recognition* practice is that staff involve students in the identification of rewards that reflect culturally- and developmentally-appropriate interests. Providing students of color with highly-relevant rewards for positive behaviors (e.g., access to preferred activities or items, excuses from non-preferred activities) may provide a contingency powerful enough to counteract the peer pressure effects of “oppositional culture” (Fordham & Ogbu, 1986), thereby promoting more positive behaviors and consequently reducing suspension rates. A caveat to this hypothesis is that *Recognition* was not associated with more equitable referral rates.

One might argue that quality *Recognition* practices might relate to positive climate and morale among school staff, which thereby enhances educators’ ability to administer discipline in a more equitable manner. While this has yet to be examined, extant literature appears to contradict this mechanism. Bottiani, Bradshaw, and Mendelson (2014) found that indicators of *more positive organizational health* in 53 schools were related to *greater racial disparities* in students’ report of positive climate. Smaller discipline gaps were counterintuitively related to higher ratings of staff burnout (Bottiani et al., 2014).

The equity associated with SWPBIS *Reinforcement* practices stands in contrast to two other lines of thought suggested by scholars for promoting the success of students of color: implicit bias training (Devine, Forscher, Austin & Cox, 2012) and an authoritarian approach to school climate (Frisby, 2013; Whitman, 2008). Educators’ routine and habitual praise of familiar

Black students' positive behavioral patterns within SWPBIS *Recognition* systems may create more ecologically valid (Carr et al., 2000) versions of strategies used in experimental labs to combat implicit bias, such as counter-stereotypical mental imagery (Blair, Ma, & Lenton, 2001) and obtaining personal information to supplant stereotypic inference (Fiske & Neuberg, 1990). In contrast to these contrived experiences regarding stereotypes, SWPBIS *Reinforcement* systems involve educational staff in *routinely* acknowledging positive behaviors demonstrated by *familiar* Black students within the *everyday* context of the educators' *immediate* workplace. Over time, the faces of familiar and routinely acknowledged Black students may become discriminative stimuli (Cooper, Heron, & Heward, 2007) associated with positive behaviors instead of previously stereotyped negative behaviors (i.e., implicit bias).

The *Reinforcement*-equity relationship also stands in contrast to some recommendations (Frisby, 2013) that students of color may be better served with a more authoritarian approach to school climate dubbed "The New Paternalism" (Whitman, 2008). Two hallmarks of the New Paternalism approach – explicitly *defined* and *taught* expectations and rules – align with the SWPBIS framework (i.e., *Expectations* and *Lessons*). However, *Reinforcement* practices are notably missing from the list of practices associated with New Paternalism. The model's potential may be limited by its emphasis on the cost of inappropriate behavior:

“They have rules against students running in hallways and impose detentions for being tardy or talking disrespectfully to a teacher. But they go much farther: from specifying that hoop earrings can be no larger than a quarter to deducting ‘school dollars’ from a student’s ‘paycheck’ for tapping his or her pen in class” (p. 260, Whitman, 2008).

A focus on the response cost associated with inappropriate behaviors falls short of the more *educative* approach that characterizes the SWPBIS model and its *Reinforcement* component,

which aim to enhance students' success by developing and acknowledging positive social and behavioral skills (Sugai & Horner, 2002). The approach of New Paternalism may fall into the same trap of the ineffective Zero Tolerance approach, in which negative consequences are meted out unconstructively, not equipping students with skills necessary to meet the demands of their social environments (APA Zero Tolerance Task Force, 2008; Johnson et al., 2001; Skiba & Peterson, 1999).

In summary, *Recognition* practices may promote racial equity in suspensions by facilitating counter-stereotypical acknowledgment in educators' everyday environment, trusting student-teacher relationships, positive peer pressures, and positive staff climate. As the equity under examination regards *suspension* rates, an administrative decision, quality *Recognition* practices may also be associated with differences in school leadership vision and priorities (Skiba et al., 2014). These hypotheses have varying levels of supporting evidence and deserve further investigation, and is reviewed later in the Discussion.

**Data analysis.** Scott, Hirn, and Barber (2012) outlined the results of a case study in which a high school leadership team effectively reduced disciplinary inequity (in ODRs) by developing school-wide interventions to address concerns raised from discipline data disaggregated by racial/ethnic groups. The present study aimed to further this line of inquiry using the BoQ *Data Analysis* subscale with a larger sample, but did not find a significant relationship between implementation fidelity and a lower suspension gap. However, the *Data Analysis* subscale of the BoQ does not directly measure the degree to which a school is using racially disaggregated data to problem-solve behavior concerns. Scott and colleagues (2012) outlined a process in which the school PBIS team disaggregated data by race to identify the most challenging time, location, and behavior exhibited by students of color.

The present study included a sample of schools that voluntarily provided racially disaggregated data to an organization providing technical assistance and support. Therefore, the participating schools reporting high *Data Analysis* fidelity may be more likely than others to be engaged in problem-solving for equity. Despite this, the purpose of data analysis within a SWPBIS framework is to identify contextually-relevant, evidence-based *interventions* and *supports* to enhance student success (Irvin et al., 2006). After examining referral data, school staff in Scott and colleagues' case study (2012) arrived at consensus on an *intervention plan*. During specified times and locations, staff planned to give students verbal reminders of expected behaviors, develop and teach culturally responsive definitions for “respectful” and “disrespectful” behavior, and “encourage and praise students who are on time to class” (p.114; Scott et al., 2012). Through the SWPBIS framework, achieving disciplinary equity may be contingent upon staff's use of disaggregated data to *implement* interventions matched to student needs. This may partly explain why instead of *data analysis*, school-wide behavioral *recognition* practices experienced directly by students were related to more equitable suspension rates.

### **Implications for Research**

**Classroom systems as a mediator of SWPBIS.** The findings of this investigation regarding *Classroom Systems*, along with similar studies (Childs et al., 2015), point to the potency of classroom-level practices in reducing discipline rates. The present study found that not only is higher fidelity of *Classroom SWPBIS Systems* related to lower overall ODR risk within a school building, but also that it is related to lower risk for referral and suspension among Black students as well as lower suspension risk for Hispanic students. Across the identified SWPBIS components, *Classroom Systems* was the set of components that most consistently demonstrated a statistically significant relationship with lower discipline risk across student



groups. Most items within the *Classroom Systems* were designed to measure the use of other SWPBIS components (e.g., expectations, lessons, rewards, discipline) within the classroom context. Therefore, it appears that students' access to these components in their classrooms may be critical to the success of the implementation framework. That is, the relationship between *school-wide* PBIS components and lowered discipline rates may be mediated by *classroom-level* implementation fidelity. Future research may utilize hierarchical linear modeling or structural equation modeling to investigate the fit of such a mediation model, which could inform a model for scaling up SWPBIS implementation that accurately reflects the components most critical and valuable for student outcomes (Childs et al., 2015), including students of color.

**Measurement of SWPBIS fidelity and culturally-responsive practices.** The present study contributed to the literature regarding the measurement of SWPBIS with the Benchmarks of Quality in multiple ways. A confirmatory factor analysis was conducted with a sample of high-implementing schools receiving technical assistance and reporting racially-disaggregated discipline data. The factors demonstrated good fit overall while one item (Item 8; "Discipline process includes documentation procedures") was almost universally scored as a 1 and demonstrated misfit with its factor. The negative loading may be related to the item's invariance – only 3 of the 322 participating schools scored a 0 on this dichotomous item. These three schools may have been undertaking enhancements to their discipline procedures and therefore did not have discipline documentation procedures at the time. The item does not appear useful in discriminating levels of implementation in the present sample of high-implementing schools, but further research may examine the fit and discriminative utility of the item across samples of schools exhibiting a wider range of implementation levels. However, with the strong fit

demonstrated by the five factors of interest in the present sample, relationships between the factors and discipline rates for Black and Hispanic students were examined.

It is plausible that the lack of relationship between some SWPBIS components and discipline risk for students of color would be explained by the lack of emphasis in the BoQ on culturally responsive practices. Future research should aim to develop and validate a measure of implementation fidelity that includes an emphasis on culturally responsive PBIS. Many scholars and educators support the development of a model for Culturally Responsive Positive Behavior Interventions and Supports (CRPBIS; Klingner et al., 2005), which seeks to enhance educators' cultural knowledge and self-awareness (Vincent, Randall, Cartledge, Tobin, & Swain-Bradway, 2011) while also considering "cultural and linguistic differences part of the solution and not the deficit" (Banks & Obiakor, 2015, p. 88). Researchers have suggested that existing measures of implementation fidelity could be expanded to incorporate the systematic inclusion of minority cultures by leaders (Swain-Bradway, Loman, & Vincent, 2014).

What might such an expansion of the framework look like? Each of the SWPBIS components investigated in the present study could potentially benefit from the inclusion of culturally-responsive components (Swain-Bradway, Loman, & Vincent, 2014). For example, school-wide *expectations* and *lessons* may be developed and taught by educators with explicit involvement of students' and families' input, considering how cultural variations on how to "be kind" to upset peers may be considered acceptable. Further, students could be explicitly supported in navigating between multiple cross-cultural codes of conduct (Carter, 2008). The development of school-wide *recognition* systems may include input from families and students regarding how they would best like to be recognized and celebrated for their contributions to the school climate. This may lead to recognition practices that are more private, to take into account

the cultural connotations of being *publicly* recognized for appropriate behavior and considered to be “acting White” (Fordham & Ogbu, 1986; Swain-Bradway, Loman, & Vincent, 2014).

Furthermore, the measurement of a school’s fidelity of SWPBIS *data analysis* may incorporate the degree to which the PBIS leadership team intentionally disaggregates discipline data by race/ethnicity for problem-solving (see Scott, Hirn, & Barber, 2012).

Furthermore, research is needed to inform how fidelity measures might be developed or modified to better differentiate how schools are incorporating culturally responsive principles into their systems, data analysis, and behavior support practices. For example, items on existing fidelity measures such as the BoQ could be added or modified to more explicitly measure schools’ implementation of SWPBIS in a culturally responsive manner. The inclusion of valid items focused on cultural responsiveness would enable future research to empirically examine the relationship between implementation fidelity of culturally responsive SWPBIS components and more equitable outcomes for students of color.

Cultural responsiveness may only be one part of the puzzle. To enhance the alignment of SWPBIS to more equitable student outcomes, research may need to extend beyond the cultural responsiveness of the framework. Some research has documented that some instructional management strategies have potential for reducing disciplinary disparities. Some scholars have incorporated classroom instructional practices such as “opportunities to respond” into PBIS frameworks (Simonsen & Myers, 2014), but such practices are not included in commonly-used measures of SWPBIS implementation fidelity including the *Benchmarks of Quality* (BoQ; Kincaid et al., 2010), the *SWPBIS Tiered Fidelity Inventory* (TFI; Algozzine et al., 2014), and *School-Wide Evaluation Tool* (SET; Horner et al., 2009). The following section summarizes extant research regarding instructional practices related to discipline disparities.

**Instructional practices and relationship building.** The present study aimed to further investigate the relationship between school disciplinary equity and discrete behavior support practices (e.g., contingent reinforcement systems). Previous research has found that certain classroom management models encompassing both *behavior support* practices (e.g., behavioral recognition systems) and *instructional practices* (e.g., aligning instruction to student needs) are related to more equitable discipline rates (Gregory et al., 2014; Vincent & Tobin, 2011; Vincent et al., 2011). Furthermore, there is a growing and rigorous evidence base that observable and measurable *instructional* practices have differential effects on Black students' academic behavior (Yeager et al., 2014) and discipline rates (Gregory et al., 2016; Yeager et al., 2017). These findings are aligned with models of effective and *integrated* instructional and behavioral supports that have been promoted for years (e.g., Sugai & Horner, 2009). Researchers aiming to promote disciplinary equity may need to expand models to include instructional practices that have differentially positive effects for Black students.

Which instructional practices have differential effects for Black students? First, Yeager and colleagues' (2014) randomized controlled trial found Black middle school students to benefit more than White peers from teacher feedback that communicates high standards and the belief that the student was capable of meeting such standards. This "wise feedback" (Yeager et al., 2014, p. 1) had a differential effect on Black students such that they demonstrated greater (a) likelihood of choosing to revise their work and (b) quality of final work submission whereas White students demonstrated non-significant differences on these two indicators. The team's most recent analyses (Yeager, Purdie-Vaughns, Hooper, & Cohen, 2017) have found that receiving the intervention in the spring of 7<sup>th</sup> grade significantly reduced *Black* students' ODR rates in 8<sup>th</sup> grade. The intervention did not have the same effect for *White* students, and thus

reduced the discipline gap for the cohort from Black students receiving 3.88 times as many ODRs as White peers to 1.92 times as likely (Yeager et al., 2017).

Additionally, Gregory and colleagues' (2016) investigation expanded upon a previous study documenting a relationship between classroom coaching and racially equitable discipline rates (Gregory et al., 2014) and found that the relationship was mediated by teachers' use of instructional strategies promoting problem-solving and higher-level thinking. The authors noted that the coaching program did not explicitly target equity or implicit bias, but focused on instructional practices that benefit all students. Echoing the results of Yeager and colleagues' study (2014), Gregory et al. (2016) suggested that when "given the opportunity to engage in cognitively demanding problem-solving tasks, Black students may detect their teachers' high *expectations* and *confidence* in them as scholars" (p. 186; emphasis added). Furthermore, they argue that the implementation of such universally-beneficial practices may be considered as "equity-implicit," which contrasts against equity-explicit strategies (e.g., implicit bias reduction, culturally-responsive behavior support) included in the list of recommendations made by many scholars (McIntosh et al., 2014).

These universal instructional practices (i.e., wise feedback, high-level inquiry) may arguably fit within the context of SWPBIS, when considered to be part of a broader, multi-tiered system of evidence-based supports (Batsche et al., 2005; Sugai & Horner, 2009). In contrast to the roots of SWPBIS within applied behavior analysis (Sailor et al., 2009), these are examples of strategies developed from a social-cognitive perspective of learning and development (Olson & Dweck, 2008). Yeager and colleagues (2014) noted that wise feedback aims to increase trust, a critical construct for the development of adolescents, particularly those with lower levels of trust

such as Black students (Smith, 2010). “No longer did minorities’ built-up mistrust of school affect their engagement with the feedback at hand” (Yeager et al., 2014, p. 17).

Wise feedback and high-level inquiry may represent two of many strategies that may foster student-teacher relationships at a universal level, producing observable and measurable outcomes (i.e., improved and more equitable work completion and discipline rates; Gregory et al., 2016; Yeager et al., 2014), and that could potentially be incorporated into the scale-up of SWPBIS implementation. Indeed, some scholars within the PBIS field have developed a model for early childhood settings that explicitly includes relationship-building strategies within the implementation framework (Fox, Dunlap, Hemmeter, Joseph, & Strain, 2003). With the goal of supporting *all* students’ learning, regardless of racial/ethnic background, K-12 SWPBIS scholars may benefit from identifying and promoting evidence-based practices that build trusting relationships between students and teachers. Providing truly universal positive *behavior* supports may require educators to address racially-driven *cognitive* barriers to students’ trust (Smith, 2010) as well as educators’ own cognitive biases of lowered expectations (Downey & Pribesh, 2004; Pigott & Cowen, 2000; Tenenbaum & Ruck, 2007).

Scholars and researchers currently are involved in a number of models for expanding SWPBIS models to integrate evidence-based universal practices for supporting all students. Among these efforts are the alignment and integration of SWPBIS with tiered instructional practices (Sugai & Horner, 2009), tiered social-emotional learning and school-based mental health supports (Barrett, Eber, & Weist, 2013), and tiered practices for restorative discipline (Sprague & Nelson, 2012). These expanded SWPBIS models align with the recommendations made by scholars of the Discipline Disparities Research-to-Practice Collaborative as “components of school climate and school discipline that may lead to disparity reduction.” (p. 4).

Specific recommendations included (a) relationship-building (e.g., restorative discipline), (b) structural interventions (e.g., PBIS), and (c) social-emotional learning (Skiba, Arredondo, & Rausch, 2014). However, more research is required to identify what potential these equity-implicit models hold for closing the discipline gap. What might this research look like? Skiba and colleagues (2014) recommended that investigations utilize rigorous and varied designs such as multivariate models (Tabachnick, Fidell, & Osterlind, 2001), mixed methods (Creswell & Plano Clark, 2011), and participatory research (Jensen, Hoagwood, & Trickett, 1999).

### **Implications for Practice**

This investigation found that the relationship between SWPBIS components and positive discipline outcomes were established using a *continuous* measure of fidelity. This finding suggests that the benefits of SWPBIS component fidelity may not be experienced in a dichotomous framework between “low implementers” and “high implementers” but rather on a sliding scale. Schools implementing classroom-level PBIS supports may experience a return on the investment of developing incrementally *higher* levels of implementation across *more* classrooms within a school building. Further, schools may experience reductions in their suspension gap for Black students by making incremental *enhancements* of their behavioral recognition systems. Educational leaders may consider methods of communicating these benefits to stakeholders that may become complacent after reaching a “comfortable” level of SWPBIS implementation. Schools monitoring their SWPBIS fidelity with the Benchmarks of Quality should benefit from regularly utilizing the measure to guide enhancements to implementation.

However, PBIS schools should recognize that “not all points are created equal.” That is, fidelity enhancements for *Classroom Systems* practices noted on the BoQ may have a greater relationship with student discipline rates than other critical components. Some scholars have

suggested that schools may only experience the benefits of SWPBIS to the degree to which the practices are reflected in the average classroom at the building (Childs et al., 2015). Furthermore, this investigation contributes evidence that *Classroom Systems* are related to the discipline risk of Black and Hispanic students and are observed in schools enrolling between 9.75% and 98.65% students of color, averaging 52.76%. Therefore, the implementation of PBIS *Classroom Systems* may be promoted as an effective intervention for racial minority students and in “majority-minority” settings (>50% students of color).

Finally, the relationship between higher levels of *Expectations* fidelity and increased Black students’ suspension risk may imply that the development of a positive school climate via positively defined expectations may not be automatically experienced by all students (Bottiani et al., 2014). Teams leading the implementation of SWPBIS may need to regularly monitor the suspension rates for students of color groups to reflect on how increased implementation of various components may have inadvertent consequences on the discipline rates of some student groups. This activity, of course, would involve the use of discipline tracking systems that enable the collection and analysis of racial patterns in problem behaviors as well as problem-solving the behavioral patterns of specific racial groups (see Scott, Hirn, & Barber, 2012).

Overall, the present study’s findings suggest that practitioners should take the recommendations that the overall SWPBIS framework may reduce the discipline gap (McIntosh et al., 2014) with caution. The current research base for this proposal is equivocal, with one study reporting positive results (Vincent et al., 2011) and others not (Barclay, 2015; Sandomierski, 2011). The present study, similar to Vincent and Tobin (2010), found some SWPBIS components to demonstrate promise while others did not. Out of the five components included in this investigation, one component (*Classroom Systems*) demonstrated a relationship with lower



discipline rates for Black and Hispanic students, one component (*Recognition*) demonstrated a relationship with smaller suspension gaps for Black and Hispanic students, and one component (*Expectations*) demonstrated a relationship with higher suspension rates for Black students.

While the jury is still out on the evidence backing SWPBIS as a “Benchmark for Equality,” it is recommended that implementation leaders recognize the limitations that currently exist and seek innovative, data-driven ways to address racial disparities at local levels (see Osher et al., 2015; Scott, Hirn, & Barber, 2012). Scientist-practitioners are encouraged to engage in participatory action research (Lewin, 1946; Whyte, 1991) that is vital to the advancement of preventive services to address educational and social inequities (American Psychological Association, 2014; Freire, 1970). In this paradigm of investigation, researchers might collaborate with educators to apply a contextually-relevant scientific process for evaluating different approaches to producing disciplinary equity in school discipline rates. Similar to the process used by Scott and colleagues (2012), researcher expertise in behavior theory can be combined with educators’ practical expertise to test hypotheses regarding what factors and practices contribute to disciplinary equity.

### **Limitations**

The present study utilized a statewide database to gather data from elementary and secondary schools across multiple districts; however, questions exist regarding the potential generalizability of findings. Factors involved in the selection of participating schools may bias the sample, although the sample of 322 schools implementing SWPBIS did not appear to demonstrate significantly different risk of suspension than national norms (3.2% in the current sample for elementary schools compared to 2.6% nationally in elementary schools; 8.3% in the

current sample for secondary schools compared to 10.1% nationally in secondary schools; Losen et al., 2015).

The participating schools all were in Florida, received technical assistance in the implementation of PBIS, and submitted a report of racially-disaggregated data. These schools may be skewed toward higher levels of implementation fidelity, thus producing a restricted range limiting the ability to detect relationships between fidelity and disciplinary practices (Barclay, 2015; Sandomierski, 2011). The schools included in this study averaged a significantly greater implementation fidelity (4.56%) than those that were available but excluded. Furthermore, the schools available from the Florida PBIS Project dataset may be different from those not receiving technical assistance from an external organization.

Participating schools may have historically faced school-wide behavior management challenges and have leaders that are prioritizing enhancing behavior support systems. Schools submitting ethnically disaggregated discipline data may have also faced pressure from their districts to address equity. For example, the Every Student Succeeds Act (ESSA; 2015) delineates that districts receiving federal grants should submit plans “to reduce the overuse of discipline practices that remove students from the classroom... disaggregated by each of the subgroups of students” (p. 57). Such added pressure on schools to report reductions in discipline rates across groups may, however, temper the validity of schools’ discipline data, as some schools may report falsified data or may have used procedures more aimed at producing desirable *indicators* than authentic *outcomes* (e.g., expelling or outplacing disparate numbers of Black students).

The present study utilized a continuous measure of SWPBIS implementation fidelity (Benchmarks of Quality; Kincaid et al., 2010) while a previous study measured SWPBIS fidelity

as a dichotomous variable of high and low implementation (Vincent et al., 2011) and found differing results. Further analysis may be required to determine the merits of taking a dichotomous approach to fidelity, as continuous measures typically enhance the reliability of scales (DeVellis, 2016).

Further, previous research documenting significant interactions between SWPBIS components and school level (Vincent & Tobin, 2010) were not replicated in this study. This may be due to the lack of power associated with a small sample of 73 middle and 43 high schools. Future research of SWPBIS should continue to investigate the potential moderating factor of school level, as the developmental appropriateness of behavior supports is a core principle of SWPBIS (Sugai & Horner, 2002).

This investigation also did not include data regarding student gender. Research has demonstrated that a student's gender is related to their risk for discipline, with males being at higher risk of discipline (Skiba et al, 2011; Hemphill et al., 2014) as early as preschool (Gilliam, 2005). However, the Florida PBIS Project's current version of *Equity Reports* does not include discipline data disaggregated by gender. As race appears to be a stronger factor than gender, with Black females being at greater risk than White males (KewalRamani et al., 2007; Raffaele Mendez & Knoff, 2003), the investigation of gender-race intersections has remained outside the scope of most discipline gap investigations.

Another limitation to this investigation involved the validity of the discipline data analyzed. Three distinct organizations – schools, districts, and the Florida PBIS Project – were involved in the collection, aggregation, and cleaning of the data utilized for this study. A degree of error may be added to the data at each point of entry and transmission. Furthermore, procedural variability in determining student race/ethnicity at these different levels can

undermine the validity and reliability of data collected across schools and districts (Cross & Donovan, 2002).

The final limitations to this study involve internal validity. The investigation was correlational in design, which limits the ability to infer causality from the detected relationships. Additionally, implementation and disciplinary records were examined at one point in time, which did not allow for exploration of how relationships change as a function of time. Although this issue has not been investigated historically or in the current study, the validity of BoQ scores may have been hampered by the roles of some PBIS coaches. Teams with internal coaches or coaches serving a relatively small number of schools may report more accurate scores than teams with external PBIS coaches or coaches serving a relatively larger number of schools. Finally, no control schools were included in the design.

### **Summary**

The American dream of equitable education remains elusive as discipline procedures disproportionately remove racial minority students from the classroom. A number of contributing factors may be found within individual students, school-level and classroom-level practices and compositions, and socioeconomic variables. Evidence supports theories regarding differential rates of behavior as well as educator biases. Thus, multifaceted and systemic interventions should be considered for their effectiveness in producing more equitable school discipline rates. School-wide positive behavior interventions and supports (SWPBIS) represents a framework of multifaceted and systemic intervention considered to have potential for reducing the gap. While SWPBIS has demonstrated consistency in reducing overall discipline rates in schools, most investigations have not explicitly addressed whether or not these reduced rates are universal across racial/ethnic groups. Furthermore, the evidence is mixed as to whether or not SWPBIS

implementation fidelity is related to more equitable discipline rates. Analysis of SWPBIS at a component level is emerging as a potential way to identify promising practices within SWPBIS that may contribute to reductions in disproportionate discipline outcomes. Therefore, the purpose of this study was to examine the merits of five critical elements of SWPBIS for closing the discipline gap: *Classroom Systems*, *Expectations*, *Lessons*, *Recognition*, and *Data Analysis*.

Among a sample of 322 Florida SWPBIS-implementing schools serving a total of 292,490 students, the relationships between SWPBIS fidelity and discipline rates and disparities were investigated. Multiple linear regression analyses found that the fidelity of SWPBIS *Classroom Systems* was related to decreased discipline risk for all students, explicitly including Black and Hispanic students, but not to a decreased gap. The fidelity of SWPBIS *Expectations* was related to higher suspension risk among Black students, suggesting that the fidelity of some SWPBIS practices may be inadvertently detrimental to educational access for Black students. However, more equitable suspension practices were found in schools implementing *Recognition* with fidelity. This finding may be a result of a number of potential mechanisms including counter-stereotypical acknowledgment, trusting student-teacher relationships, positive peer pressures, and positive staff climate. Researchers seeking solutions to disciplinary inequity may benefit from considering the expansion of SWPBIS practices and fidelity measures to include culturally-responsive practices and instructional strategies that promote student-teacher relationships and trust. Practitioners may benefit from considering the importance of supporting classroom-level implementation across school buildings and facilitating high-quality behavior recognition practices.

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



<b>School-wide Benchmarks of Quality: SCORING FORM (Revised)</b>							
School Name: _____				District: _____			
Coach's Name: _____				Date: _____			
<p><b>STEP 1:</b> Coach uses the Scoring Guide to determine appropriate point value. Circle ONLY ONE response.</p> <p><b>STEP 2:</b> 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.</p> <p><b>STEP 3:</b> 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.</p>							
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	STEP 3
						++, +, or -	✓
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		
Implementation Plan	34. Strategies to share key features of SWPBS program with families/community are developed and implemented			1	0		
	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		
Classroom Systems	41. Plans for involving families/community are developed & implemented			1	0		
	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		
Evaluation	48. Classrooms have a range of consequences/interventions for problem behavior that are documented and consistently delivered		2	1	0		
	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

Kincaid, D., Childs, K., & George, H. (March, 2010). School-wide Benchmarks of Quality (Revised). Unpublished instrument. USF, Tampa, Florida

## SCORING GUIDE:

### Completing the Benchmarks of Quality (Revised) for School-wide Positive Behavior Support (SWPBS)

#### When & Why

*Benchmarks of Quality (Revised) for School-wide Positive Behavior Support* should be completed in the spring of each school year (Mar/Apr/May). The Benchmarks are used by teams to identify areas of success, areas for improvement, and by the PBS Project to identify model PBS schools.

#### Procedures for Completing

##### Step 1 - Coaches Scoring

The Coach will use his or her best judgment based on personal experience with the school and the descriptions and exemplars in the *Benchmarks of Quality(Revised) Scoring Guide* to score each of the 53 items on the *Benchmarks of Quality Scoring Form* (p.1 & 2). Do not leave any items blank.

##### Step 2 - Team Member Rating

The coach will give the *Benchmarks of Quality(Revised) Team Member Rating Form* to each SWPBS Team member to be completed independently and returned to the coach upon completion. Members should be instructed to rate each of the 53 items according to whether the component is “In Place”, “Needs Improvement”, or “Not in Place”. Some of the items relate to product and process development, others to action items; in order to be rated as “In Place;” the item must be developed and implemented (where applicable). Coaches will collect and tally responses and record on the *Benchmarks of Quality(Revised) Scoring Form* the team’s most frequent response using ++ for “In Place,” + for “Needs Improvement,” and – for “Not In Place.”

##### Step 3 – Team Report

The coach will then complete the *Team Summary* on p. 3 of the *Benchmarks of Quality (Revised) Scoring Form* recording areas of discrepancy, strength and weakness.

*Discrepancies* - If there were any items for which the team’s most frequent rating varied from the coaches’ rating based upon the Scoring Guide, the descriptions and exemplars from the guide should be shared with the team. This can happen at a team meeting or informally. If upon sharing areas of discrepancy, the coach realizes that there is new information that according to the *Scoring Guide* would result in a different score, the item and the adjusted final score should be recorded on the *Scoring Form*.

##### Step 4 - Reporting Back to Team

After completing the remainder of the *Benchmarks of Quality(Revised) Scoring Form*, the coach will report back to the team using the *Team Report* page of the *Benchmarks of Quality(Revised) Scoring Form*. If needed, address items of discrepancy and adjust the score. The coach will then lead the team through a discussion of the identified areas of strength (high ratings) and weakness (low ratings). This information should be conveyed as “constructive feedback” to assist with action planning.

##### Step 5 – Reporting

The coach will enter the final scores from the *Scoring Form* on PBSES, the web-based evaluation reporting system through the PBS Project’s website <http://flpbs.fmhi.usf.edu>. The school log-in and password are included on the direction for completing End-Year Evaluation which is distributed by the district coordinator.

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**BENCHMARKS OF QUALITY (Revised) SCORING GUIDE**

<b>Benchmark</b>	<b>3 points</b>	<b>2 points</b>	<b>1 point</b>	<b>0 points</b>
1. Team has administrative support	Administrator(s) attended training, play an active role in the PBS process, actively communicate their commitment, support the decisions of the PBS Team, and attend all team meetings.	Administrator(s) support the process, take as active a role as the rest of the team, and/or attend <b>most</b> meetings	Administrator(s) support the process but don't take as active a role as the rest of the team, and/or attends <b>only a few</b> meetings.	Administrator(s) do not actively support the PBS process.
2. Team has regular meetings (at least monthly)		Team meets monthly ( <b>min. of 9 one-hour meetings</b> each school year).	Team meetings are not consistent ( <b>5-8 monthly meetings</b> each school year).	Team seldom meets ( <b>fewer than five monthly meetings</b> during the school year).
3. Team has established a clear mission/purpose			Team has a written purpose/mission statement for the PBS team (commonly completed on the cover sheet of the action plan).	No mission statement/purpose written for the team.
4. Faculty are aware of behavior problems across campus through regular data sharing		Data regarding school-wide behavior are shared with faculty monthly ( <b>min. of 8 times</b> per year).	Data regarding school-wide behavior are occasionally shared with faculty ( <b>3-7 times</b> per year).	Data are not regularly shared with faculty. Faculty may be given an update <b>0-2 times</b> per year
5. Faculty are involved in establishing and reviewing goals		<b>Most</b> faculty participate in establishing PBS goals (i.e. surveys, "dream", "PATH") on at least an annual basis.	<b>Some</b> of the faculty participates in establishing PBS goals (i.e. surveys, "dream", "PATH") on at least an annual basis.	Faculty <b>does not</b> participate in establishing PBS goals.
6. Faculty feedback is obtained throughout year		Faculty is given opportunities to provide feedback, to offer suggestions, and to make choices in every step of the PBS process (via staff surveys, voting process, suggestion box, etc.) Nothing is implemented without the majority of faculty approval.	Faculty are given some opportunities to provide feedback, to offer suggestions, and to make some choices during the PBS process. However, the team also makes decisions without input from staff.	Faculty are rarely given the opportunity to participate in the PBS process ( <b>fewer than 2 times</b> per school year).

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Benchmark	3 points	2 points	1 point	0 points
7. Discipline process described in narrative format or depicted in graphic format		Team has established clear, written procedures that lay out the process for handling both major and minor discipline incidents. (Includes crisis situations)	Team has established clear, written procedures that lay out the process for handling both major and minor discipline incidents. (Does not include crisis situations.)	Team has not established clear, written procedures for discipline incidents and/or there is no differentiation between major and minor incidents.
8. Discipline process includes documentation procedures			There is a documentation procedure to track both major and minor behavior incidents (i.e., form, database entry, file in room, etc.).	There is not a documentation procedure to track both major and minor behavior incidents (i.e., form, database entry, file in room, etc.).
9. Discipline referral form includes information useful in decision making		Information on the referral form includes ALL of the required fields: Student's name, date, time of incident, grade level, referring staff, location of incident, gender, problem behavior, possible motivation, others involved, and administrative decision.	The referral form includes all of the required fields, but also includes unnecessary information that is not used to make decisions and may cause confusion.	The referral form lacks one or more of the required fields or does not exist.
10. Problem behaviors are defined	Written documentation exists that includes clear definitions of all behaviors listed.	All of the behaviors are defined but some of the definitions are unclear.	Not all behaviors are defined or some definitions are unclear.	No written documentation of definitions exists.
11. Major/minor behaviors are clearly differentiated		Most staff are clear about which behaviors are staff managed and which are sent to the office. (i.e. appropriate use of office referrals) Those behaviors are clearly defined, differentiated and documented.	Some staff are unclear about which behaviors are staff managed and which are sent to the office (i.e. appropriate) use of office referrals) or no documentation exists.	Specific major/minor behaviors are not clearly defined, differentiated or documented.
12. Suggested array of appropriate responses to major (office-managed) problem behaviors			There is evidence that all administrative staff are aware of and use an array of predetermined appropriate responses to major behavior problems.	There is evidence that some administrative staff are not aware of, or do not follow, an array of predetermined appropriate responses to major behavior problems.

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3

Benchmark	3 points	2 points	1 point	0 points
13. Data system is used to collect and analyze ODR data	The database can quickly output data in graph format and allows the team access to <b>ALL</b> of the following information: average referrals per day per month, by location, by problem behavior, by time of day, by student, and compare between years.	<b>ALL</b> of the information can be obtained from the database (average referrals per day per month, by location, by problem behavior, by time of day, by student, and compare between years), <b>though it may not be in graph format, may require more staff time to pull the information, or require staff time to make sense of the data.</b>	Only <b>partial</b> information can be obtained (lacking either the number of referrals per day per month, location, problem behavior, time of day, student, and compare patterns between years.)	The data system is <b>not able</b> to provide any of the necessary information the team needs to make school-wide decisions.
14. Additional data are collected (attendance, grades, faculty attendance, surveys) and used by SWPBS team			The team collects and considers data other than discipline data to help determine progress and successes (i.e. attendance, grades, faculty attendance, school surveys, etc.)	The team does <b>not</b> collect or consider data other than discipline data to help determine progress and successes (i.e. attendance, grades, faculty attendance, school surveys, etc.).
15. Data analyzed by team at least monthly		Data are printed, analyzed, and put into graph format or other easy to understand format by a member of the team <b>monthly (minimum)</b>	Data are printed, analyzed, and put into graph format or other easy to understand format by a team member <b>less than once a month.</b>	Data are <b>not analyzed.</b>
16. Data shared with team and faculty monthly ( <b>minimum</b> )		Data are shared with the PBS team and faculty <b>at least once a month.</b>	Data are shared with the PBS team and faculty <b>less than one time a month.</b>	Data are not reviewed each month by the PBS team and shared with faculty.
17. 3-5 positively stated school-wide expectations are posted around school	3-5 positively stated school-wide expectations are visibly posted around the school. Areas posted include the classroom and a minimum of 3 other school settings (i.e., cafeteria, hallway, front office, etc).	3-5 positively stated expectations are visibly posted in most important areas (i.e. classroom, cafeteria, hallway), but one area may be missed.	3-5 positively stated expectations are not clearly visible in common areas.	Expectations are not posted or team has either too few or too many expectations.

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<b>Benchmark</b>	<b>3 points</b>	<b>2 points</b>	<b>1 point</b>	<b>0 points</b>
18. Expectations apply to both students and staff	PBS team has <b>communicated</b> that expectations apply to all students and all staff.	PBS team has expectations that apply to all students AND all staff but haven't specifically communicated that they apply to staff as well as students.	Expectations refer only to student behavior.	There are no expectations.
19. Rules are developed and posted for specific settings (settings where data suggested rules are needed)		Rules are posted in all of the most problematic areas in the school.	Rules are posted in some, but not all of the most problematic areas of the school.	Rules are not posted in any of the most problematic areas of the school.
20. Rules are linked to expectations			When taught or enforced, staff consistently link the rules with the school-wide expectations.	When taught or enforced, staff do not consistently link the rules with the school-wide expectations and/or rules are taught or enforced separately from expectations.
21. Staff are involved in development of expectations and rules		Most staff were involved in providing feedback/input into the development of the school-wide expectations and rules (i.e., survey, feedback, initial brainstorming session, election process, etc.)	Some staff were involved in providing feedback/input into the development of the school-wide expectations and rules.	Staff were not involved in providing feedback/input into the development of the school-wide expectations and rules.
22. A system of rewards has elements that are implemented consistently across campus	The reward system guidelines and procedures are implemented consistently across campus. Almost all members of the school are participating appropriately.  at least 90% participation	The reward system guidelines and procedures are implemented consistently across campus. However, some staff choose not to participate or participation does not follow the established criteria.  at least 75% participation	The reward system guidelines and procedures are not implemented consistently because several staff choose not to participate or participation does not follow the established criteria.  at least 50% participation	There is no identifiable reward system or a large percentage of staff are not participating.  less than 50% participation

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Benchmark	3 points	2 points	1 point	0 points
23. A variety of methods are used to reward students		The school uses a variety of methods to reward students (e.g. cashing in tokens/points). There should be opportunities that include tangible items, praise/recognition and social activities/events. Students with few/many tokens/points have equal opportunities to cash them in for rewards. However, larger rewards are given to those earning more tokens/points.	The school uses a variety of methods to reward students, but students do not have access to a variety of rewards in a consistent and timely manner.	The school uses only one set methods to reward students (i.e., tangibles only) or there are no opportunities for children to cash in tokens or select their reward. Only students that meet the quotas actually get rewarded, students with fewer tokens cannot cash in tokens for a smaller reward.
24. Rewards are linked to expectations and rules	Rewards are provided for behaviors that are identified in the rules/expectations and staff verbalize the appropriate behavior when giving rewards.	Rewards are provided for behaviors that are identified in the rules/expectations and staff sometimes verbalize appropriate behaviors when giving rewards.	Rewards are provided for behaviors that are identified in the rules/expectations but staff rarely verbalize appropriate behaviors when giving rewards.	Rewards are provided for behaviors that are not identified in the rules and expectations.
25. Rewards are varied to maintain student interest		The rewards are varied throughout year and reflect students' interests (e.g. consider the student age, culture, gender, and ability level to maintain student interest.)	The rewards are varied throughout the school year, but may not reflect students' interests.	The rewards are not varied throughout the school year and do not reflect student's interests.
26. Ratios of acknowledgement to corrections are high	Ratios of teacher reinforcement of appropriate behavior to correction of inappropriate behavior are <b>high</b> (e.g., 4:1).	Ratios of teacher reinforcement of appropriate behavior to correction of inappropriate behavior are <b>moderate</b> (e.g., 2:1).	Ratios of teacher reinforcement of appropriate behavior to correction of inappropriate behavior are <b>about the same</b> (e.g., 1:1).	Ratios of teacher reinforcement of appropriate behavior to correction of inappropriate behavior are <b>low</b> (e.g., 1:4)
27. Students are involved in identifying/developing incentives			Students are <b>often</b> involved in identifying/developing incentives.	Students are <b>rarely</b> involved in identifying/developing incentives.

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Benchmark	3 points	2 points	1 point	0 points
28. The system includes incentives for staff/faculty		The system includes incentives for staff/faculty and they are delivered consistently.	The system includes incentives for staff/faculty, but they are not delivered consistently.	The system does not include incentives for staff/faculty.
29. A behavioral curriculum includes teaching expectations and rules		Lesson plans are developed and used to teach rules and expectations	Lesson plans were developed and used to teach rules, but not developed for expectations or vice versa.	Lesson plans have not been developed or used to teach rules or expectations
30. Lessons include examples and non-examples			Lesson plans include both examples of appropriate behavior and examples of inappropriate behavior.	Lesson plans give no specific examples or non-examples or there are no lesson plans.
31. Lessons use a variety of teaching strategies		Lesson plans are taught using at least 3 different teaching strategies (i.e., modeling, role-playing, videotaping)	Lesson plans have been introduced using fewer than 3 teaching strategies.	Lesson plans have not been taught or do not exist.
32. Lessons are embedded into subject area curriculum		Nearly all teachers embed behavior teaching into subject area curriculum on a daily basis.	About 50% of teachers embed behavior teaching into subject area curriculum or embed behavior teaching fewer than 3 times per week	Less than 50% of all teachers embed behavior teaching into subject area curriculum or only occasionally remember to include behavior teaching in subject areas.
33. Faculty/staff and students are involved in development & delivery of behavioral curriculum			Faculty, staff, and students are involved in the development and delivery of lesson plans to teach behavior expectations and rules for specific settings.	Faculty, staff, and students are not involved in the development and delivery of lesson plans to teach behavior expectations and rules for specific settings.

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Benchmark	3 points	2 points	1 point	0 points
34. Strategies to share key features of SWPBS program with families/community are developed and implemented			The PBS Plan includes strategies to reinforce lessons with families and the community (i.e., after-school programs teach expectations, newsletters with tips for meeting expectations at home)	The PBS plan does not include strategies to be used by families and the community.
35. A curriculum to teach components of the discipline system to all staff is developed and used		The team scheduled time to present and train faculty and staff on the discipline procedures and data system including checks for accuracy of information or comprehension. <b>Training included all components:</b> referral process (flowchart), definitions of problem behaviors, explanation of major vs. minor forms, and how the data will be used to guide the team in decision making.	The team scheduled time to present and train faculty and staff on the discipline procedures and data system, but there were no checks for accuracy of information or comprehension. <b>OR training did not include all components (i.e., referral process (flowchart), definitions of problem behaviors, explanation of major vs. minor forms, and how the data will be used to guide the team in decision making.)</b>	Staff was either not trained or was given the information without formal introduction and explanation.
36. Plans for training staff to teach students expectations/rules and rewards are developed, scheduled and delivered		The team scheduled time to present and train faculty and staff on lesson plans to teach students expectations and rules including checks for accuracy of information or comprehension. <b>Training included all components:</b> plans to introduce the expectations and rules to all students, explanation of how and when to use formal lesson plans, and how to embed behavior teaching into daily curriculum.	The team scheduled time to present and train faculty and staff on lesson plans to teach students expectations and rules but there were no checks for accuracy of information or comprehension. <b>OR Training didn't include all components:</b> plans to introduce expectations and rules to all students, explanation of how and when to use formal lesson plans, and how to embed behavior teaching into daily curriculum.	Staff was either not trained or was given the information without formal introduction and explanation.

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Benchmark	3 points	2 points	1 point	0 points
37. A plan for teaching students expectations/ rules/rewards is developed scheduled and delivered	Students are introduced/taught all of the following: school expectations, rules for specific setting, and the reward system guidelines.	Students are introduced/taught two (2) of the following: school expectations, rules for specific setting, and the reward system guidelines.	Students are introduced/taught only one (1) of the following: school expectations, rules for specific setting, and the reward system guidelines.	Students are not introduced/taught any of the following: school expectations, rules for specific setting, and the reward system guidelines.
38. Booster sessions for students and staff are planned, scheduled, and implemented		Booster sessions are planned and delivered to reteach staff/students at least once in the year and additionally at times when the data suggest problems by an increase in discipline referrals per day per month or a high number of referrals in a specified area. Expectations and rules are reviewed with students regularly (at least 1x per week).	Booster sessions are not utilized fully. For example: booster sessions are held for students but not staff; booster sessions are held for staff, but not students; booster sessions are not held, but rules & expectations are reviewed at least weekly with students.	Booster sessions for students and staff are not scheduled/planned. Expectations and rules are reviewed with students once a month or less.
39. Schedule for rewards/incentives for the year is planned			There is a clear plan for the type and frequency of rewards/incentives to be delivered throughout the year.	There is no plan for the type and frequency of rewards/incentives to be delivered throughout the year.
40. Plans for orienting incoming staff and students are developed and implemented		Team has planned for and carries out the introduction of School-wide PBS and training of new staff and students throughout the school year.	Team has planned for the introduction of School-wide PBS and training of either new students or new staff, but does not include plans for training both. OR the team has plans but has not implemented them.	Team has not planned for the introduction of School-wide PBS and training of new staff or students
41. Plans for involving families/community are developed and implemented			Team has planned for the introduction and on-going involvement of school-wide PBS to families/community (i.e., newsletter, brochure, PTA, open-house, team member, etc.)	Team has not introduced school-wide PBS to families/community.

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<b>Benchmark</b>	<b>3 points</b>	<b>2 points</b>	<b>1 point</b>	<b>0 points</b>
42. Classroom rules are defined for each of the school-wide expectations and are posted in classrooms		Evident in most classrooms (>75% of classrooms)	Evident in many classrooms (50-75% of classrooms)	Evident in only a few classrooms (less than 50% of classrooms)
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)		Evident in most classrooms (>75% of classrooms)	Evident in many classrooms (50-75% of classrooms)	Evident in only a few classrooms (less than 50% of classrooms)
44. Expected behavior routines in classroom are taught		Evident in most classrooms (>75% of classrooms)	Evident in many classrooms (50-75% of classrooms)	Evident in only a few classrooms (less than 50% of classrooms)
45. Classroom teachers use immediate and specific praise		Evident in most classrooms (>75% of classrooms)	Evident in many classrooms (50-75% of classrooms)	Evident in only a few classrooms (less than 50% of classrooms)

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<b>Benchmark</b>	<b>3 points</b>	<b>2 points</b>	<b>1 point</b>	<b>0 points</b>
46. Acknowledgement of students demonstrating adherence to classroom rules and routines occurs more frequently than acknowledgement of inappropriate behaviors		Evident in most classrooms (>75% of classrooms)	Evident in many classrooms (50-75% of classrooms)	Evident in only a few classrooms (less than 50% of classrooms)
47. Procedures exist for tracking classroom behavior problems		Evident in most classrooms (>75% of classrooms)	Evident in many classrooms (50-75% of classrooms)	Evident in only a few classrooms (less than 50% of classrooms)
48. Classrooms have a range of consequences/ interventions for problem behavior that are documented and consistently delivered		Evident in most classrooms (>75% of classrooms)	Evident in many classrooms (50-75% of classrooms)	Evident in only a few classrooms (less than 50% of classrooms)
49. Students and staff are surveyed about PBS		Students and staff are surveyed at least annually (i.e. items on climate survey or specially developed PBS plan survey), and information is used to address the PBS plan.	Students and staff are surveyed at least annually (i.e. items on climate survey or specially developed PBS plan survey), but information is not used to address the PBS plan.	Students and staff are not surveyed.

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**Appendix B: Model Results of a Confirmatory Factor Analysis  
of the Benchmarks of Quality**

Factor/Item	<i>Standardized Model Results</i>	
	Estimate	SE
<b>PBS Team</b>		
1. Team has administrative support.	0.646 <sup>*</sup>	0.056
2. Team has regular meetings (at least monthly).	0.580 <sup>*</sup>	0.065
3. Team has established a clear mission/purpose.	0.817 <sup>*</sup>	0.084
<b>Faculty Commitment</b>		
4. Faculty are aware of behavior problems across campus through regular data sharing.	0.783 <sup>*</sup>	0.037
5. Faculty involved in establishing and reviewing goals.	0.881 <sup>*</sup>	0.024
6. Faculty feedback is obtained throughout the year.	0.913 <sup>*</sup>	0.024
<b>Effective Procedures for Dealing with Discipline</b>		
7. Discipline process described in narrative format or depicted in graphic format.	0.635 <sup>*</sup>	0.061
8. Discipline process includes documentation procedures.	-0.324 <sup>*</sup>	0.082
9. Discipline referral form includes information useful in decision making.	0.575 <sup>*</sup>	0.079
10. Problem behaviors are defined.	0.765 <sup>*</sup>	0.042
11. Major/minor behaviors are clearly differentiated.	0.759 <sup>*</sup>	0.054
12. Suggested array of appropriate responses to major (office-managed) problem behaviors.	0.608 <sup>*</sup>	0.097
<b>Data Entry &amp; Analysis Plan Established</b>		
13. Data system is used to collect and analyze ODR data.	0.777 <sup>*</sup>	0.050
14. Additional data are collected (attendance, grades, faculty attendance, surveys) and used by team.	0.775 <sup>*</sup>	0.067
15. Data analyzed by team at least monthly.	0.841 <sup>*</sup>	0.026
16. Data shared with team and faculty monthly (minimum).	0.893 <sup>*</sup>	0.025
<b>Expectations &amp; Rules Developed</b>		
17. 3-5 positively stated school-wide expectations are posted around school.	0.798 <sup>*</sup>	0.046
18. Expectations apply to both students and staff.	0.793 <sup>*</sup>	0.039
19. Rules are developed and posted for specific settings (settings where data suggest rules are needed).	0.831 <sup>*</sup>	0.039
20. Rules are linked to expectations.	0.966 <sup>*</sup>	0.063
21. Staff are involved in development of expectations and rules.	0.836 <sup>*</sup>	0.042
<b>Reward/Recognition Program Established</b>		
22. A system of rewards has elements that are implemented consistently across campus.	0.898 <sup>*</sup>	0.020
23. A variety of methods are used to reward students.	0.886 <sup>*</sup>	0.031

24. Rewards are linked to expectations and rules.	0.901*	0.021
25. Rewards are varied to maintain student interest.	0.844*	0.033
26. Ratios of acknowledgement to corrections are high.	0.898*	0.021
27. Students are involved in identifying/developing incentives.	0.612*	0.059
28. The system includes incentives for staff/faculty.	0.612*	0.048
<b>Lesson Plans for Teaching Expectations/Rules</b>		
29. A behavioral curriculum includes teaching expectations and rules.	0.946*	0.022
30. Lessons include examples and non-examples.	0.868*	0.040
31. Lessons use a variety of teaching strategies.	0.871*	0.024
32. Lessons are embedded into subject area curriculum.	0.850*	0.030
33. Faculty/staff and students are involved in development & delivery of behavioral curriculum.	0.859*	0.040
34. Strategies to share key features of SWPBS program with families/community are developed and implemented.	0.887*	0.043
<b>Implementation Plan</b>		
35. A curriculum to teach the components of the discipline system to all staff is developed and used.	0.866*	0.024
36. Plans for training staff how to teach expectations/rules/rewards are developed, scheduled and delivered.	0.835*	0.029
37. A plan for teaching students expectations/rules/rewards is developed scheduled and delivered.	0.816*	0.028
38. Booster sessions for students and staff are planned, scheduled, and delivered.	0.763*	0.033
39. Schedule for rewards/incentives for the year is planned.	0.777*	0.058
40. Plans for orienting incoming staff and students are developed and implemented.	0.814*	0.027
41. Plans for involving families/community are developed & implemented.	0.759*	0.047
<b>Classroom Systems</b>		
42. Classroom rules are defined for each of the school-wide expectations and are posted in classrooms.	0.854*	0.044
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).	0.874*	0.033
44. Expected behavior routines in classroom are taught	0.869*	0.038
45. Classroom teachers use immediate and specific praise.	0.884*	0.026
46. Acknowledgement of students demonstrating adherence to classroom rules and routines occurs more frequently than acknowledgement of inappropriate behaviors.	0.880*	0.023
47. Procedures exist for tracking classroom behavior problems.	0.874*	0.040
48. Classrooms have a range of consequences/interventions for problem behavior that are documented and consistently delivered.	0.897*	0.026
<b>Evaluation</b>		
49. Students and staff are surveyed about PBS.	0.651*	0.042
50. Students and staff can identify expectations and rules.	0.825*	0.042

51. Staff use referral process (including which behaviors are office managed vs. teacher managed) and forms appropriately.	0.806*	0.027
52. Staff use reward system appropriately.	0.864*	0.021
53. Outcomes (behavior problems, attendance, morale) are documented and used to evaluate PBS plan.	0.842*	0.026

\*  $p < 0.001$