Effectiveness of Positive Behavior Interventions on Student Behavior in an Urban School

by

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Approval Page

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Abstract

Effectiveness of Positive Behavior Interventions on Student Behavior in an Urban School. Chana-Kay Pommels, 2018: Applied Dissertation, Nova Southeastern University, Abraham S. Fischler College of Education. Keywords: positive behavior supports, urban schools, intervention, student behavior

This applied dissertation was tailored toward providing information on the effectiveness of positive behavior interventions and support (PBIS) on student behavior in an urban school setting. The PBIS system is the school-based application of behavioral approaches and interventions aimed at effecting behavior change in learning environments. Since the onset of this behavioral management strategy, its effectiveness has been put to scrutiny by a myriad of stakeholders and scholars.

Taking a snapshot of the literature review, most of the studies have been conducted analyzing the effectiveness of the PBIS system in elementary schools, but very limited research has been done in high schools. Schools implementing the PBIS system first focused on addressing discipline and establishing cooperation and dedication amongst the staff before implementation. There is some evidence suggesting that PBIS has been able to address some behavioral challenges in the urban school environments and made it possible to define and evaluate undesirable behavior as the first step in building an effective intervention and prevention system. There are also some close relationships between the PBIS system and student achievement, as well as the PBIS system and its impact on the school climate. Some arguments also exist against its implementation. For instance, teachers argue that dissemination of the PBIS system interventions entails programs that rarely incorporate or give provisions that affect learning skills as well as cognition of students and that these interventions are outside of the school setting.

The methodology entailed an administration of surveys through Survey Monkey and the utilization of tools such as a 5-point Likert-type scale that was used to rate the effectiveness of PBIS. This dissertation researched the issue by establishing the level of satisfaction exhibited by teachers and other stakeholders as to the effectiveness of the PBIS system and the level of satisfaction from the major players in the implementation of PBIS. The research was conducted in an urban high school located in an economically disadvantaged area.
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Chapter 1: Introduction

Background of the Study

Managing behavior problems in an urban school is challenging for educators (Brown-Wright et al., 2013; Tobin & Shady, 2014). Some of the problem behaviors exhibited by urban high school students, such as substance use, school misconduct, and delinquency, can be severe and intense, which then can affect academic achievement (Johnson & Hannon, 2014; Lewis et al., 2013; McCormick, Turbeville, Barnes, & McClowry, 2014). Some of these problem behaviors are more prevalent in urban schools than in rural schools. For instance, according to the National Center for Education Statistics (2015), urban high school students are more likely to report gang-related behaviors than rural high school students.

Most urban schools have been associated with unique challenges as a result of these factors, such as diverse communities, limited resources, high poverty rates, and large sizes (Whitson, Bernard, & Kaufman, 2013). In many cases, the absence of an effective discipline system leads to numerous difficulties in educating large numbers of students in urban communities (Voight, Geller, & Nation, 2014). Waukegan, an urban unit district in northeastern Illinois, reportedly is familiar with most of these challenges. The district is said to have more than 15,000 students, with 57% coming from low-income households. There are deep concerns about safety and discipline. The school under study was also characterized by a diverse population that came with these problems because many of the students also came from humble backgrounds.

This study focused on a specific urban southeastern senior high school in which problem behaviors, such as bullying and school misconduct, were prevalent (National Association for the Advancement of Colored People, 2006). The county system reported
numerous bullying and discipline cases every year. During the academic years from 2010 through 2016, the school failed to meet the yearly progress goals for students’ academic performance. The failure was interpreted as stemming from the student violations of codes of conduct and resulting from preventive measures that were ineffective in curbing the undesired behaviors.

The number of students being suspended from school as a result of not following the disciplinary regulations increased exponentially during this period, with the highest number of cases (8%) recorded in 2013, nearly doubling the figures for disciplinary cases the year before. The school’s students exhibited behavioral needs clearly requiring urgent attention from teachers and other stakeholders. Implementing the system of positive behavior interventions and supports (PBIS) represented one option for addressing such issues.

The PBIS system is a team-based, proactive framework tailored toward creating and sustaining effective and safe schools (Childs, Kincaid, George, & Gage, 2016). The system is designed to develop prosocial skills, prevent problem behaviors, and use data-based problem solving to address behavior concerns (Swain-Bradway, Pinkney, & Flannery, 2015). The PBIS approach is a comprehensive framework that can be used by any school to design a system of behavioral supports for the students in need (Fox, Dunlap, & Cushing, 2002; Martens & Andreen, 2013).

The increasing problems experienced by this particular school regarding negative student behavior demonstrated a need to evaluate the effectiveness of the PBIS system. Schools and school districts have placed greater emphasis on school-wide prevention programs. Bradshaw, Koth, Thornton, and Leaf (2009) stated that school-based prevention models, such as PBIS, establish positive school environments in which
students understand the behaviors expected of them, thereby increasing positive student behavior. The system encourages desirable student behaviors, such as tolerance of others, as opposed to bullying. Behavior intervention entails an intensive plan tailored toward changing student behavior. Interventions such as PBIS must meet district and state regulations for maintaining required academic performance levels among high school students.

Behavioral intervention, in general, imposes action on individuals as a result of their behavior and advances the goal of preventing the behavior from continuing. School behavior problems can be traced back to a variety of causes, including failure on the part of students to have learned the positive behavior, the students having not learned the positive behavior, contingencies in the environment that do not support the desired personal behavior, students’ attempts to get something or escape from something, individual temperament issues, student involvement with other difficult young people, drug use, academic difficulties, and parenting factors, such as family disorganization, family dysfunction, and discipline issues (Steele, 2010).

**The Need for PBIS**

The PBIS system has been confirmed by some researchers as a valuable approach that can be used to improve the social climate of schools as well as to support intervention programs for the students (Lembke, 2012). It was designed to improve the success and efficiency of behavior intervention in a large-scale implementation setting (Childs et al., 2016). The PBIS system is designed with the goal of taking a holistic approach to behavior problems by integrating both behavioral and academic success, allowing collaboration, expanding effective practices, emphasizing safe school climates and prevention, giving priority to validated and evidence-based procedures, and working
with all students (Swain-B Bradway et al., 2015). With successful PBIS implementation, teachers and students are able to minimize the time spent addressing disciplinary issues and maximize the time spent in classroom learning (Childs et al., 2016; Lembke, 2012).

Researchers have confirmed that the PBIS instructional tool is an appropriate model for creating safe environments that are conducive to learning (Allodi, 2010; Hinton & Buchanan, 2015). The PBIS system is used to assist school personnel in organizing and adopting behavioral interventions that are evidence based, bringing them into an integrated continuum that enhances social and academic behavior outcomes for all students (Office of Special Education Programs, 2016). Moreover, Allodi (2010) purported that maintaining a social climate fit for learning and collaboration can foster positive relationships between learners and their teachers. A positive social climate enhances student-teacher relationships, which, in turn, drives improved performance and well-being. Urban school teachers face daily challenges of problematic student behavior. To study the effectiveness of the PBIS for addressing student behavior, researchers must also examine teachers perceptions of the system, the level of teacher satisfaction with it, and the system’s impact on the overall school climate.

Teenagers are more likely than younger students to experience emotional outbursts in response to perceived barriers on their path to social identity. Erik Erikson articulated that idea in his theory regarding the path of social identity, insisting that identity can be formed by passing through a series of eight role transitions from infancy to old age (Newman & Newman, 2014). Each stage involves a resolution conflict or an outcome that influences the achievement of identity. The major focus of the theory is the fifth stage, or adolescent stage, during which individuals have opportunities to experiment with different responses to social expectations and roles. The PBIS system is
important during this adolescent stage.

**Current Study**

This study focused on an urban high school located in an economically disadvantaged area of the state. The school was opened in 1923 as Pompano Negro Grammar School, with the name changed later to Pompano Colored School and then changed again to its present name of Blanche Ely High School. The current student population consisted of 2,052 students, 89% of whom were eligible for free and reduced-priced meals. The school’s students were demographically divided as follows: 15 students (1%) were Asian, 1,680 students (82%) were African American, 256 students (12%) were Hispanic, 24 students (1%) were multiracial, two students (less than 1%) were Native American, and 75 students (4%) were White.

Female students represented 55% of the enrollment and males represented 45%. Of the 2,052 students, 208 were English-language learners and 190 were learners in the program for exceptional student education. The faculty and staff members were reflective of the diverse student body. Personnel at the school totaled 150 individuals, including five administrators, 99 teachers, and 46 support and noninstructional staff members. Forty-three percent of the teachers and administrative staff had earned bachelor’s degrees, 47% had earned master’s degrees, 7% held specialist degrees, and 3% had earned doctoral degrees.

This research study considered the effectiveness of the PBIS system in an urban high school in terms of the preliminary outcomes, defined as the number of discipline referrals. Although much of the literature shows that PBIS has been very instrumental in addressing behavioral problems among students, some researchers have expressed concerns that PBIS may not be very effective in addressing behavioral problems (Allodi,
2010; Hinton & Buchanan, 2015). This research investigated the case of problematic behaviors by assessing the effectiveness of PBIS in an urban high school.

There is a clear need for an intervention measure study that wholesomely addresses the issues. Students in the school under study exhibited behavioral needs that required the urgent attention of teachers and other stakeholders. Teachers faced significant challenges from the behavior of the school’s students. The following section details the researcher’s examination of the literature on the effectiveness of the PBIS system, specifically addressing the appropriateness of PBIS at the school context of the study.
Chapter 2: Literature Review

The purpose of this study was to determine the effectiveness of PBIS in addressing behavioral problems prevalent in an urban school. Although a number of researchers focused on the effects of PBIS in urban schools (Horner & Sugai, 2015; Richards, Aguilera, Murakami, & Weiland, 2014; Rusk, 2016), much of the research has been inconclusive (Eiraldi et al., 2016; Flannery, Fenning, Kato, & McIntosh, 2014; Richards et al., 2014). Some researchers have found the PBIS system to be a promising tool for addressing behavioral problems of children (Eiraldi et al., 2016; Flannery et al., 2014; Richards et al., 2014), but other researchers raised doubts about its effectiveness (Bradshaw, Pas, Debnam, & Lindstrom-Johnson, 2015; Nese et al., 2016). Some studies claimed that the PBIS system deviates from Erik Erikson’s psychosocial theory (Feuerborn, Tyre, & King, 2015; Hiles, 2015). The conflicting conclusions indicate the need for additional research into PBIS effectiveness in urban high schools.

In this chapter, the researcher reviews the existing literature on the topic using materials sourced from reputable databases and peer-reviewed journals. The section begins with a discussion of studies exploring the PBIS system, moves into the behavioral problems most frequently exhibited by public school students, and concludes with a discussion of studies that evaluated the effectiveness of PBIS system for addressing behavioral issues. The section includes a discussion of existing studies regarding the impact of PBIS on school climate, student academic achievement, and staff-development requirements. The section also notes the misconceptions and criticisms of PBIS and includes information regarding the role of school leadership in the effectiveness of PBIS.

Behavior Problems of Students in Urban Schools

The current study explored the ability of PBIS to address the behavioral problems
of students attending an urban high school. Researchers have identified common behavioral problems requiring the urgent attention of teachers and other stakeholders (Kowalski, Giumetti, Schroeder, & Lattanner, 2014; Skiba et al., 2014; Wang & Degol, 2016) and have noted that teachers are likely to face a variety of problems related to student behavior (Kowalski et al., 2014; Skiba et al., 2014; Wang & Degol, 2016).

In this section of the literature review, the researcher discussed the findings of past researchers who identified the different behavioral problems commonly found in urban schools (Dawson-McClure et al., 2015; Walsh et al., 2014). Urban schools often face unique challenges as a result of factors including the diversity and poverty of the communities they serve, the limited resources available, and their large sizes. In many cases, the absence of effective disciplinary systems results in obstacles in the effort to educate the large numbers of urban students attending the schools (Dawson-McClure et al., 2015; Walsh et al., 2014).

For instance, multiple researchers pointed to Waukegan, an urban unit district in northeastern Illinois, as a district that faces most of the challenges identified by Brown (2014), Gruhn (2016a), and Stevens, Marder, and Nagel (2015). The district includes more than 15,000 students, 57% of whom come from low-income households. There are great concerns about safety and discipline in the school settings such as the one studied here. The student population of the school is diverse, facing a variety of problems as a result of the varying student backgrounds (Brown, 2014; Gruhn, 2016a; Stevens et al., 2015).

Researchers have noted that behavior struggles often eclipse academic work in the classroom (Miller, 2007), with behavioral interruptions being a prevalent part of the day (Colvin & Scott, 2014; Friedman-Krauss, Raver, Morris, & Jones, 2014; Kellam et al.,
Urban schools all face similar sets of challenges (Atkins et al., 2015; Milner, 2015). Metropolitan and urban schools share demographic and physical characteristics, with urban schools generally serving larger student populations as a result of their locations in densely populated areas (Brown, 2015; Milner, 2015; Vincent, Sprague, Pavel, Tobin, & Gau, 2015).

Urban schools generally are marked by higher levels of ethnic and racial diversity, poverty, linguistic diversity, and student morbidity, and a good proportion of learners at these schools come from the immigrant populations (Kincheloe, 2010). Although the sociodemographic makeup may not pose a problem in and of itself, it may speak to broader economic and social disparities facing such populations (Brown, 2015; Milner, 2015; Vincent et al., 2015). Ravitch (2016) noted that poverty and segregation are likely to underlie the issues in urban schools, with the concentration of the racial and poverty isolation matters being directly related to the school policies that significantly influence student behavior, achievements, and trends. It is hard to divorce the challenges of urban education from the sociodemographic contexts facing these schools.

Urban schools have struggled to provide environments of high academic expectations, which is a reality tied to the behavioral expectations in those schools in which the structural challenges can produce or perpetuate the low expectations of the learners (Harry & Klingner, 2014). The students attending these schools exhibit a varied level of learning readiness, with many of the student manifesting specific stressors that challenge their ability to perform at high levels (Howard & Milner, 2014; Pabayo, Dunn, Gilman, Kawachi, & Molnar, 2016). This reality also tends to have negative implications for student behavior. Researchers have noted that negative stereotypes about families can misinform educators and lead to negative views of students, creating behavioral problems
(Harry & Klingner, 2014). Many teachers also see outside factors as justifying the behavior problems of students.

Although outside factors may be major influencers on the lives of the students, they may not necessarily impact student behavior or achievement (Braun-Lewensohm & Stagy, 2014; Donnelly et al., 2016). Teachers base their reactions on student behavior in tandem with home factors, which is an approach that some have criticized as being unfair for the students and as sending the wrong messages about student behavior (Braun-Lewensohm & Sagy, 2014; Chan, 2016; Donnelly et al., 2016). Researchers also have identified inconsistency from teachers as a factor that affects the behavior problems among urban learners (Braun-Lewensohm & Sagy, 2014; Donnelly et al., 2016). If students know what teachers expect from them, they are more likely to behave appropriately. On the other hand, if behavior standards change frequently, students find it difficult to behave as expected (Braun-Lewensohm & Sagy, 2014; Donnelly et al., 2016).

Many young people from chaotic and troubled homes are associated with antisocial behavior in school environments. As these students become older, they wreak havoc in schools, engaging in defiant, disruptive, and aggressive behavior that disrupts the learning of others, overwheels teachers, wastes teaching time, compromises safety, and obstructs the creation of successful life and schooling experiences (Chen et al., 2016; Decaluwe et al., 2015). A poll conducted by the American Federation of Teachers confirmed that teachers waste significant team dealing with disruptive student behavior. Of the teachers surveyed, 19% reported a loss of 2 or 3 hours of teaching time per week, 21% reported a loss of 4 hours per week, and 17% reported a loss of more than 4 hours per week (Johnston & Johnston, 2013). The constant disruption creates a great deal of anxiety, and most of the problems are caused by a few members of each class who can be
classified as antisocial (Johnston & Johnston, 2013).

Growing numbers of studies have highlighted numerous risk factors associated with prevalent poor behavior in urban school (Frazier et al., 2015; Larson, 2016; Skiba et al., 2014). Risk factors associated with these behaviors include negative attitudes toward school, parent criminality, family transitions such as divorce or death, neglect and abuse, poverty, inconsistent and harsh parenting, alcohol and drug use by caregivers, media violence, and modeling of aggression (Johnston & Johnston, 2013). O’Connor and Fernandez (2006) suggested that, without proper interventions in place, urban schools are likely to situate poverty-induced traits and ethnic minority or cultural differences as expressions of learning or emotional disability.

Researchers have also noted that broader changes in the world at large can significantly impact student behavior (Simonsen & Sugai, 2013). Students are exposed to the influence of technological changes, with one example being the revolution of digital media channels such as Facebook, Twitter, Instagram, and Flickr (Hinduja & Patchin, 2014; Kowalski et al., 2014; Slonje, Smith, & Frisén, 2013). The emergence of these social media sites has heightened the spread of cultural diversity around the globe. Practices such as cyberbullying can now take place online. Students have been shown to use social media avenues as a tool for spreading rumors or sharing multimedia content about their colleagues as a means of bullying them.

A growing body of research shows that cyberbullying can result in loss of life when students commit suicide following the humiliation that accompanies the practice. Other negative student behaviors include physical bullying, violence, the victimization of female students, stereotyping, and dropping out of school (Hinduja & Patchin, 2014; Kowalski et al., 2014; Slonje et al., 2013). Negative behavior impacts individual students,
the school at large, school districts, and even the nation. Individual students face effects, such as suspension or expulsion or both from school, and teachers experience demotivation and stress (Simonsen & Sugai, 2013). School administrators must devote time, energy, school resources to handling office discipline referrals and making decisions regarding disciplinary action for students exhibiting negative behaviors (Bauman & Bauman, 2015; Heirman & Walrave, 2015).

When cases of undesired behaviors escalate, school administrators can be targeted with the resulting criticism and can experience the loss or compromise of their professional reputations (Simonsen & Sugai, 2013). The Florida state legislature requires that schools apply whatever strategies have been deemed effective to uphold the positive behavior of learners and create a safe learning environment. The heightened awareness of practices such as cyberbullying and violence among the students compelled pedagogical experts to devise school-wide PBIS tools in an attempt to resolve the challenge (McIntosh et al., 2013).

The PBIS System

The PBIS systems are school-based applications of behavioral approaches and interventions aimed at effecting behavior change in learning environments (Bradshaw, Pas, et al., 2015; Curtis, Van Horne, Robertson, & Karvonen, 2010; Horner, 2014; Putnam & Kincaid, 2015). It is a noncurricular model flexible enough to be adopted in varied school contexts including elementary, high school, and higher learning levels (Hinton & Buchanan, 2015). The model applies a three-tiered, public health, system-wide structure to implement a continuum that integrates academic programs and behavioral change strategies. There are three PBIS divisions identified by Bradshaw, Pas, et al. (2015), Horner (2014), Putnam and Kincaid (2015), and Hinton and Buchanan (2015):
the universal system (Tier 1), the selective system (Tier 2), and the indicated system (Tier 3). The outcomes include the abandonment of negative behaviors (i.e., positive behavior change), the reduction of office discipline referrals, and the reduction of student suspensions.

**Effects of PBIS.** A growing body of literature suggests that PBIS creates positive change at all schooling levels, including elementary, middle, and high school. However, researchers have identified some challenges affecting the successful implementation of PBIS in schools.

**Effects on students’ behavior.** Because traditional methods of dealing with problem behaviors have proven ineffective, many schools are doing away with piecemeal and reactive approaches and substituting PBIS strategies. Educators hope that PBIS will address the concerns of parents and also enhance the capacity of schools to create environments that improve learning. The PBIS system has addressed many of the challenges faced in urban school environments (Christofferson & Callahan, 2015; Goodman-Scott, Hays, & Cholewa, 2018; Rusk, 2016). The system was developed originally to deal with the behavior of students who were determined to have special needs. According to Walker, Cheney, Stage, and Blum (2005), PBIS “emerged as a significant policy and practice in public schools during the past seven years” (p. 194).

It became a system that has been instrumental in changing the environment within school systems (Bradshaw, Koth, Bevans, Ialongo, & Leaf, 2008). The PBIS model made it possible to define and evaluate undesirable behavior as the first step in building an effective intervention and prevention system. Given that the strategy primarily targets positive or negative reinforcement of behaviors that are observable, defined, and measurable, schools can adopt the strategy and move quickly to effective prevention of
undesirable behaviors. Ross, Horner, and Stiller (2008) clearly stated that the definitions of the behaviors curbed by PBIS do not necessarily have to speculate on the intent of the behavior, the frequency of the occurrence of that behavior, or the power of the student that is involved.

The reduction of peer-maintained problem behavior, especially outside the class, has to be the main goal of a bully prevention program that can be considered to be part and parcel of the PBIS program, and the reduction of the bullying behaviors can only be considered an integral part of these behaviors. More so, schools that have implemented Tier 1, or universal PBIS, take the initiative to define the problem behaviors, determine those behaviors that will be referred and those that will be classroom managed, and then determine a process that will be used to handle each category as required. This creates a cohesive, systemic and consistent practice when it comes to responding to the problematic behaviors. This is a more hands-on approach that guarantees the effectiveness of PBIS.

Thompson and Webber (2010) studied 10 students eligible for exceptional student education who exhibited difficulty in sustaining appropriate classroom behavior, finding that all students demonstrated patterns of improvement in the percentage of appropriate behavior. The intervention proved to provide the desired results of fewer behavior problems, decreased teacher referrals for the targeted behaviors, and improved teacher-student relations. The results noted that nine of the 10 student participants showed drastic improvements exceeding the 90% benchmark for the targeted behaviors. One factor driving this study was based on recognizing that reactive measures leading to punitive consequences have little to no effect in deterring students from engaging in the undesirable behaviors (Thompson & Webber, 2010).
Research has shown that school-wide PBIS correlates positively with the reduction of office disciplinary referrals. The ability of the PBIS system to address misbehaviors is deficient in the sense that it makes the students feel a sense of stereotype threat because their status is viewed as a risk factor. According to Steele (2010), students are likely to process school failures, especially early in their academic experiences as a confirmation of the negative stereotypes concerning their racial and social group’s intellectual ability.

The major goal of PBIS is to enhance the capacity of the school to design the effective environments that are meant to increase learning and teaching. The PBIS approach has greatly assisted in addressing problems that are related to the traditional way of dealing with the challenging behavior. For instance, punishment may include written and verbal reprimands, detention, denial of privileges, expulsion, and detention (Brusnahan & Gatti, 2008). Although these kinds of responses try to deal with the behavior and also try to create a safe environment, such practices have been widely criticized because they are primarily reactive, they do not teach appropriate behaviors, and they foster negative associations. Such approaches have proven ineffective as a result of relying only on the inconsistent use of punishment and neglecting positive strategies. The PBIS strategy has proven to be more effective as compared to the traditional way of addressing traditional problems. It improves the school climate by establishing a learning environment that is preventive, positive and predictable to improve the behavior of the students. It has also improved the provision of the specialized interventions, especially to the students who are at high risk of the behavioral challenges (Neilson-Gatti, Stansberry-Brusnahan, & Nelson, 2007).

The approaches that are employed in teaching call for consistent effort for the
expected behavior across the home and school settings (Brusnahan & Gatti, 2008). The moment a child portrays some challenging behavior in a school setting, there is a need to establish a strong partnership between the family and school to maximize the effectiveness of the intervention strategies. As with the PBIS system, there has been a shift from the individually based approach to the family involvement as well as the school-wide emphasis that is needed within all aspects of tertiary, secondary and primary prevention system for the best possible results (Neilsen-Gatti et al., 2007).

When students are said to exhibit disruptive behaviors, they have to be identified, and then strategies must be put in place to ensure that the appropriate behaviors are communicated to them. Hence, the PBIS system, with clear procedures and expectations, has proven to be an effective strategy when dealing with such students. It provides the tools that assist these students in changing their actions positively. Research conducted in some schools indicated significant improvements in the number of students who were sent to the office with a referral after the implementation of the PBIS system (Spencer, 2013). Student behavior is dealt with in a more positive manner and is based on the already existing data. It marks the preparedness of the teachers to deal with disruptive behavior.

However, adjustments and changes may be needed as the school years changes. This implies that more time may be required to determine how effective the PBIS model can be in the future (Spencer, 2013). For the last 40 years, research has greatly assisted in establishing the PBIS system as an effective behavioral intervention (Lembke, 2012). This intervention has been linked to a positive school climate as well as an improvement in the achievement of students in some academic subjects. There is also research showing that PBIS has assisted in increasing teacher dissatisfaction or motivation. However, there
is a need that is also backed up with some additional research (Palovlich, 2008).

Schools have traditionally used office discipline referrals (ODR) to report and monitor serious student behaviors that may lead to punishments or disciplinary actions such as detention and suspension. These referrals are completed the school staff to document any untoward behavioral incidents in a systematic way (Cressey, Whitcomb, McGilvray-Rivet, Morrison, & Shander-Reynolds, 2014; Kennedy & King, 2015; Miller, 2016; Putnam & Knoster, 2016). Details surrounding the incident, such as the location, date, and time, persons involved, and clear definitions of the behaviors exhibited during the incident, will be reordered. Studies have shown that the most commonly observed outcome of the PBIS system on the behaviors of the students can be seen in the ODR data (Cressey et al., 2014; Kennedy & King, 2015; Miller, 2016; Putnam & Knoster, 2016). The ODR data serve as a common outcome measure for evaluating the behavioral impact of PBIS implemented widely in a school because the information is easy to use and access (Cressey et al., 2014; Kennedy & King, 2015; Miller, 2016; Putnam & Knoster, 2016; Upreti, Liaupsin, & Koonce, 2010).

Several studies conducted on the effects of PBIS using ODR data showed significant reductions in ODRs and suspensions in a few years after PBIS implementation. One early study by Putnam, Horner, and Algozzine (2006) examined the effects of the PBIS system as implemented in an urban elementary school, comparing preintervention and postintervention data in a course of several years and finding significant reductions. Barrett, Bradshaw, and Lewis-Palmer (2008) focused on the state of Maryland’s state-wide PBIS implementation in 1998. The authors examined data from 186 schools, noting 43% fewer ODRs at the elementary level, 33% fewer at the middle school level, and 37% fewer at the high school level. Among the kindergarten through
Grade 8 groupings, the researchers observed a significant 72% reduction in ODRs (Barrett et al., 2008).

Subsequent researchers also found a significant reduction in ODR rates among special education students (Bradshaw, Bottiani, Osher, & Sugai, 2014; Bradshaw, Waasdorp, & Leaf, 2015; Tobin, Horner, Vincent, & Swain-Bradway, 2012). Tobin et al. (2012) found a 10% reduction in school-wide ODR rates and a significant reduction in the number of students in special education involved in disciplinary infractions and discipline referrals. The ODR reductions are made more significant by the fact that students with disabilities are overrepresented in school disciplinary actions (Bradshaw et al., 2014; Bradshaw, Waasdorp, et al., 2015; Tobin et al., 2012).

Apart from the reduction in the number of ODRs and suspensions, researchers also found observed decreased severity of behaviors leading to disciplinary actions (Evanovich & Scott, 2016; Skiba & Losen, 2016; Vincent et al., 2015). In addition, the problem behaviors that interfered with instructional time for students sent to disciplinary actions also decreased because of PBIS (Evanovich & Scott, 2016; Skiba & Losen, 2016; Vincent et al., 2015). Based on the principles of applied behavior analysis, this implies that PBIS is preferable to suspensions and expulsions. If punitive consequences of engaging in negative behaviors (e.g., suspension and expulsion) were truly effective, then the negative behaviors that led to these punishments should decrease. Repeat behaviors should also decrease or vanish. However, this has not been the case (Evanovich & Scott, 2016; Skiba & Losen, 2016; Vincent et al., 2015).

Researchers have reported the PBIS system to be a good alternative to harsh or strict responses to problem behavior (Fletcher, 2015; Gruhn, 2016b; Swain-Bradway, Swoszowski, Boden, & Sprague, 2013). Researchers have concluded that zero-tolerance
policies designed to send a message to students that certain behaviors are not appropriate and are not allowed have proven ineffective, noting that such models do not match the severity of the consequence to the severity of the infraction (Fletcher, 2015; Gruhn, 2016b; Swain-Bradway et al., 2013, 2015). Researchers have determined that PBIS can be more effective than school suspensions, which have been found to have negative effects (Flannery et al., 2014; Roach et al., 2015). These studies found that suspensions can lead to higher number of youth at risk for delinquency and also conclude that suspensions lead to adverse effects such as a higher likelihood of academic failure, increased dropout rates, and poorer employment outcomes (Flannery et al., 2014; Roach et al., 2015).

Researchers have determined that the PBIS system does not lead to those negative effects (Eliason, Horner, & May, 2013; Massar, McIntosh, & Eliason, 2015). According to the researchers, school-wide PBIS systems use behavioral foundations and research to reduce problem behaviors (Eliason et al., 2013; Massar et al., 2015). Schools that implement PBIS use well-defined outcomes, coupled with well-established principles of behavior science, to create change. More importantly, the components of the PBIS system are patterned on empirically validated practices that showed positive and generalizable effects (Eliason et al., 2013; Massar et al., 2015).

Unlike harsh policies that differentiate between major and minor behavior infractions, PBIS labels minor offenses as those perceived to be less intrusive. Minor offenses may break or violate school rules but are not so egregious as to necessitate action from school administrators (American Psychological Association, 2012; Curtis, 2013). On the other hand, PBIS labels major offenses as those that are intrusive and harmful to the degree that school administrators must respond. The PBIS system
proponents believe that, if school-wide rules are fair and are consistently reinforced by administrators, and if consequences match the offenses, students will be more likely to respect school rules and to eschew disruptive behavior (Council on School Health, 2013; Kelley, 2014; Mathur & Nelson, 2013). Major offenses would include alcohol and substance abuse, making bomb threats of death threats, showing physical and verbal aggression, and using weapons. Minor offenses would include such behavior as using inappropriate verbal language, being frequently late, disrupting and distracting the class, or violating dress codes (Fletcher, 2015; Gruhn, 2016b; Swain-Bradway et al., 2015).

Researchers identified a positive link between PBIS implementation and reduced numbers of major behavior offenses and associated disciplinary action. With PBIS implementation, documented major and minor discipline problem behaviors decreased by at least 50% in a span of less than 2 months (Fletcher, 2015; Gruhn, 2016b; Swain-Bradway et al., 2015). Minor offenses that included disruptions, defiance, teacher disrespect, aggression, physical contact, peer harassment, and inappropriate language decreased by at least 30%. Both in-school and out-of-school suspensions also decreased. Certain studies also found that the number of incidents of major and problematic behaviors declined. The studies also noted gains in prosocial behavior. All of these trends result in decreased distractions and increased instruction time (Fletcher, 2015; Gruhn, 2016b; Swain-Bradway et al., 2015).

The reductions in problem behaviors, in disciplinary actions, and ODRs related to the PBIS implementation have strong and important implications for student outcomes (Cassandra & Thorpe, 2014; Garcia & Oliver, 2013; Horner & Sugai, 2015). Serious disruptive behaviors and the responses of the teachers and administrators can lead to serious distractions to the school environment, posing a danger to the educational
atmosphere. Frequent and serious disruptive behaviors can pose a danger to the whole school population and negatively impact perceptions of the school by parents and the community (Cassandra & Thorpe, 2014; Garcia & Oliver, 2013; Horner & Sugai, 2015). The PBIS system has been identified as an adequate response to the call for a school-wide behavior program to address students’ problem and disruptive behavior (Cassandra & Thorpe, 2014; Garcia & Oliver, 2013; Horner & Sugai, 2015).

Researchers have concluded that the implementation of PBIS in the school can both remedy problem behaviors of individual students and enhance overall school safety institutional climate (Cassandra & Thorpe, 2014; Garcia & Oliver, 2013; Horner & Sugai, 2015). With PBIS in place, students may replace negative behaviors with positive behaviors. Under PBIS, students are less prone problem behaviors that lead to suspension and therefore miss less class time. By learning the desired replacement behaviors through PBIS, students with behavior problems also benefit by gaining protective factors such as teacher support and peer support. In a safe learning environment, students are likelier to achieve academic and social success.

Effects on academic achievement. A significant number of studies identified a correlation between PBIS and improved scores or between PBIS and improved instruction time (Kelm, McIntosh, & Cooley, 2014; Miller, 2016; Reinke, Herman, & Stormont, 2013; Walsh et al., 2014). Crone, Hawken, and Horner (2010) showed the relationship between problem behavior and academic performance in an urban school. The authors pointed out that reading skills are related to disciplinary problems, explaining that learners who experience negative achievement in literacy instruction respond with behavior problems (Crone et al., 2010). Crone et al. also noted that the academic failure of high school students is connected to the number of suspensions they
receive due to inappropriate behavior.

Data collected from 37 Maryland elementary schools over a 5-year longitudinal randomized controlled effectiveness trial examined the impact of training in school-wide PBIS on implementation fidelity, student suspensions, ODRs, and academic achievement (Bradshaw, Mitchell, & Leaf, 2010). A school-wide evaluation tool was administered at the schools for baseline and implementation periods, with the staff members at each school completing the Effective Behavior Support Survey. Baseline data, along with 4 subsequent years of data, were analyzed. The survey data were aggregated at the school level by averaging all the staff members’ scores and calculating a single score for each subscale at each school across the 5 years of the trial. The study indicated that the schools trained in school-wide PBIS implemented the model with high fidelity and experienced significant reductions in student suspensions and office discipline referrals (Bradshaw et al., 2010).

Apart from the impact on the social and problem behavior of the students, researchers found strong evidence associating PBIS with higher academic achievement. One of the leading indicators that schools use to assess student function is standardized test performance (Berkowitz, Moore, Astor, & Benbenishty, 2016; Gage, Sugai, Lewis, & Brzozowy, 2015; Madigan, Cross, Smolkowski, & Strycker, 2016; Skiba, 2015; Wallace, 2014). The No Child Left Behind legislation intensified the reliance of schools and teachers on standardized achievement tests to determine whether or not students were performing as they should (Grissom, Nicholson-Crotty, & Harrington, 2014; Ickovics et al., 2014; Sadovnik, O’Day, Bohnstedt, & Borman, 2013). Teachers are pressured to ensure that students perform well on these tests to avoid penalties against the schools.

The standardized tests focused on the subject areas of reading, writing,
mathematics, and science. Because disruptive behaviors lead to distractions and loss of instructional time, a decline in student academic achievement naturally follows (Grissom et al., 2014; Ickovics et al., 2014; Sadovnik et al., 2013). Poor performance on the standardized tests also resulted from the disruptive behavior ramifications. Researchers determined that the negative relationship between problem behavior and academics can be more pronounced as students transition from middle school to high school and noted that students who are performing poorly in academics and exhibiting negative social behavior have been shown to be at greater risk for dropping out (Noltemeyer, Ward, & McLoughlin, 2015; Toldson, McGee, & Lemmons, 2015).

Interventions such as the PBIS system can reduce problem behavior, thereby producing significant gains in the academic front, mainly by maximizing instruction time (Noltemeyer et al., 2015; Toldson et al., 2015). Increased instruction time translates into significant academic gains, as measured through performance on standardized tests. Researchers have shown students with problem behavior waste an average of 45 minutes of instructional time per day (Noltemeyer et al., 2015; Toldson et al., 2015). This is a significant amount of time that could be devoted to learning. Furthermore, researchers have provided evidence of strong correlation between antisocial behavior and academic failure among students. Poor academic performance is a primary predictor of negative social behavior (Noltemeyer et al., 2015; Toldson et al., 2015).

Research into PBIS effectiveness revealed that the intervention can lead to improved academic achievement (Crone et al., 2015; Horner et al., 2014). Horner et al. (2009), through a randomized, wait-list-controlled trial, showed that school-wide PBIS can lead to higher academic performance of students after 3 years. In particular, results showed students improving their scores to meet or exceed statewide reading-assessment
standards. Studies in the middle school context showed similar results. Lassen, Steele, and Sailor (2006) focused their study on an urban middle school, with results indicating that, after 3 years of PBIS implementation, students’ scores on standardized mathematics and reading tests increased significantly.

Bradshaw, Pas, Goldweber, Rosenberg, and Leaf (2012) conducted a study in the context of the state of Maryland. The authors gathered both formative and summative data from 421 elementary and middle schools to determine the effects of PBIS, finding higher scores in math and reading. The PBIS implementation also generated lower truancy rates (Bradshaw et al., 2012). Simonsen et al. (2012) conducted a study in the context of Illinois schools that had implemented PBIS. Gathering data from 428 Illinois schools implementing PBIS to determine the effects of implementation with or without fidelity across time, results showed that schools that implemented PBIS with fidelity experienced improved student performance across time. Implementation fidelity was linked also with enhanced social outcomes, not just academic outcomes (Simonsen et al., 2012).

In addition to increased instructional time because of fewer ODRs and fewer incidents of disruptive behavior, PBIS has been shown to improve student attendance, which is also a crucial factor for school achievement (Noltemeyer et al., 2015; Toldson et al., 2015). The more time students spend at school and the fewer absences they incur, the more instruction time they receive. Studies that examined the efficacy of PBIS have noted improved attendance rates, with researchers finding increased attendance rates after 5 years of PBIS implementation (Noltemeyer et al., 2015; Toldson et al., 2015). Improved attendance rates mean improved student grades as well as decreased incidents of discipline referrals. Attendance improves annually with PBIS implementation (Baker
The PBIS system can produce a host of positive outcomes, all linked to one another. With reduced problem behavior, improved attendance, more instructional time, and fewer disciplinary referrals, PBIS can lead to a better educational experience for all, including students with disabilities (Baker & Ryan, 2014; Freeman et al., 2016).

**Effects on the school climate.** The PBIS system can also improve overall school climate by reducing problem behavior and enhancing academic achievement. Apart from the direct effects of PBIS implementation on student outcomes, research has demonstrated that, with PBIS in place, the morale of school personnel and the school climate improved (Eiraldi et al., 2014; Hibbard, Davis, & Andrews, 2015). It is important to ensure that staff members themselves are continuously engaged in the PBIS process, including being provided with regular training. Teachers must also be motivated not to leave (Eiraldi et al., 2014; Hibbard et al., 2015). Researchers have claimed that PBIS has positive effects on all individuals in the school, including teachers, students, and staff, thereby improving the overall school environment (Eiraldi et al., 2014; Hibbard et al., 2015).

In an effective school learning climate, students have the opportunity to achieve more and exhibit prosocial behaviors more frequently (Bradshaw et al., 2009). Bradshaw et al. (2009) conducted a longitudinal analysis of 37 elementary schools, finding positive effects generated by PBIS on the overall organizational health and climate of schools. Staff members became more loyal and engaged over the course of 5 years, and the academic and resource influence of the schools improved over that time period as well (Bradshaw et al., 2009). Some researchers have also found that, with the PBIS system, improvements in perceived safety followed (Horner et al., 2009).
In addition, some studies indicated that teachers also benefit from PBIS (Domitrovich et al., 2016; Oakes, Lane, Jenkins, & Booker, 2013). With fewer distractions in class, less stress from disciplinary referrals and actions, and reduced frustration over unmotivated students, teacher burnout rates decreased because of PBIS. Some studies have indicated that PBIS systems can lead to program sustainability, linking program initiatives to the priorities of the school and making stakeholders more supportive and involved the school (Domitrovich et al., 2016; Oakes et al., 2013).

Several studies have established student misbehavior to be a major predictor of teacher burnout. Burnout, in turn, has been associated with varying negative outcomes including low senses of self-efficacy, diminished teaching performance, and higher teacher turnover. With reduced risk of burnout, student outcomes can improve (Domitrovich et al., 2016; Oakes et al., 2013). School climate can be defined as the character and the quality of school life based on the schooling experiences of students, parents, teachers and other school personnel. The climate reflects values, goals, norms, organizational structures, learning and teaching practices, and the interpersonal relationships among all members defines the school climate as well (National School Climate Center, 2013). Because studies have revealed that school climate can influence behavioral problems in schools, understanding how the PBIS system affects behavioral problems in urban schools rests on an understanding of the relationship between the PBIS system and the school climate (Cornell & Bradshaw, 2015; Low & Van Ryzin, 2014; Putnam & Kincaid, 2015).

The PBIS system relates to many dimensions of the school climate, especially relationships, and safety. It is designed to teach rules and expectations to the students, and it seeks to build relationships among teachers, students, and administrators to provide
needed support for the students to be successful both academically and behaviorally. Some studies have shown that implementation of the PBIS system can reduce levels of ODR data. Mathews, McIntosh, Frank, and May (2013) showed a reduction of 80% in the level of ODRs during the first year of PBIS implementation and a reduction of 76% during the second year of implementation in an urban school. Again, Bradshaw, Reinke, Brown, Bevans, and Leaf (2008) confirmed a reduction in ODR data and a significant improvement in the perceptions of school safety among staff members and teachers.

On the other hand, others have suggested that PBIS implementation does not make measurable change in school climate. Some studies showed an increase in the level of social skills exhibited by the students but no change in the level of safety in the school (Goodman, Hurston, Robinson, & Robinson, 2014; Richards et al., 2014; Simonsen et al, 2012). Some studies concluded that PBIS implementation produced no ODR reduction or made a difference in school safety (Gage, Larson, Sugai, & Chafouleas, 2016; Hodnett, 2008; Miller, 2016).

Factors behind a model PBIS. In order to obtain desirable outcomes from PBIS implementation in urban high schools, teachers must receive adequate training on its components. Teachers must be given examples of classroom examples lesson plans, information on both classroom and office management behaviors, and a rationale for posting expectations (Givhan & Leavitt, 2016; McIntosh, Kelm, & Canizal-Delabra, 2016; Pas, Waasdorp, & Bradshaw, 2015). The core team members of the PBIS model include staff members, who must possess adequate knowledge on all features and elements of the system to allow for fidelity of implementation across the continuum.

Teachers must be competent on how to compile, understand, read, and share school data. Teachers must be competent in subject areas and must also possess the
ability to use multiple strategies to convey subject area content. The professional educator must demonstrate the PBIS model and reward acceptable behaviors exhibited by students. Furthermore, Fallon, McCarthy, and Sanetti (2014) posited that plans should be devised on how to support the staff’s efforts geared toward behavior change management, which forms a critical step in the exploration phase of PBIS implementation (Givhan & Leavitt, 2016; McIntosh et al., 2016; Pas et al., 2015).

Another factor that will guarantee the effectiveness of PBIS is that it may incorporate tools for assessing the implementation fidelity, the school climate, and the identification of the school needs, as well as tools to guide decision making and planning (Bradshaw, Waasdorp, et al., 2015; Flannery et al., 2014; Jolivette, Boden, Sprague, Ennis, & Kimball, 2015). There are also measures to equate staff and school climate and even the student perception of the school safety. It is possible to assess a range of behaviors that is exhibited by the students (Bradshaw, Waasdorp, et al., 2015; Flannery et al., 2014; Jolivette et al., 2015).

Considering a school’s population, the PBIS framework operates based on assumptions that 80% to 90% of the students will be very responsive to the basic behavior intervention, such as a conference with the teacher or even a verbal warning. In this population, between 5% and 10% are likely to call for some secondary support to include consistent feedback, increased structure, and other interventions regularly. Additionally, between 1% and 5% of students who do not respond to the school-wide interventions or expectations require intensive structure and interventions so as to be successful in the classroom environment (Bradshaw, Koth, et al., 2008). There is a range of alternatives such that both the extreme cases of bad behavior and the mild cases are addressed.
The success of a PBIS model is further guaranteed by the fact that the school will have to collect and track the behavior of the student (Goodman et al., 2014; Richards et al., 2014). Such kinds of data-collection systems that monitor and track the behavior of students may entail the time of the day and the location at which the behavior is said to have taken place. A school team will then be in a better position to form an intervention plan that targets the specific behaviors that are portrayed by the students (McIntosh, Frank, & Spaulding, 2010). The social behavior of the students and its relationship to the achievement of the student is a key aspect of PBIS (Goodman et al., 2014; Richards et al., 2014).

The theoretical framework that is associated with PBIS entails transformational theory in the sense that it includes actions that inspire, empower and encourage others to portray their potential by leading by example and being role models through inspiring others and demonstration (Spencer, 2013). It is possible to make students learn to think by themselves, celebrate their individual accomplishments and have the school leaders pay attention to their needs. There is an individual consideration, acting with empathy, compassion, and care (Spencer, 2013).

Staff development is necessary to obtain the staff buy-in and actions to change their attitudes toward the PBIS system (Kennedy, Hirsch, Rodgers, Bruce, & Lloyd, 2017; Tracy, 2013). There has to be sufficient acceptance among the staff, as well as the willingness to implement with integrity the PBIS system. Because the PBIS system involves all the personnel in the school environment. It has been suggested that there should be a minimum of 80% of the staff members who are willing to implement PBIS. If a school happens to have less than 80% of the staff committed to the implementation of such an initiative, the chances are high that it will experience difficulties with
effectiveness, sustainability and implementation (McKevitt & Braaksma, 2008). Constant training is highly called for to achieve such buy-in. This may only be done once in a while in an attempt to change the staff attitudes.

**The role of school leadership on PBIS effectiveness.** There are various roles that PBIS leaders undertake to ensure effectiveness. First, the leaders must communicate with the entire staff, the teachers, support personnel, and the administrators. It is the responsibility of the PBIS leaders to ensure that meetings are being regularly conducted. The PBIS leaders delegate and assign tasks, set the dates for meetings, refer the team to the data during the team meetings, and check the accuracy of the records. The quality of leadership is, therefore, very critical to the success of PBIS (Baker & Ryan, 2014).

The effectiveness of PBIS greatly depends on the extent to which the school is willing to implement the required staff development. It is important that all staff members, noncertified and certified, as well as the volunteers who may encounter students, be trained in the basics requirements and certified with an approval rating before implementation. Training should first take place at the leadership level that is interested in implementing PBIS. It could be done formally or informally. It is also suggested that the training continue over a 3-year time span (McKevitt & Braaksma, 2008). The first year of implementation consists of 4 days of training across the academic year, and this focuses on the implementation of the universal prevention aspect of the PBIS system (McKevitt & Braaksma, 2008). The second and the third years concentrate on the implementation of secondary and the tertiary prevention levels, all of which are established on the foundation of the entire school prevention program. The leadership of the school could train the other staffs on the whole school prevention (McKevitt & Braaksma, 2008).
The hallmark of the PBIS system is the emphasis on data tailored toward guiding decision making about the practices that are supposed to be put in place so as to support social behavior and the student learning. There is also an emphasis on the system support that will be needed to build the fluency with the revised new practices among all the teachers and staffs in the school. For this to work, there is a need for an immense professional development blueprint (Lembke, 2012). This assists in building capacity in schools and also makes sure that there are systems in place meant to implement effective practices, and also make sound decisions that are based on data.

**Negative perceptions and misconceptions of PBIS.** A study conducted in various high schools by Flannery, Sugai, and Anderson (2009) showed that the schools implementing PBIS first focused on addressing discipline and establishing cooperation and dedication among the staff before implementation. According to the National Center for Education Statistics (2015), schools that supported PBIS fidelity implementation for over 3 years reported over 20% reduction in ODRs. Researchers suggest that further research should be carried out to determine if the setting of teacher expectations and acknowledging behaviors as crucial elements of initial stages of PBIS implementation could lead to a decrease in ODR patterns thereby resulting in additional instructional time (Thompson & Webber, 2010). The school-wide evaluation tool is a suitable tool for measuring the need for teacher training and assessing the impact of employee development tasked with the PBIS implementation (Wright & McCurdy, 2011).

Additionally, the school-wide evaluation tool approach is useful in measuring the sustained use of the PBIS system procedures in this urban high school as well as establishing local strategies for setting up the school-wide PBIS outcomes. Given that PBIS is a data-dependent framework, particularly data on prevalence and frequency of
specific behaviors, teachers who have limited skills in data management can have negative perceptions of the program (Sherrod, Getch, & Ziomek-Daigle, 2009). In this vein, providing adequate training on data collection and other handling techniques to the teachers can help build positive perceptions. In effect, positive perceptions will easily correlate with positive behavioral outcomes owing to the teachers’ commitment to the fidelity of the implementation (Feuerborn et al., 2015). The core team members, the leaders, of the PBIS including the staff members must possess adequate knowledge of all features and elements of PBIS to allow for fidelity implementation across the continuum. These elements that the teachers must understand are how to acquire a continuum of scientifically based behavior, carry out social emotional as well as academic interventions and supports.

The PBIS leaders must also become more familiar with how to make decisions and solve problems that may arise in the classroom, arrange the classroom environment in such a way to make it conducive for learning and prevent occurrence of problem behavior, and be able to teach and encourage prosocial skills and behaviors among the students. Teachers must also learn how to implement evidence-based behavioral practices and monitor their students’ performance continuously (Feuerborn et al., 2015). Teachers must be competent on how to handle school data, teaching and rewarding acceptable behaviors exhibited by students (Feuerborn et al., 2015). Also, Fallon et al. (2014) maintained that plans should be devised on how to support staff’s efforts geared toward behavior change management, which forms a critical step in the exploration phase of the PBIS implementation.

Mobilizing the way in which teachers align with and incorporate their tasks and roles is one of the identified challenges affecting the workability of PBIS (Osher, Bear,
Sprague, & Doyle, 2010). In fact, Hinton and Buchanan (2015) revealed that changing teachers from isolated content to integrated implementation is a tough task. In this regard, scholars called for the use of systems that promote widespread adoption and sustainability of new practices such as the PBIS programs (Swain-BRADWAY et al., 2015). Failure to utilize systems that ensure continued commitment to the program, the staff members can easily revert to traditional intervention strategies approaches (Hinton & Buchanan, 2015). According to Hinton and Buchanan, two challenges emerged including the mobilization of teacher perceptions and behavior and managing the resources required for sustaining the programs (Young, Caldarella, Richardson, & Young, 2011). These challenges have been cited as important earmarks of the critical stages of the PBIS system implementation (Swain-BRADWAY et al., 2015).

There are also some misconceptions about the PBIS system. Professional development can greatly assist in doing away with these misconceptions (Bruhn, Gorsh, Hannan, & Hirsch, 2014; Martin, 2013; McPhee & Givhan, 2016; Tracy, 2013). Such misconceptions include that PBIS is something that was only designed for the students with disabilities, that it emphasizes only the use of tangible rewards that will affect the development of intrinsic motivation, and that it is a mere intervention or practice. Professional development can be used as a tool to challenge these kinds of assumptions as well as the attitude of the staff toward the same (Bruhn et al., 2014; Martin, 2013; McPhee & Givhan, 2016; Tracy, 2013).

For instance, the professionals will come in touch with the fact that the PBIS system is made up of research-based interventions and practices that are likely to improve academic achievement as well as the social behavior. It is more of an approach or framework that provides the means for organizing, selecting and implementing evidence-
based practices by giving special attention to aspects such as student outcomes, problem solving and data-driven decision making, and the systems that support and prepare the stakeholders to utilize the practices with high durability and fidelity (Crone et al., 2010). It is through an indepth professional development that such information can be instilled among the staffs who will be in turn overturned (Lewis, Barrett, Sugai, & Horner, 2010).

There are also concerns about PBIS in the sense that some staff members, parents, and students believe that PBIS is not functioning, and better approaches could be adopted instead (Bruhn et al., 2014; Feuerborn et al., 2015; Hiles, 2015). According to the recent study of Maryland schools that implemented PBIS, the process of implementation is not as easy as it looks (Newman & Newman, 2014). As much as the urban schools may be more concerned about students who needs more of tertiary and secondary interventions, there is always need to define behavior expectations to the students as opposed to responding to behavioral violations. Teachers have consistently argued that dissemination of the PBIS interventions entails programs that rarely incorporate or give provisions that affect learning skills as well as cognition of students, and that of these interventions are outside the school system (Newman & Newman, 2014). The primary responsibility of effective learning is placed in the hands of the students and makes a little room to question the involvement of the staff in successful learning.

The PBIS approach is also criticized because it fails to recognize Erik Erikson’s psychosocial theory. The psychosocial needs of the students are not adequately taken into consideration. They seek to be accepted, respected, and develop a healthy self-esteem, which paramount for successful learning (Newman & Newman, 2014). Sometimes, this is achieved through social activities, such as field trips, sports activities, and other informal settings. There are also concerns that some personnel involved in the programs tend to be
ineffective when it comes to communicating with the students (Bruhn et al., 2014; Feuerborn et al., 2015; Hiles, 2015). As such, the students fail to trust the personnel. The personnel appear to the students as people who are adamant and not willing to change; hence, they doubt their interventions. Even some parents think that their children are victims of structural prejudice or discrimination. Thus, they consider the effort of the authorities to assist their children as inadequate (Bruhn et al., 2014; Feuerborn et al., 2015; Hiles, 2015).

**Summary**

The review of literature revealed effects of PBIS in urban schools (Horner & Sugai, 2015; Richards et al., 2014; Rusk, 2016). However, one obvious dearth of literature involves the effects of PBIS on behavioral problems of students in urban schools. The limited research studies produced inconclusive findings (Eiraldi et al., 2016; Flannery et al., 2014; Richards et al., 2014). There are researchers who found PBIS promising for addressing behavioral problems of children (Eiraldi et al., 2016; Flannery et al., 2014; Richards et al., 2014), but there are also researchers who raised doubts about its effectiveness (Bradshaw, Waasdorp, et al., 2015; Nese et al., 2016). Some claimed that PBIS deviates from Erik Erikson’s psychosocial theory. All these imply that more research should be done on to determine how effective PBIS is in urban high schools as a method to respond to behavioral problems. This is what the current study was designed to do.

**Research Questions**

The following research questions were established to guide this applied dissertation:

1. What are the major problem behaviors prevalent in this urban school
throughout the research period?

2. Has PBIS addressed the misbehaviors as noted by the data and the teachers?

3. What impact does PBIS have on the school climate, as measured by the number of ODRs and out-of-school suspensions?
Chapter 3: Methodology

Introduction

This chapter details the methods used to examine the research questions. The researcher used collected data to define the relationship between PBIS and teacher perceptions. This section explains the instrumentation used and provides detail regarding the individual survey sections. Although a qualitative design was prominent for most aspects of the research, a mixed-methods approach was also employed, gathering both qualitative and quantitative measures to examine the perceptions of teachers and their satisfaction with PBIS. The researcher surveyed teachers to determine their satisfaction with and perceptions of PBIS. Participants were provided with a 5-point Likert-type scale on which to rate statements regarding PBIS. After the results of the survey were gathered, teachers who scored very low or very high levels of satisfaction were further interviewed to gain a deeper understanding of their opinions and views of the program.

Research Method and Design Appropriateness

To address the purpose of the study, the researcher used a quantitative correlational study. This was a quantitative study and, therefore, required a statistical-analysis approach in order to address the hypotheses. A quantitative method allows the researcher to statistically determine the effect of the independent variables on the dependent variables (Clayton & Gorman, 2012; Norkett, 2013; Watson, 2015). Qualitative responses were interpreted and coded to identify themes and trends in addressing how and why questions that the study was not otherwise designed to address (Barratt, Choi, & Li, 2011). This study sought to examine the relationship between the independent and dependent variables. The quantitative research approach was more appropriate for the study since it involved statistical analysis of numerical data, which
then allowed for the examination of differences of means across groups (Hoy, 2010). On the other hand, qualitative methods were deemed less appropriate for this study, as they require the collection of qualitative information through interviews or focus-group discussions, which must then be interpreted and coded using themes, categories, and trends (Claydon, 2015).

Furthermore, the descriptive research design was also discarded as inappropriate for this study because it is based on observations made by the participants rather than on the direct measurement of particular variables that this study included. The researcher rejected the experimental design for this study as well because the dependent variables (i.e., attitudes and beliefs) were innate among the participants; thus, random assignment was not possible (Claydon, 2015). Therefore, the study employed a correlational research design, determined to be appropriate for this study because it lacks random assignment and cannot be manipulated, similar to the general education teachers’ satisfaction (Babbie, 2010). Additionally, the correlational design was best suited to answer the proposed research questions because it addresses descriptive relationships among variables.

**Target Population and Sample**

The research was tailored toward determining the effectiveness of PBIS in an urban school. The high school selected for the study is located in an economically disadvantaged part of the state. The population of the school consists of 2,052 students, 89% of whom are eligible for free and reduced-price meals. Most of the participants (1,680, or 82%) are African Americans, some (256, or 12%) are Hispanics, and the remainder are Caucasians, Native American, Asians, or multiracial.

This study used correlation analysis to characterize the potential relationships
between teachers’ satisfaction and effectiveness of PBIS. An appropriate sample size was required to ensure statistical validity of the results. Using G*Power 3.1 (Faul, Erdfelder, Buchner, & Lang, 2013), a sample size for correlation analysis was calculated using a medium $\rho$ effect size of 0.30, an alpha value of .05, and a desired power of 0.8. This resulted in an estimated minimum sample size of 64 participants. Therefore, the researcher determined to use a minimum of 80 teachers in order to meet or exceed this minimum sample size and ensure detection of the smallest effect size. The larger the sample, the less likely the potential error for the sample will differ from that of the general population (Creswell, 2014). Purposive sampling was conducted to make sure that participants were within the parameters set for the study (Haas, 2012). This ensured credibility and circumvented potential biases in selection of participants. The inclusion criteria for this study were as follows: (a) at least 18 years old, (b) a teacher in the selected urban school for at least a year, and (c) a general education teacher.

**Instruments**

The researcher used self-designed instruments (see Appendix A) in the study to gather data related to the variables (Hoy, 2010). Every question was designed to initiate reflective thinking rather than simply to elicit mere opinion. Questions focused on the implementation framework, the overall perception of PBIS, and the effectiveness of the program. The researcher also evaluated the role of the administration in the execution of PBIS. When developing the instrument, the research considered many aspects of the recommended support systems designed for smooth transitions from one educational practice to another. Any forms of barriers to change in education also were considered.

The researcher used a modified survey instrument to examine the satisfaction of the teachers with PBIS (Bryman, 2006). There are examples of evaluation instruments for
the school systems to use, and such samples were used to create similar items that related to this investigation. Some items from a similar PBIS satisfaction survey were modified after requesting permission from the author. Surveys have been a critical part of the PBIS evaluation process because PBIS research involves gathering survey data on the outcomes and implementation fidelity of PBIS through teacher surveys, leadership team surveys and possibly PBIS coach surveys. Even the benchmarks of quality currently being used by many schools to identify the successful areas of PBIS and the areas that need improvement were important to consider in this regard. The sample questions that the teachers or the staff members were asked included queries regarding whether the behavior expectations are rewarded and taught, and whether the consequences and expectations are clearly defined.

The researcher also acknowledged the need to use the school-wide evaluation tool to assess the features of a school-wide PBIS system and to collect student and staff surveys. The instrument posed questions to students and staff members regarding PBIS. A 5-point Likert-type scale was used to rate the effectiveness of PBIS, ranging from 1 (strongly disagree) to 5 (strongly agree). The survey was scored by adding the number of all the ratings for each question (Roberts, Priest, & Traynor, 2006). The researcher ran a pilot study in order to determine the reliability and validity of the survey instrument. Gathering responses to the survey items in the pilot study enabled the researcher to determine whether participants had adequate knowledge or understanding to give their opinions about the topic.

In designing the survey instruments, the researcher took into consideration the various elements of PBIS, using them to rate the beliefs and opinions of teachers on the impact of the program on staff and student behavior, their perception of administrative
support for the program, and their level of satisfaction with the expectations of the program, the incentives, and consequences. The survey was administered to the school via Survey Monkey. Before receiving the survey, teachers were given a thorough explanation of the research and the purpose for soliciting their opinions (Yu, 2006). Teachers were permitted to fill out the surveys on their own, and then return them to a folder provided to them. Any effort to administer the survey in person, to explain the researcher, or to answer questions increased the chances for a greater response (Roberts et al., 2006).

The researcher created research and instruments inclined toward quantitative methods in order to quantify the hypothesis and to study the data at the projectable results to an extended or larger population. The researcher intended for this study’s quantitative approach to confirm a hypothesis about the phenomena by using data in the form of numbers and the statistical results. This created room for highly structured methods (i.e., data gathered through the use of tools, questionnaires, and equipment). Closed-ended questions were used to solicit quantifiable results. Finally, the research was documented using objective language as opposed to presenting results subjectively, hence revealing values, biases or experiences (Roberts et al., 2006).

**Procedures**

**Data collection.** Before any data collection commenced, the researcher secured approval of the university’s Institutional Review Board as well as the permission of the selected school. In order to obtain information from the participants, data collection instruments were developed and administered. For this research, the ideal instruments were survey questionnaires administered to the selected teachers. It was also important to obtain secondary data so as to get a grasp of what has been unveiled in the previous
researches. Such data can be collected using online research or through online libraries. A more systematic combination of the various data collection strategies reduced the amount of data needed from the surveys, reducing the survey costs and the response burden (Bryman, 2006). Response quality was determined by the quality of the data-collection instruments. The researcher solicited support for the study by physically communicating with the participants. Following the verbal request for permission to conduct the survey, the survey was administered via Survey Monkey. The researcher also engaged in follow-up interviews to clarify some aspects of the survey. The reliability and validity testing were performed on the instrument before it distributed to the study participants for data gathering (Bryman, 2006).

It was important to administer the PBIS staff satisfaction survey to the teachers and other stakeholders critical to PBIS implementation. All the participants were given all the information before completing the survey. The survey was then completed using Survey Monkey. However, the information was further reinforced using other ways such as mailed questionnaires and one-on-one interview with a few selected individuals. There was a need to study and evaluate the problems and opportunities associated with the PBIS system used at the school. A study of the data and surveys allowed the researcher to define where further research should be directed. The quantitative research gave specific measurements that identified the significance and accuracy of the PBIS system in place. Although most of the questions in the survey had to be closed ended in a measurable way, there was a need provide a few open-ended questions to explore various aspects of PBIS that were likely to have been overlooked (Watzlawik & Born, 2007).

The frequency of incidents was tracked from the school report from 2012. Some of the behaviors that were studied included unruly or disruptive behavior, cell phone
violation, altercation, profanity to a staff member, out of assigned area, unruly play, tardiness habitual disobedience or insubordination, insulting or obscene language, and class cutting or skipping. The frequencies of such incidents were reviewed, data were collected, and a noted pattern of time and location were key factors as to the fidelity of the PBIS system at the school.

**Data analysis.** Data screening was executed, along with calculation of overall scores for the survey metrics. Meyers, Gamst, and Guarino (2013) recommended that data screening should be carried out prior to data analysis for the detection of errors and problems involved in a data set, so corrections can be made to improve the validity of the research. Only participants with complete data were included in the analysis. The researcher kept the online copy of the responses of the participants in the SurveyMonkey website in case of the data becoming corrupted during the data analysis process.

The researcher conducted all data analysis for this study with Version 22 of the Statistical Package for the Social Sciences. Two types of statistical techniques were used: descriptive statistics and inferential statistics. The descriptive statistics provided basic information such as the frequency and percentages for the independent variable, and the mean and standard deviation were used for continuous variables (i.e., the dependent variable). Inferential statistics were used because the aim of this research is to determine the relationship between variables.

**Time Line**

The research took place within a span of 4 months. The first month entailed securing all permission letters from the university and the selected institutions, preparation of the research instruments, and identification of the participants. The actual data collection was conducted during the second month. During the third month, follow-
up activities were done to address any gaps in information and data collection. Data analysis and presentation were completed during the final month.

**Limitations**

A limitation of this study was that participants were volunteers and the survey itself was self-reported. Because the survey was administered online via Survey Monkey, the researcher could not control whether the respondents had Internet access to take the survey or whether they understood every single survey item being asked from them to answer. The researcher could not control the number of respondents from the sample population, although the response rate could be impacted with survey reminders. The researcher could not control the time constraints associated with the survey. Finally, because a correlational research design was adopted for this study, the researcher was required to exercise caution when interpreting the results of the study in terms of causal relationships among variables. A correlational research design does not lend itself to identifying causal relationships between or among variables but rather determines descriptive relationships.
Chapter 4: Results

Introduction

The purpose of this study was to determine the effectiveness of PBIS in addressing behavioral problems prevalent in an urban school. The research study considered the effectiveness of the PBIS system in an urban high school in terms of teachers’ perceived effectiveness of PBIS. This study used inferential statistics in order to determine differences in perceived effectiveness of PBIS based on demographic variables. Independent t tests as well as one-way analyses of variance (ANOVA) were implemented. What follows below are the demographic characteristics of the sample, the data analysis, and a summary of the findings. The next chapter details how these findings relate to similar studies and what they mean in terms of theory, research, and practice.

Demographic Characteristics

The high school selected for the research was located in an economically disadvantaged area of the state. The population of the school consisted of 2,052 students, 89% of whom were eligible for free and reduced-price meals. Most of the students were African American (1,680, 82%), followed by Hispanic (256, 12%), and the remainder were Caucasian, Native American, Asian, and multiracial. The teachers sampled for this study consisted of 35% males and 65% females (see Table 1). As shown in Table 2, most teachers were in the 51 to 60 age group (33.30%), followed by 41 to 50 (32.10%), 31 to 40 (23.10%), over 60 (6.40%), and 18 to 30 (5.00%). Table 3 shows that ethnicity involved 22.50% Caucasians, 55.00% African Americans, 8.80% Hispanics, 1.30% Asians, and 12.50% individuals from other racial or ethnic groups. The majority of faculty had earned master’s degrees (66.30%), with 21.3% holding bachelor’s degrees, 7.5% having earned doctoral degrees, 1.3% holding associate’s degrees, and 3.8% with
other degrees (see Table 4).

Table 1

*Frequencies and Percentages for Gender*

<table>
<thead>
<tr>
<th>Gender</th>
<th>No.</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Male</td>
<td>28</td>
<td>35</td>
</tr>
<tr>
<td>Female</td>
<td>52</td>
<td>65</td>
</tr>
</tbody>
</table>

Table 2

*Frequencies and Percentages for Age*

<table>
<thead>
<tr>
<th>Age</th>
<th>No.</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>18 to 30</td>
<td>4</td>
<td>5.00</td>
</tr>
<tr>
<td>31 to 40</td>
<td>18</td>
<td>22.50</td>
</tr>
<tr>
<td>41 to 50</td>
<td>25</td>
<td>31.25</td>
</tr>
<tr>
<td>51 to 60</td>
<td>26</td>
<td>32.50</td>
</tr>
<tr>
<td>61 and over</td>
<td>7</td>
<td>8.75</td>
</tr>
</tbody>
</table>

Table 3

*Frequencies and Percentages for Ethnicity*

<table>
<thead>
<tr>
<th>Ethnicity</th>
<th>No.</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Caucasian</td>
<td>18</td>
<td>22.5</td>
</tr>
<tr>
<td>African American</td>
<td>44</td>
<td>55.0</td>
</tr>
<tr>
<td>Hispanic-Latino</td>
<td>7</td>
<td>8.7</td>
</tr>
<tr>
<td>Asian</td>
<td>1</td>
<td>1.3</td>
</tr>
<tr>
<td>Other</td>
<td>10</td>
<td>12.5</td>
</tr>
</tbody>
</table>

Approximately half of the teachers (50.60%) had gross annual incomes between $50,000 and $74,999, 19.00% of them had gross annual incomes between $25,000 and
$49,999, 22.80% had gross annual incomes between $75,000 and $99,999, and 7.60% had gross annual incomes in excess of $100,000 (see Table 5). Most teachers (65%) had been teaching for more than 10 years (65.00%), with 20% having 6 to 10 years of teaching experience, 12.5% having 1 to 5 years of experience, and 2.5% having less than 1 year of teaching experience (see Table 6). The majority (45%) of faculty members had been teaching in the current school for 1 to 5 years, 38.8% had been teaching at the current school for more than 10 years, 13.8% had 6 to 10 years of teaching at the current school, and 2.5% of the teachers had been teaching at the current school for less than 1 year (see Table 7).

Table 4

*Frequencies and Percentages for Education Level*

<table>
<thead>
<tr>
<th>Education level</th>
<th>No.</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bachelor’s</td>
<td>17</td>
<td>21.2</td>
</tr>
<tr>
<td>Master’s</td>
<td>53</td>
<td>66.2</td>
</tr>
<tr>
<td>Doctorate</td>
<td>6</td>
<td>7.5</td>
</tr>
<tr>
<td>Associate’s</td>
<td>1</td>
<td>1.3</td>
</tr>
<tr>
<td>Other</td>
<td>3</td>
<td>3.8</td>
</tr>
</tbody>
</table>

Table 5

*Frequencies and Percentages for Annual Income*

<table>
<thead>
<tr>
<th>Annual income</th>
<th>No.</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>$25,000 to $49,999</td>
<td>15</td>
<td>18.75</td>
</tr>
<tr>
<td>$50,000 to $74,999</td>
<td>40</td>
<td>50.00</td>
</tr>
<tr>
<td>$75,000 to $99,999</td>
<td>18</td>
<td>22.50</td>
</tr>
<tr>
<td>$100,000 and higher</td>
<td>7</td>
<td>8.75</td>
</tr>
</tbody>
</table>
Table 6

*Frequencies and Percentages for Years of Teaching Experience*

<table>
<thead>
<tr>
<th>Years teaching</th>
<th>No.</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Less than 1 year</td>
<td>2</td>
<td>2.5</td>
</tr>
<tr>
<td>1 to 5 years</td>
<td>10</td>
<td>12.5</td>
</tr>
<tr>
<td>6 to 10 years</td>
<td>16</td>
<td>20.0</td>
</tr>
<tr>
<td>11 years or more</td>
<td>52</td>
<td>65.0</td>
</tr>
</tbody>
</table>

Table 7

*Frequencies and Percentages for Number of Years at the School*

<table>
<thead>
<tr>
<th>Years at school</th>
<th>No.</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Less than 1 year</td>
<td>2</td>
<td>2.5</td>
</tr>
<tr>
<td>1 to 5 years</td>
<td>36</td>
<td>45.0</td>
</tr>
<tr>
<td>6 to 10 years</td>
<td>11</td>
<td>13.8</td>
</tr>
<tr>
<td>11 years or more</td>
<td>31</td>
<td>38.7</td>
</tr>
</tbody>
</table>

What now follows is the data analysis organized by the respective research questions as well as the testing of assumptions of the statistical tests. Validity and reliability analysis of the PBIS satisfaction measure are discussed using data from the pilot study conducted.

**Data Analysis**

A 5-point Likert-type scale was designed to rate the effectiveness of PBIS, ranging from 1 (*strongly disagree*) to 5 (*strongly agree*). The survey was scored by adding the number of all the ratings for each question. The researcher used a pilot study to determine the reliability and validity of the instrument. By soliciting responses to the
survey items in the pilot study, the researcher was able to determine whether the participants had adequate knowledge or understanding to give their opinions about the topic. The results of the pilot study suggested adequate reliability as measured by Cronbach’s alpha of .943. Cronbach’s alpha is most commonly used to determine the reliability of a scale when multiple Likert questions form the scale or subscale.

Additionally, a principal components analysis was run on a 24-item survey that measured teacher attitudes toward PBIS. The suitability of the principal components analysis was assessed prior to analysis. Inspection of the correlation matrix showed that all variables had at least one correlation coefficient greater than 0.5. The overall Kaiser-Meyer-Olkin measure was 0.87 with individual measures all greater than 0.79, which are classifications of middling to meritorious according to Kaiser (1974). Bartlett’s test of sphericity was statistically significant, \( p < .0005 \), indicating that the data were likely factorizable. The principal components analysis revealed four components that had Eigen values greater than 1.0 and that explained 49.8\%, 8.2\%, 7.0\%, and 5.8\% of the total variance, respectively. Visual inspection of the scree plot indicated that four components should be retained (Cattell, 1966). In addition, a four-component solution met the interpretability criterion. As such, four components were retained.

The four-component solution explained 70.8\% of the total variance. A Promax oblique rotation was employed to aid interpretability. The rotated solution exhibited simple structure (Thurstone, 1947). There were strong loadings of PBIS positive effectiveness on student behavior on Component 1, consideration of faculty on Component 2, overall positive impact on both students and faculty on Component 3, and PBIS easiness of implementation on Component 4. Component loadings and communalities of the rotated solution are presented in Appendix B. Items with
coefficients greater than .50 were used in creating composite scores of each of the four components. Appendix C depicts the scree plot that was also used in the determination of the number of components to retain. This agreed with the Eigen value criteria of less than 1.0, which yielded four components as well.

**Testing of Data Assumptions**

Prior to conducting hypothesis testing, there were certain assumptions that needed to be tested. The assumption of normality and outlier detection had to be verified. The assumption of normality was tested by inspection of histograms as well as kurtosis and skewness statistics. Kurtosis and skewness statistics that are within -/+/3 are considered as acceptable ranges for normality. Outlier detection was assessed through visual inspection of boxplots. Any extreme outlier was denoted by an asterisk. All skewness and kurtosis values fell between -/+/3, which indicated no violations of the normality assumption. Visual inspection of boxplots indicated no outliers. Table 8 depicts this information.

Table 8

*Kurtosis and Skewness Statistics*

<table>
<thead>
<tr>
<th>Component</th>
<th>Skewness</th>
<th>Kurtosis</th>
</tr>
</thead>
<tbody>
<tr>
<td>Effectiveness on student behavior</td>
<td>-.038</td>
<td>.034</td>
</tr>
<tr>
<td>Faculty consideration</td>
<td>-.211</td>
<td>-.301</td>
</tr>
<tr>
<td>Overall effectiveness on students and faculty</td>
<td>-.696</td>
<td>.074</td>
</tr>
<tr>
<td>Easiness of implementation</td>
<td>-.231</td>
<td>-.593</td>
</tr>
</tbody>
</table>

What now follows are the results of this analysis, which explore the overall perceived effectiveness of PBIS implementation. Additionally, perceptions of PBIS are further explored based on demographic variables.
Results

A PBIS survey was administered to a group of 80 teachers at an urban high school in the southeastern United States. The overall mean PBIS score ranged from 1.17 to 5.00 ($M = 3.20, SD = 0.69$). The four component means of PBIS were also examined. Effectiveness of PBIS toward student behavior ranged from 1.00 to 5.00 ($M = 3.01, SD = 0.84$). Faculty consideration during PBIS implementation ranged from 1.25 to 5.00 ($M = 3.10, SD = 0.84$). Overall effectiveness of PBIS on students and faculty ranged from 1.00 to 5.00 ($M = 3.37, SD = 0.90$). The easiness of implementing PBIS ranged from 1.00 to 5.00 ($M = 3.07, SD = 0.91$).

**Perception of PBIS based on gender.** Independent-samples $t$ tests were performed in order to test for differences in perceptions of PBIS based on gender. There were no significant differences based on age groups with regard to (a) perceived PBIS effectiveness in relation to student behavior, $t(78) = -.060, p = .952$; (b) faculty consideration during PBIS implementation, $t(78) = -.584, p = .561$; (c) overall effectiveness of PBIS on students and faculty, $t(78) = .362, p = .718$; and (d) easiness of implementing PBIS, $t(78) = .682, p = .497$.

**Perception of PBIS based on age.** One-way ANOVAs were performed in order to assess any significant differences in perceived PBIS effectiveness based on teacher age. There were no significant differences based on age with regard to (a) perceived PBIS effectiveness in relation to student behavior, $F(4, 77) = .655, p = .626$; (b) faculty consideration during PBIS implementation, $F(4, 77) = 2.198, p = .077$; (c) overall effectiveness of PBIS on students and faculty, $F(4, 77) = .702, p = .593$; and (d) easiness of implementing PBIS, $F(4, 77) = 1.537, p = .200$.

**Perception of PBIS based on ethnicity.** One-way ANOVAs were performed in
order to assess any significant differences in perceived PBIS effectiveness based on teachers’ ethnicity. There was a significant difference in mean PBIS perceived effectiveness of PBIS toward student behavior, $F(3, 78) = 2.795, p = .046$. Caucasian teachers scored significantly lower in perceived PBIS effectiveness ($M = 2.60, SD = 0.64$) than Hispanic-Latino groups ($M = 3.60, SD = 0.19$). This was a significant mean difference of 0.99. There were no other significant differences based on ethnicity for (a) faculty consideration during PBIS implementation, $F(3, 78) = .801, p = .497$; (b) overall effectiveness of PBIS on students and faculty, $F(3, 78) = .762, p = .519$; and (c) easiness of implementing PBIS, $F(3, 78) = .292, p = .831$.

**Perception of PBIS based on education level.** One-way ANOVAs were performed in order to assess any significant differences in perceived PBIS effectiveness based on teachers’ education levels. There were no significant differences in mean PBIS perceived effectiveness in each of the four components of (a) effectiveness of PBIS toward student behavior, $F(4, 79) = .121, p = .974$; (b) faculty consideration during PBIS implementation, $F(4, 79) = 1.826, p = .133$; (c) overall effectiveness of PBIS on students and faculty, $F(4, 79) = .660, p = .622$; and (d) easiness of implementing PBIS, $F(4, 79) = .751, p = .560$.

**Perception of PBIS based on annual income.** One-way ANOVAs were performed in order to assess any significant differences in perceived PBIS effectiveness based on teachers’ annual income. There were no significant differences in mean PBIS perceived effectiveness in each of the four components of (a) effectiveness of PBIS toward student behavior, $F(3, 78) = .879, p = .456$; (b) faculty consideration during PBIS implementation, $F(3, 78) = 1.990, p = .123$; (c) overall effectiveness of PBIS on students and faculty, $F(3, 78) = .894, p = .448$; and (d) easiness of implementing PBIS, $F(3, 78) =$
2.422, \( p = .072 \).

**Perception of PBIS based on years of teaching experience.** One-way ANOVAs were performed in order to assess any significant differences in perceived PBIS effectiveness based on teachers’ years of teaching experience. There were no significant differences in mean PBIS perceived effectiveness in each of the four components of (a) effectiveness of PBIS toward student behavior, \( F(3, 79) = 1.288, p = .285 \); (b) faculty consideration during PBIS implementation, \( F(3, 79) = 2.539, p = .063 \); (c) overall effectiveness of PBIS on students and faculty, \( F(3, 79) = .494, p = .687 \); and (d) easiness of implementing PBIS, \( F(3, 79) = 1.550, p = .209 \).

**Perception of PBIS based on years of teaching at current school.** One-way ANOVAs were performed in order to assess any significant differences in perceived PBIS effectiveness based on teachers’ years of teaching at current school. There were no significant differences in mean PBIS perceived effectiveness in each of the four components of (a) effectiveness of PBIS toward student behavior, \( F(3, 79) = 1.564, p = .205 \); (b) faculty consideration during PBIS implementation, \( F(3, 79) = .835, p = .479 \); (c) overall effectiveness of PBIS on students and faculty, \( F(3, 79) = .894, p = .448 \); and (d) easiness of implementing PBIS, \( F(3, 79) = 1.205, p = .314 \).

**Effectiveness of PBIS.** The effectiveness of PBIS was studied by examining student disciplinary incidents through the years from 2012 to 2017. Prior to 2016, PBIS had not yet been implemented. Prior to PBIS implementation, disciplinary-specific incidents ranged from 21.00 to 663.00 (\( M = 122.7, SD = 134.26 \)). After PBIS implementation, disciplinary-specific incidents ranged from 22.00 to 123.00 (\( M = 59.47, SD = 32.25 \)). Tests for normality of each group showed that the original data were not normally distributed, with a high kurtosis value of 8.00 for the before-PBIS group. A
square root transformation was applied to the data, which resulted in acceptable skewness and kurtosis values (see Table 9).

Table 9

<table>
<thead>
<tr>
<th>Group</th>
<th>No. incidents</th>
<th>Skewness</th>
<th>Kurtosis</th>
</tr>
</thead>
<tbody>
<tr>
<td>Before implementation</td>
<td>30</td>
<td>1.628</td>
<td>3.072</td>
</tr>
<tr>
<td>After implementation</td>
<td>17</td>
<td>.238</td>
<td>-1.390</td>
</tr>
</tbody>
</table>

An independent $t$ test was conducted using statistical software in order to determine if there were statistically significant differences in mean disciplinary-specific incidents between prior implementation of PBIS and after implementation. There was a violation of the homogeneity of variances assumption, $p = .045$; thus, a Welch $t$ test was run to determine if there were differences. The results of the test were significant, $t(43.045) = 2.575, p = .014$. Mean disciplinary-specific incidents prior to PBIS implementation ($M = 122.77, SD = 134.26$) were statistically significantly greater than the mean disciplinary-specific incidents after PBIS implementation ($M = 59.47, SD = 32.25$).

**Summary**

The purpose of this study was to measure teachers’ perceived PBIS effectiveness as well as actual effectiveness in a suburban high school in the southeastern United States. The overall mean PBIS was $M = 3.20$, which indicated an overall agreement that PBIS was effective. A principal components analysis was conducted in order to determine various components to extract from the original questionnaire. Using Promax rotation, a four-component structure was developed, which consisted of effectiveness of
PBIS toward student behavior, faculty consideration during PBIS implementation, overall effectiveness of PBIS on students and faculty, and easiness of implementing PBIS. The effectiveness of PBIS toward student behavior ($M = 3.01$), faculty consideration ($M = 3.10$), and easiness of implementation ($M = 3.07$) had mean scores that were close to neutrality, indicating that the respondent was unsure about these components of PBIS. However, the overall effectiveness of PBIS on students and faculty had a mean score of 3.37, indicating an overall agreement that PBIS was effective for this component of PBIS.

Inferential statistics were calculated in order to determine if the means of the four components of PBIS were significantly differed based on demographic characteristics. There was a significant difference in mean PBIS perceived effectiveness of PBIS toward student behavior based on ethnicity. Caucasian teachers scored significantly lower in perceived PBIS effectiveness ($M = 2.60, SD = 0.64$) than Hispanic-Latino groups ($M = 3.60, SD = 0.19$). There were no other significant differences based on the other demographic variables of gender, age, education level, annual income, years of teaching experience, and years of teaching at the current school.

An independent $t$ test was conducted using statistical software in order to determine if there were statistically significant differences in mean disciplinary-specific incidents between prior implementation of PBIS and after implementation. Disciplinary-specific incidents prior to PBIS implementation were statistically significantly greater than the disciplinary-specific incidents after PBIS implementation, thus demonstrating the effectiveness of PBIS in reducing the number of disciplinary-specific incidents.
Chapter 5: Discussion

Introduction

Educators in urban schools face the challenge of behavior problems among students (Brown-Wright et al., 2013; Tobin & Shady, 2014), affecting the academic achievement of the students exhibiting the problem behaviors (Johnson & Hannon, 2014; Lewis et al., 2013; McCormick et al., 2014). Some of the problem behaviors are more prevalent in urban schools than in rural schools. Gang-related behavior, for example, is more frequently reported among urban high school students than among rural high school students, according to the National Center for Education Statistics (2015).

The PBIS system is one available program for addressing problematic student behaviors. The PBIS is a school-based application of behavioral approaches and interventions aimed at effecting behavior change in learning environments. It can be used by any school in conjunction with its existing system of behavioral supports for students (Fox et al., 2002; Martens & Andreen, 2013). The objective of PBIS is to create and sustain effective and safe schools (Childs et al., 2016). This study focused on a specific urban southeastern senior high school, in which problem behaviors were prevalent. The school’s rate of suspensions had increased exponentially over the years, stemming from the lack of behavioral intervention for unruly discipline and misbehavior. In 2012, the school reported a 4% suspension rate that doubled to 8% the following academic year, demonstrating a clear need for intervention measures that could address the disciplinary issues in a wholesome manner.

The increasing problems with inappropriate student behavior suggested the need to evaluate the effectiveness of the PBIS program. The purpose of this study was to determine the effectiveness of PBIS in addressing behavioral problems prevalent in this
urban senior high school. The following research questions guided the present study:

1. What were the major problem behaviors prevalent in this urban senior high school throughout the research period?

2. Has PBIS addressed the misbehaviors as noted by the teachers?

3. What impact did PBIS have on the school climate, as measured by the number of ODRs and out-of-school suspensions?

This quantitative correlational study included 80 teachers (35% males and 65% females). The researcher employed a modified survey instrument to measure the satisfaction of the teachers using the PBIS system and conducted data analysis with the aid of statistical software. The study relied on two types of statistical techniques: descriptive statistics and inferential statistics. This chapter presents a summary of the overall research purpose, procedures, and findings, as well as the study implications and context of the findings. The chapter also outlines the research limitations and describe recommendations for possible future research directions. The chapter presents the dissertation conclusions and concludes with a summary.

**Summary of Findings**

The overall mean of the PBIS data collected suggested that the participating teachers found PBIS to be effective in their school. The researcher evaluated PBIS effectiveness through four components: (a) the effectiveness of PBIS toward student behavior, (b) faculty consideration during PBIS implementation, (c) overall effectiveness of PBIS on students and faculty, and (d) ease of implementing PBIS. Results revealed that the teachers were unsure of these components of PBIS but also indicated overall agreement among teachers that PBIS was effective.

The researcher found a significant difference in mean PBIS perceived
effectiveness toward student behavior based on ethnicity. Caucasian teachers scored significantly lower in perceived PBIS effectiveness than Hispanic-Latino teachers. There were no other significant differences based on the other demographic variables of gender, age, education level, annual income, years of teaching experience, and years of teaching experience at the current school. Lastly, study results indicated that PBIS was effective in reducing the number of disciplinary incidents.

**Interpretation of Findings**

Findings revealed a significant difference in perceived PBIS effectiveness in one of the four components based on teacher ethnicity, with Caucasian teachers scoring significantly lower in perceived PBIS effectiveness than Hispanic-Latino teachers. Such findings indicated that teacher ethnicity may impact perceptions of PBIS overall effectiveness. Moreover, other factors experienced by Caucasian teachers may impact those teachers’ perceptions of PBIS usage. This finding may also be attributable to the difference in experiences of Caucasian teachers compared to other teachers regarding problematic behavior among the students. The sample of Caucasian teachers included in this study may not be representative of the broader population of Caucasian teachers.

The gender of participating teachers did not make a significant difference in perceptions of PBIS effectiveness. Although male and female teachers may perceive PBIS effectiveness differently, the data did not show any statistically significant differences in the perceptions reported by the genders. It could be concluded from the study findings that teachers of both genders had similar experiences with witnessing the inappropriate behavior of the students and with their observations of how the inappropriate behaviors decreased after the implementation of PBIS. As a result, teachers of both genders had similar perceptions of PBIS effectiveness.
The study data showed no significant differences in perceptions of PBIS effectiveness based on the age of participating teachers. The study included teachers from age ranges beginning with 18 to 30 and ending with 60 and over, with most teachers falling in the age range of 41 to 60. The uniform data among teachers of different ages would suggest that, regardless of their age, teachers had similar experiences and drew the same conclusions regarding the behavior situations before and after PBIS implementation.

Education level also had no significant effect on the teachers’ reports of PBIS effectiveness for any of the four components. More than 60% of the participating teachers had master’s degrees. The findings suggest that, regardless of educational attainment, teachers perceive PBIS effectiveness similarly. Findings also indicated that income level did not significantly impact perceptions of PBIS effectiveness for any of the four components. Half of the participating teachers reported annual earnings between $50,000 and $75,000, with findings suggesting that variations in income level did not alter teacher perceptions of PBIS effectiveness in addressing the inappropriate and problematic behavior of their students.

The researcher found that teaching experience did not impact the teachers’ perceptions of PBIS effectiveness. Most of the study participants reported 10 years or more of teaching experience, meaning that they would have had a significant amount of experience with problem behavior. However, the teachers reported similar perceptions of PBIS effectiveness regardless of the length of time they had been teaching. Study findings also indicated that perceptions of PBIS effectiveness were not dependent on the number of years that teachers had been teaching at the current school. More than half of the teachers had been teaching at the school for at least six years and, therefore, had
multiple years of experience in that school climate before the implementation of PBIS and would be presumed to have accurate assessments of any changes that occurred because of implementing the framework. Regardless of the length of their experience at that school, the participating teachers had similar perceptions of PBIS effectiveness.

The researcher found that there were a great number of disciplinary-specific incidents prior to PBIS implementation than after implementation. Although the researcher could conclude that PBIS implementation and the decrease in disciplinary incidents were associated with one another, the evidence did not prove that PBIS implementation caused the incident decrease. It is possible that the implementation was one of multiple factors behind the decrease of incidents and that other factors may have influenced the change as well.

Overall, teachers perceived PBIS to be an effective intervention framework that addressed the behavior of the students. Teacher assessment of a program’s effectiveness is important, as teachers are the ones interacting with students and witnessing most of the problem behavior. They are also the first responders in incidents of inappropriate behavior and are the ones who recommend disciplinary action for students. Teachers are in the best position to evaluate whether problem behaviors have decreased in their classroom. Therefore, teacher perceptions of PBIS effectiveness would be an important part of influencing the full and sustained implementation of PBIS framework in the school.

Context of Findings

Findings revealed a significant difference in perceived effectiveness in each of the four components of PBIS based on teacher ethnicity, with Caucasian teachers scoring significantly lower in perceived PBIS effectiveness than Hispanic-Latino teachers.
Previous studies have found no relationship between demographic factors and perceived effectiveness of PBIS, a finding that is inconsistent with the existing literature. This could mean that race and culture may influence the perceptions of the teachers when it comes to the PBIS framework.

There were no significant differences in perceived effectiveness in each of the four components of PBIS based on teachers’ gender, age, education level, annual income, teaching experience, or years of teaching at the current school, a finding that is consistent with the studies in the existing literature that found no relationship between demographic factors and perceived effectiveness of PBIS. Previous research focused on teacher buy-in and the improvement of school climates (Cornell & Bradshaw, 2015; Low & Van Ryzin, 2014; Putnam & Kincaid, 2015), but this study provided new knowledge because of its focus on the effectiveness of PBIS in addressing problematic behavior of students.

Study data showed that disciplinary incidents occurred in significantly greater numbers prior to PBIS implementation than after PBIS implementation, a finding that is consistent with information presented in existing literature. Multiple studies have shown that implementation of PBIS tends to result in significant reductions in the levels of office discipline referrals ODR data. A study conducted by Bradshaw, Reinke, et al. (2008) confirmed a reduction in ODR data and a significant improvement in the perceptions of school safety among the staff and teachers because of PBIS implementation. Mathews et al. (2013) reported a reduction of 80% in the level of ODRs during the first year of PBIS implementation in an urban school and a reduction of 76% during the second year of implementation. In addition, Spencer (2013) noted significant improvements in the number of students that were sent with a referral after the implementation of PBIS.

Overall, this current study reported that teachers perceived PBIS to be an effective
intervention framework that addressed the behavior of the students, a finding that contributes new knowledge to the literature as no previous studies had focused on the effectiveness of PBIS in decreasing problem behavior among students in urban schools. Moreover, existing literature has provided limited information on the perceptions of teachers regarding the effectiveness of PBIS. Teachers play a significant role in the implementation and assessment of PBIS framework (Braun-Lewensohm & Sagy, 2014; Donnelly et al., 2016) as the individuals who deal with the fidelity of the implementation inside the classrooms where students spend most of their time.

Teachers benefit when problematic behavior is lessened in the classroom. They confirmed that they lose valuable teaching time because of disruptive behavior of the students (Chen et al., 2016; Decaluwe et al., 2015; Johnston & Johnston, 2013), losing two to four hours of teaching time each week (Johnston & Johnston, 2013). Teachers are also critical to PBIS implementation, given their position as the individuals who directly interact with students. Thompson and Webber (2010) investigated 10 students eligible for exceptional student education who exhibited difficulty in sustaining appropriate classroom behavior, finding that PBIS resulted in fewer behavior problems, decreased teacher referrals for the targeted behaviors, and improved teacher-student relations. Previous researchers have reported the link between improved behavior of students and improved academic performance (Kelm et al., 2014; Miller, 2016; Reinke et al., 2013; Walsh et al., 2014).

Implications of Findings

The theoretical framework associated with PBIS entails transformational theory in the sense that it includes actions that inspire, empower, and encourage others to portray their potential through leading by example and through being role models and inspiring
others by demonstration (Spencer, 2013). It is possible to help students learn to think for
themselves and celebrate their individual accomplishments and to encourage school
leaders to pay attention to the needs of fellow students. There is an individual
consideration as well: acting with empathy, compassion, and care (Spencer, 2013). In this
study, a decrease in disciplinary-specific incidents occurred after the implementation of
PBIS, possibly indicating that students were encouraged to act positively because
appropriate behavior was modeled for them and positive behavior was promoted to them.
It appeared that the PBIS framework resulted in the transformation of student behavior,
benefiting all stakeholders.

Few studies have focused on the effects of PBIS on behavioral problems of
students in urban schools, producing inconclusive findings about the effectiveness of
PBIS (Eiraldi et al., 2016; Flannery et al., 2014; Richards et al., 2014). Most of the
studies identified in existing literature showed that PBIS has been influential in
addressing behavioral problems among students, though some researchers raised
concerns about the effectiveness of PBIS. The findings of this study provided additional
information about the effectiveness of PBIS in addressing the behavioral problems of
students in urban schools, indicating that urban school leaders may be able to decrease
behavior problems among students by implementing the PBIS framework.

The context of this study was an urban high school in the southeastern United
States, in which numerous incidents of suspensions for inappropriate behavior among
students were reported. Based on study results showing a decrease in behavior incidents
after the implementation of PBIS, teachers could increase available instruction time by
decreasing disruptive behavior in the classroom. This study supported the conclusions of
previous researchers, showing that academic achievement of students would also improve
(Kelm et al., 2014; Miller, 2016; Reinke et al., 2013; Walsh et al., 2014). School leaders should implement PBIS to lessen disruptive behaviors to improve quality instruction and classroom climate and to help students to reach their academic potential.

School administrators may continue the implementation of PBIS in the school due to the perceived effectiveness of the framework. Based on study findings, the researcher recommends training and workshops be conducted for teachers as well as for non-teaching staff in order to obtain staff buy-in and as a possible measure to change staff attitudes toward PBIS (Kennedy et al., 2017; Tracy, 2013). Training and workshops also would equip teachers for implementing the PBIS framework in their classrooms. When teachers are capable of implementing a program, their confidence increases, and program efficacy improves. Students also benefit from the insights provided by this study, particularly the conclusion that teachers perceive PBIS as an effective framework. The PBIS implementation demonstrated a decrease in disruptive behavior of the students. All stakeholders, including students and teachers, benefit when teaching time increases and behavior disruptions decrease.

**Limitations**

The survey, designed by the researcher, presented one of the study’s limitations. The survey was administered online and the researcher was not present when the participants answered the survey questions, leaving participants to rely on their own understanding of the questions. To mitigate this limitation, the researcher conducted a pilot study to ensure the validity and reliability of the survey instrument and reviewed the survey statements to ensure that the questions were clear, not vague and understood.

The study was also limited by its focus on the perceptions of teachers regarding the effectiveness of PBIS. In addition, the study offered teachers only two options, as
they could rate PBIS as either effective or ineffective, with no options in between. Another limitation was the lack of previous research about the effectiveness of PBIS on behavioral problems of students in urban schools. The lack of research can be attributed to the fact that a small number of schools have adopted the PBIS framework, often due to factors such as a lack of resources and resistance from teachers. Although some existing studies have examined the factors that influence schools to adopt PBIS, few have investigated the effectiveness of PBIS implementation.

The correlational research design also limited the study. Because a correlational study only describes the relationships between two or many variables, the researcher was unable to interpret the results of the study in terms of causal relationships among variables. In the case of this study, it cannot be concluded that the implementation of the PBIS had a causal relationship to the decrease of disciplinary specific incidents.

**Future Research Directions**

Future researchers should seek to provide a validated instruction for determining the effectiveness of PBIS. At present, there is no such validated instrument for measuring the effectiveness of PBIS for addressing inappropriate behaviors of students with a focus on the perceptions of teachers. Most previous researchers used Likert-type scales to determine the perceptions of teachers. Future studies could recruit teachers from multiple schools with similar histories, in contrast to this study’s sample population that was drawn from a single school. Such future research could examine multiple schools that have implemented PBIS in order to determine whether generalizations across schools can be made about the effectiveness of PBIS. Researchers also could conduct inquiries focused on contrasting schools that have implemented PBIS with schools that have not, in order to determine the effectiveness of the framework. Since this study determined that
teacher ethnicity impacted teacher perceptions of PBIS effectiveness, future researchers could focus their inquiries specifically on qualitative studies that address the relationship between teacher ethnicity and perceived effectiveness of PBIS.

Future research could benefit from the application of multiple types of methodology, including qualitative, quantitative, and mixed methods. Future qualitative studies could focus on the unique findings of the current study such as the significant difference in perceived effectiveness in each of the four components of PBIS based on teacher ethnicity. Future quantitative studies and experimental or quasi-experimental designs could be applied to studies attempting to determine causal relationships between the variables. Future researchers could also apply mixed method approaches in order to reap the advantages of both qualitative and quantitative methodologies.

Summary

This study focused on the identified and defined problem of inappropriate student behavior within a school in the southeastern United States. The school needed an effective intervention to decrease the number of disciplinary and misbehavior incidents, and PBIS was implemented as an attempted behavior intervention. This study addressed the increasing number of incidents of inappropriate behavior in the school, determining whether teachers perceived the PBIS intervention as effective.

A review of existing literature revealed the effects of PBIS in urban schools (Horner & Sugai, 2015; Richards et al., 2014; Rusk, 2016) and identified a gap in knowledge, specifically the limited inquiry into the effects of PBIS on behavioral problems of students in urban schools. The few studies that explored this problem produced mixed results (Eiraldi et al., 2016; Flannery et al., 2014; Richards et al., 2014), with some researchers concluding that PBIS was effective in reducing inappropriate
behaviors and promoting good behaviors and other researchers expressing doubts about the effectiveness of PBIS.

The purpose of this study was to measure teacher perceptions of PBIS effectiveness and to measure the actual effectiveness of PBIS in an urban high school in the southeastern United States. The research study considered the effectiveness of the PBIS system in the selected high school in terms of teachers’ perceptions of PBIS effectiveness. The researcher employed a quantitative correlational method for the study, determining that a quantitative focus on statistical analysis of numerical data would most effectively address the research problem.

The study population consisted of 80 teachers at the selected high school, with a self-designed survey administered to participants. The teachers used a 5-point Likert-type scale to rate the effectiveness of PBIS, ranging from 1 (strongly disagree) to 5 (strongly agree). The survey was administered via Survey Monkey. The researcher applied inferential statistics to determine differences in perceived effectiveness of PBIS based on demographic variables, implementing independent $t$ tests as well as one-way ANOVAs.

Results revealed that there was a significant difference in perceived effectiveness in each of the four components of PBIS based on teacher ethnicity, with Caucasian teachers scoring significantly lower in perceived PBIS effectiveness than their Hispanic-Latino counterparts. There were no significant differences based on any of the other demographic variables of gender, age, education level, annual income, years of teaching experience, and years of teaching at the current school. Findings showed the disciplinary-specific incidents occurred at significantly greater rates prior to PBIS implementation than after PBIS implementation. Overall, teachers perceived PBIS to be an effective intervention framework for addressing student behavior.
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Appendix A

Surveys
Surveys

Demographic Survey
Directions: Please answer each question as accurately as possible.

1. What is your age group?
   a. 18 - 30 years old
   b. 31 - 40 years old
   c. 41 - 50 years old
   d. 51 - 60 years old
   e. above 60 years old

2. What is your gender?
   a. male
   b. female

3. What is your ethnicity?
   a. Caucasian
   b. African American
   c. Hispanic/Latino
   d. Asian
   e. Other

4. What is your educational attainment?
   a. Bachelor's Degree
   b. Master's Degree
   c. Doctoral Degree
   d. Associate Degree
   e. Other

5. What is your gross annual income?
   a. $25,000 - $49,999
   b. $50,000 - $74,999
   c. $75,000 - $99,999
   d. above $99,999

6. What is your number of years of experience as a teacher?
   a. less than 1 year
   b. 1 - 5 years
   c. 6 - 10 years
   d. above 10 years

7. What is your number of years in current school?
   a. less than 1 year
   b. 1 - 5 years
   c. 6 - 10 years
   d. above 10 years
PBIS Satisfaction Survey
Instructions: Please provide your honest responses on the following questions using the rating scale provided.
1 = Strongly Disagree
2 = Disagree
3 = Not Sure
4 = Agree
5 = Strongly Agree

<table>
<thead>
<tr>
<th>Item</th>
<th>Rating</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Overall, I feel that PBIS has had a positive impact on student behavior.</td>
<td>1 2 3 4 5</td>
</tr>
<tr>
<td>2. Overall, I feel that PBIS has had a positive impact on teacher/staff behavior.</td>
<td>1 2 3 4 5</td>
</tr>
<tr>
<td>3. I am satisfied with the PBIS expectations (classroom, hallway, cafeteria, and restroom).</td>
<td>1 2 3 4 5</td>
</tr>
<tr>
<td>4. I am satisfied with the PBIS consequences (verbal/written warnings, loss of privileges, parental contact, office referrals, etc.).</td>
<td>1 2 3 4 5</td>
</tr>
<tr>
<td>5. I am satisfied with our school’s short term PBIS incentives (tangible rewards, prizes, etc.).</td>
<td>1 2 3 4 5</td>
</tr>
<tr>
<td>6. I am satisfied with our school’s long term PBIS incentives (behavior celebrations/parties at the end of grading periods).</td>
<td>1 2 3 4 5</td>
</tr>
<tr>
<td>7. I believe the PBIS data tracking system (major/minor offences, office discipline referrals, daily behavior reports, etc.) is easy and efficient.</td>
<td>1 2 3 4 5</td>
</tr>
<tr>
<td>8. I am satisfied with my school’s administrative support for PBIS.</td>
<td>1 2 3 4 5</td>
</tr>
<tr>
<td>9. I am satisfied with the plans and decisions of my school’s PBIS team.</td>
<td>1 2 3 4 5</td>
</tr>
<tr>
<td>10. I consistently teach PBIS expectations/consequences to my students.</td>
<td>1 2 3 4 5</td>
</tr>
<tr>
<td>11. I consistently model PBIS expectations for my students.</td>
<td>1 2 3 4 5</td>
</tr>
<tr>
<td>12. I consistently reward students using the PBIS reward system in place at my school.</td>
<td>1 2 3 4 5</td>
</tr>
<tr>
<td>13. I feel that PBIS rewards students displaying positive behavior at an appropriate rate.</td>
<td>1 2 3 4 5</td>
</tr>
<tr>
<td>14. I feel that PBIS punishes students displaying negative behavior at an appropriate rate.</td>
<td>1 2 3 4 5</td>
</tr>
<tr>
<td>15. I believe that PBIS has helped decrease student discipline problems significantly at my school.</td>
<td>1 2 3 4 5</td>
</tr>
<tr>
<td>16. I believe that PBIS has helped improve students’ attitudes toward school.</td>
<td>1 2 3 4 5</td>
</tr>
<tr>
<td>17. I believe PBIS has helped to improve students’ respectfulness toward others.</td>
<td>1 2 3 4 5</td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td>---</td>
<td>---</td>
</tr>
<tr>
<td>18. I believe PBIS has helped to improve relationships among students and adults at my school.</td>
<td>1</td>
</tr>
<tr>
<td>19. I believe PBIS has helped improve safety throughout the school.</td>
<td>1</td>
</tr>
<tr>
<td>20. I feel that teachers’ perceptions/opinions were considered before PBIS was implemented at our school.</td>
<td>1</td>
</tr>
<tr>
<td>21. I am satisfied with the training I received on PBIS expectations, consequences, and the referral process.</td>
<td>1</td>
</tr>
<tr>
<td>22. As a teacher, I have made preparations on my own in order to implement PBIS.</td>
<td>1</td>
</tr>
<tr>
<td>23. I feel that teachers’ perceptions/opinions are considered now that PBIS has been implemented at our school.</td>
<td>1</td>
</tr>
<tr>
<td>24. I feel that teachers and staff are regularly updated or informed of PBIS procedures and processes.</td>
<td>1</td>
</tr>
</tbody>
</table>
Pre-SPBP Survey

FOR ALL STAFF: This ANONYMOUS survey will help formulate our updated School-wide Positive Behavior Plan (SPBP) for next year. Your candid responses are appreciated; please answer the questions based on your role and perception. You may write “N/A” if you don’t know an answer.

List the top 3 minor behavior problems students demonstrate.
____________________________________________________________________
____________________________________________________________________
____________________________________________________________________

List the top 3 moderate behavior problems students demonstrate.
____________________________________________________________________
____________________________________________________________________
____________________________________________________________________

List the behavior problems that you wrote your last 3 Office Discipline Referrals (ODRs) for.
____________________________________________________________________
____________________________________________________________________
____________________________________________________________________

Do you know the school-wide expectations? (circle)  YES   NO   If YES, please list them.
List: ____________________________________________
____________________________________________________________________
____________________________________________________________________
____________________________________________________________________

Are school-wide expectations and location-specific rules posted throughout the school, especially in those areas that are most problematic?  (circle)  YES   NO

Do you know the rules for the:
   Cafeteria? (circle)  YES   NO
   Hallways? (circle)  YES   NO
   Bus area? (circle)  YES   NO

Are school-wide expectations and classroom rules posted in classrooms? (circle)  YES   NO

Do teachers teach school-wide expectations and classroom rules to students? (circle)  YES   NO
Do you have the needed resources to teach the expectations and rules? (circle) YES NO
If no, what do you need? ________________________________________________

How do you motivate students to follow school-wide expectations and location-specific rules?
_____________________________________________________________________
_____________________________________________________________________
_____________________________________________________________________

Are classroom procedures posted and visible to students? (circle) YES NO

Is the school’s discipline referral process easy to understand? (circle) YES NO

Do you know the difference between a staff-managed misbehavior and an office-managed referral? (circle) YES NO

List 3 consequences you use for minor misbehaviors.
_____________________________________________________________________
_____________________________________________________________________
_____________________________________________________________________

List 3 consequences you use for moderate misbehaviors.
_____________________________________________________________________
_____________________________________________________________________
_____________________________________________________________________

Are consequences consistently and fairly applied to all students? (circle) YES NO

Are the consequences for breaking school rules effective in changing behavior? (circle) YES NO

Do you have further suggestions for consequences that would positively change behavior?
(circle) YES NO
If YES, what?
_____________________________________________________________________

Do you feel safe at this school? (circle) YES NO

Is this school a positive environment for students? (circle) YES NO
For staff? (circle) YES NO

Have you been informed of the school’s behavior data this year? (circle) YES NO
How often?
_____________________________________________________________________
Rank the behavior areas in which you would like more professional development or information. 
(1 = most needed to 5 = least needed):

_____ Classroom management
_____ Behavior management
_____ Rules
_____ Expectations
_____ Procedures
_____ Other: _______________________________

Would you like to be a member of the team that writes the SPBP? (circle) YES NO
(If YES, please contact administration)

Further information you think the team writing the SPBP needs to know:
______________________________________________________________________
______________________________________________________________________
______________________________________________________________________
______________________________________________________________________

Thank you for completing this survey!
Appendix B

Results of PBIS Satisfaction Survey
## Results of PBIS Satisfaction Survey

<table>
<thead>
<tr>
<th>Item</th>
<th>Component 1</th>
<th>Component 2</th>
<th>Component 3</th>
<th>Component 4</th>
</tr>
</thead>
<tbody>
<tr>
<td>I believe PBIS has helped to improve students’ respectfulness toward others.</td>
<td>.982</td>
<td>-.041</td>
<td>-.081</td>
<td>-.007</td>
</tr>
<tr>
<td>I believe PBIS has helped to improve relationships among students/adults at my school.</td>
<td>.969</td>
<td>.039</td>
<td>-.052</td>
<td>-.107</td>
</tr>
<tr>
<td>I believe that PBIS has helped improve students’ attitudes toward school.</td>
<td>.898</td>
<td>-.073</td>
<td>.036</td>
<td>.025</td>
</tr>
<tr>
<td>I believe that PBIS has helped decrease student discipline problems significantly at my school.</td>
<td>.588</td>
<td>.039</td>
<td>.250</td>
<td>.121</td>
</tr>
<tr>
<td>I feel that PBIS punishes students displaying negative behavior at an appropriate rate.</td>
<td>.545</td>
<td>.197</td>
<td>-.095</td>
<td>.109</td>
</tr>
<tr>
<td>I believe PBIS has helped improve safety throughout the school.</td>
<td>.544</td>
<td>.224</td>
<td>.101</td>
<td>.053</td>
</tr>
<tr>
<td>I am satisfied with the PBIS expectations (classroom, hallway, cafeteria, and restroom).</td>
<td>.503</td>
<td>.148</td>
<td>.126</td>
<td>.112</td>
</tr>
<tr>
<td>I feel that teachers’ perceptions/opinions were considered before PBIS was implemented at our school.</td>
<td>.112</td>
<td>.980</td>
<td>-.083</td>
<td>-.230</td>
</tr>
<tr>
<td>I feel that teachers’ perceptions/opinions are considered now that PBIS has been implemented at our school.</td>
<td>.165</td>
<td>.837</td>
<td>.085</td>
<td>-.201</td>
</tr>
<tr>
<td>I feel that teachers and staff are regularly updated or informed of PBIS procedures and processes.</td>
<td>-.020</td>
<td>.757</td>
<td>-.329</td>
<td>.362</td>
</tr>
<tr>
<td>I am satisfied with the plans and decisions of my school’s PBIS team.</td>
<td>-.124</td>
<td>.683</td>
<td>.287</td>
<td>.064</td>
</tr>
<tr>
<td>Overall, I feel that PBIS has had a positive impact on student behavior.</td>
<td>.097</td>
<td>-.080</td>
<td>.905</td>
<td>-.020</td>
</tr>
<tr>
<td>I consistently reward students using the PBIS reward system in place at my school.</td>
<td>-.088</td>
<td>-.048</td>
<td>.875</td>
<td>-.059</td>
</tr>
<tr>
<td>Overall, I feel that PBIS has had a positive impact on teacher/staff behavior.</td>
<td>.031</td>
<td>.009</td>
<td>.835</td>
<td>.013</td>
</tr>
<tr>
<td>I believe the PBIS data tracking system (major/minor offenses, office discipline referrals, daily behavior reports, etc.) is easy and efficient.</td>
<td>.012</td>
<td>-.196</td>
<td>-.063</td>
<td>.983</td>
</tr>
<tr>
<td>I am satisfied with our school’s short term PBIS incentives (tangible rewards, prizes, etc.).</td>
<td>.361</td>
<td>-.164</td>
<td>-.056</td>
<td>.710</td>
</tr>
</tbody>
</table>
I am satisfied with the training I received on PBIS expectations, consequences, and the referral process.

| I am satisfied with my school’s administrative support for PBIS. | -.046 | .177 | .328 | .525 |
Appendix C

Plot Related to Number of Components
Plot Related to Number of Components

Scree Plot

Eigenvalue

Component Number

Inflection point