THE IMPACT OF POSITIVE BEHAVIORAL INTERVENTIONS AND SUPPORTS IN SECONDARY SCHOOL SETTINGS

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Educators are responsible for helping students develop academic and behavior skills and for creating safe environments that promote these outcomes. Achieving these outcomes has become increasingly difficult due to disruptive, anti-social student behavior. Researchers identified Positive Behavioral Interventions and Supports (PBIS) as an evidence-based approach, integrating primary, secondary, and tertiary interventions that provide benefit for students, schools, and educational communities. However, an extensive PBIS literature and research review identified a limited application of PBIS in secondary school settings. The purpose of this dissertation was to broaden the scope of research by examining the impact of PBIS on school-wide discipline outcomes and student academic performance in a secondary school setting using case study methodology.

The case study was conducted in a large, urban Pacific Northwest high school that expressed interest in improving the general school expectations and positive interactions between students and staff members. Study participants were members of a student cohort from grade 9 to grade 12. The case study provided a descriptive analysis of

students' social behavior outcomes (as measured by Office Discipline Referrals, Suspensions/ Expulsions, and Attendance Rate) and their academic performance (as measured by students' Grade Point Averages and Course Credits). An ordered time-series display was applied to analyze behavior and achievement outcome trends. Results showed an increase in students' Grade Point Average, Course Credits, and Attendance Rate and a decrease in students' Office Discipline Referrals and Suspensions/ Expulsions.

This study's findings are discussed in the context of its impact on students' social engagement and academic achievement. Evidence of students' academic and behavior outcomes has the potential to assist in the development of material and approaches to guide, replicate, and extend current PBIS practices to secondary school settings.

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DEDICATION

As an educator, I dedicate this work to my colleagues, who impact the field of education through the provision of academic and social supports to all students.

As a daughter and niece of educators, I dedicate this work to the educators in my family: Anne P. Guest; Thomas Pauly, Ph.D.; and Suzanne Pauly, whose appreciation of life-long learning and provision of unconditional encouragement made it possible for me to complete the challenges of a doctoral program and to grow as an educational leader.

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CHAPTER I

INTRODUCTION

Today's educators are responsible for helping students develop academic and behavior skills and for creating safe environments that promote these outcomes (Lassen, Steele, & Sailor, 2006). Achieving these outcomes, however, has become increasingly difficult across multiple school levels due to prevalent disruptive and anti-social student behavior that is detrimental to the students, schools, and educational community (Barrett, Bradshaw, & Lewis-Palmer, 2008). In a recent national survey of middle and high school teachers, 76% indicated they could be better able to educate their students if behavior problems were less prevalent (Public Agenda, 2004). With behavioral problems so common, educators are challenged to identify and implement effective strategies to promote successful academic and behavioral outcomes for all students (McCurdy, Kunsch, & Reibstein, 2007).

Teachers' efforts to help students achieve have become progressively more hindered by unsafe learning environments (Lassen et al., 2006). One of the greatest challenges for educators is working under conditions that are counterproductive for learning (Warren et al., 2006) while providing instruction in core subjects such as reading, writing, and mathematics. An example is educators teaching students whose anti-social behaviors are serious impediments to their own learning as well as their peers' (Warren et al., 2006). The Surgeon General's 2001 report to Congress stated that the rate of less violent, antisocial crimes, such as fighting, theft, and disruptive conduct, have continued to escalate (U.S. Department of Health and Human Services, 2001). The

identification of preventative practices is necessary to enable educational communities to reduce antisocial behaviors and to develop students' skills (Warren et al., 2006).

McIntosh, Flannery, Sugai, Braun, and Cochrane (2008) stated that the "interaction between problem behavior and academics reaches a critical mass in high school" (p. 245). McIntosh et al. defined *critical mass* as the accumulation of years of persistent academic failure and negative social interactions that dramatically affect students' school experience. When daily academic successes and necessary teacher-student connections continually decrease, students often respond with negative behaviors that are confirmed by their teachers' and peers' negative reactions (Bohanon, Flannery, Malloy, & Fenning, 2009). McIntosh et al. (2008) suggested this interaction between poor academic performance and negative behavior could be a powerful predictor of an increase in high school dropout rates.

In the United States, the National Center for Education Statistics (2007) defined a *dropout* as a "student who was enrolled at any time during the previous school year who is not enrolled at the beginning of the current school year and who has not successfully completed school. Students who are out of school due to illness are not considered dropouts" (p. 9). The most recent national report on dropout rates, *High School Dropout and Completion Rates in the United States: 2007*, reported 10.3% of people between 16 and 24 years old and 32.2% of people between 16 and 19 years old were considered dropouts (NCES, 2007). Specifically, males (9.8%) were more likely than females (7.7%) to drop out. Hispanic students (21.4%) were more likely to drop out than their Black (8.4%) or White peers (5.3%) (NCES, 2007). The challenge is for educators to identify the issues that might affect drop out in high school and the additional supports that might

promote high school completion (McIntosh et al., 2008). It is especially important, when identifying preventative interventions to keep students socially and academically engaged throughout their high school experience, to understand that dropping out is not an isolated event (McIntosh et al., 2008).

The consequences of dropping out of high school are serious. In addition to economic disadvantages, school dropouts experience increased rates of poor adult outcomes, such as unemployment, health problems, substance abuse, and dependence on governmental social assistance programs (McIntosh et al., 2008). These consequences potentially cost taxpayers billions of dollars in welfare, unemployment, crime prevention, and prosecution (McIntosh et al., 2008). School communities' efforts to address the high rate of dropouts and the long-term effects for students have been of great concern (Bohanon et al., 2009).

Studies (Slavin, 1999; Spaulding et al., 2010; Tobin & Sugai, 1999) have analyzed poor academic performance and problem behavior as two variables that predict high school dropout. Slavin (1999) noted that constant low academic skills inhibited students' daily academic success and development of positive teacher-student relationships. Persistently negative academic experiences were identified as risk factors for continued failure in high school and possible dropout. Tobin and Sugai (1999) indicated that problem behavior presented a barrier to high school completion due to the disruption in school and application of exclusionary discipline measures (e.g., suspension or expulsion). Analyzing both variables, academic performance data and problem behavior data, is appropriate when exploring predictors of student outcomes and successful high school completion (Spaulding et al., 2010).

Concerns about such detrimental effects have led researchers to focus on preventative, research-based approaches effective in increasing academic success and decreasing behavior problems (Lassen et al., 2006). These concerns are emphasized in secondary school settings where educators are facing high student drop out rates and a need for preventative interventions. These results challenge prevention-minded educators to (a) prepare students for success in a competitive future, (b) instruct students in reaching successful academic outcomes, and (c) address student behaviors within a safe learning environment.

Secondary School Challenges

In this section, I examine current research literature that investigates three challenges in the context of secondary schools (grades eight or nine through 12): (a) preparing students for success in a competitive future, (b) instructing students in reaching successful academic outcomes, and (c) addressing student behaviors within a safe learning environment.

Preparing Students for Success in a Competitive Future

To examine students' preparation for a competitive future, it is important to analyze trends in U.S. students' academic performance when compared to their national and international peers (NCES, 2009a). Addressing growth trends can improve educators' efficiency with essential information to transition students to successful outcomes, such as school-to-career or post-secondary education, (Bohanon et al., 2009). Congress charged the National Center for Education Statistics (NCES) to examine national and international academic trends to "ensure U.S. students receive a world-class education

that provides expanded opportunities for college and career success" (National Governors' Association, the Council of Chief State Officers, & Achieve, Inc., 2009, p. 5).

National trends. NCES (2009a), in *The Condition of Education,* examined national academic growth trends. In relation to students' performance on reading assessments, NCES (2009a) reported that 12th grade students scored five to seven points lower on the reading assessment in 2005 than in 1992. This score decrease occurred with White, Black, and Hispanic students. The percentage of 12th graders who were proficient readers was lower in 2005 than in 1992 (35% versus 40%) (NCES, 2009a). NCES (2009a) defined *students' proficient scores* as a mastery of skills and content knowledge that is developed beyond *basic* level but not as superior as the *advanced* level. These decreasing trends are concerning to educators who are challenged to engage students in a positive learning environment that supports the development and mastery of required reading and communication skills favored in post-secondary options and jobs (National Governors' Association et al., 2009).

International trends. It is important to determine whether these national trends mirror international trends in order to learn from the top performers and innovators as exemplars for improvement (National Governors' Association et al., 2009). A partnership among the National Governors' Association, the Council of Chief State School Officers, and Achieve, Inc. (2009) compiled and compared performance outcomes from other countries to outcomes in the United States. This process, known as benchmarking, provided an opportunity to learn from global top performers and to inform the refinement of the U.S. education system to promote better outcomes (National Governors' Association et al., 2009). Results from international benchmarking between 27 countries

illustrated that U.S. high school students ranked 25th in math and 21st in science achievement, as measured on an international assessment conducted in 2006 (National Governors' Association et al., 2009). In the same year, the United States had the third largest gap in science scores between students from different socioeconomic groups and the second highest college dropout rate of 27 countries (National Governors' Association et al., 2009).

The National Governors' Association et al. (2009) asserted that education is the most important lever to prepare our students for competitiveness and prosperity in this age of globalization. The NCES (2009a) and the National Governors' Association et al. (2009), however, provided data illustrating disturbing achievement trends. If math performance in the United States were raised to the performance levels of the other countries, students would potentially gain a 12% increase in future earnings (National Governors' Association et al., 2009). These national and international data trends challenge educators to expand students' learning opportunities in preparation for a competitive future.

A Bill and Melinda Gates Foundation (2003) report stated, "Our civic, social, and economic future depends on our ability to dramatically increase the percentage of students that leave high school ready for college, work, and citizenship" (p. 1). The focus for educators is to address these academic achievement trends, both nationally and internationally, by improving the quality of education, creating a positive learning environment, increasing students' rates of proficiency, addressing student dropout rates, and promoting skills that will prepare students for future outcomes (Sugai, Flannery, & Bohanon-Edmonson, 2004).

Instructing Students to Reach Successful Academic Outcomes

In conjunction with legal mandates and academic pressures, as defined in the next section, schools face multiple obstacles in increasing student engagement and students' overall achievement towards successful academic outcomes.

Legal pressures. At the federal level, under the *No Child Left Behind Act of 2001* (NCLB, 2001), the mandate is that schools must create safe learning environments that support and enable all students to learn and achieve. This challenge is further complicated at the state and district level by decreasing resources, multiple competing initiatives, and fewer qualified teachers (Sugai & Horner, 2006). Under legal pressures, schools are "challenged to document that students are safe, are learning the social skills that will make them contributing members of our culture, and are in environments with sufficient social order to allow and encourage academic achievement" (Horner et al., 2004, p.3).

To meet the needs of all students, the *Individuals with Disabilities Act of 2004* (IDEA, 2004) added to the complications of mandated provisions. IDEA required the consideration and use of special education and interventions when developing and implementing an Individualized Education Plan (IEP) for students with disabilities (Warren et al., 2006). IDEA mandated specific guidelines when applying interventions to students who are experiencing poor academic and behavior outcomes (Warren et al., 2006). Together, NCLB and IDEA provide the mandated framework that requires educators to establish supportive learning environments to encourage successful student outcomes.

Academic pressures. Academic achievement remains the primary focus throughout the school year. During the past two decades, as reported in *America's High*

School Graduates (NCES, 2005), NCES analyzed high school transcripts to gain insight into the types of courses taken, the number of credits earned, and the overall Grade Point Average (GPA) earned by graduating 12th grade students. The priority for schools today is for students to earn credits in core academic areas and raise individual grade point averages (NCES, 2005). High school graduates earned 26.8 credits in 2005 and 23.6 credits in 1990. Of these additional three credits, graduates in 2005 earned two additional credits in core content subjects (notably English, Math, and Science) and one additional credit in other academic fields (NCES, 2005). When translated into Carnegie units, a time-based measurement for educational attainment, these additional three credits represented an additional 120 hours of classroom instruction. Approximately 81% of instruction in 2005 was dedicated to credit courses versus 71% for 1990 graduates (NCES, 2005). Even though the number of school days and the length of the school day have remained nearly unchanged over the 15 years of the NCES analysis, the number of instructional hours has increased (NCES, 2005).

Furthermore, in 2005, the average GPA was 2.98 and in 1990 it was 2.47 (NCES, 2005). This increase in GPAs represents a change from a *C* grade average to nearly a *B* grade average for today's high school graduates. Although critics have argued that grade inflation practices account for the rise in GPAs, others have argued that the GPA increase represents a growth in student performance to meet the high expectations of post-secondary options (NCES, 2005). For example, 68% of 2005 high school graduates completed a range of higher-level courses (e.g., Physics and Calculus), which represented a 28% increase over 1990 graduates (NCES, 2005). To support higher expectations as

reported by NCES (2005), teachers must expand learning opportunities that enable students to successfully enter into post-secondary college and career options.

Addressing Student Behavior within a Safe Learning Environment

As noted earlier, the future of education is riddled with challenges and pressures. Student enrollment in public elementary and secondary schools is projected to increase from 43.5 million in 1993 to 54 million in 2018 (NCES, 2009a). In some regions of the U.S., like the South, local enrollment numbers could increase 18% between the years 2006 and 2018 (NCES, 2009a). Dramatic increases in student enrollment may impact school processes and systems, including their ability to manage student behavior.

An important consideration to increasing enrollment is that discipline problems have been positively related to school size (NCES, 2009b). The national report, *Indicators of School Crime and Safety* (NCES, 2009b), reported that as the size of a school population increases so does the likelihood that student discipline problems will be reported. In 2007-2008, 52% of schools with 1,000 or more students reported student verbal abuse of teachers, student acts of disrespect for teachers other than verbal abuse, gang activity, and widespread disorder in the classroom (NCES, 2009b). In comparison, 10% to 22% of schools with fewer than 1,000 students reported similar discipline problems during the school year (NCES, 2009b). Three years earlier, a similar NCES (2003) publication reported approximately 89% of schools with 1,000 students or more had a violent incident, compared with 61% of schools with fewer than 300 students. Rapid enrollment increases have the potential to impact school communities and teachers' ability to adequately educate their students while responding to student discipline problems (Bohanon et al., 2006).

Irvin, Tobin, Sprague, Sugai, and Vincent (2004) stated, "Recently, the antisocial, and even violent behavior of some children in schools has become a most pressing concern" (p. 131). In response to concerns about school-related discipline problems, creating a safe learning environment transitions to the forefront of educational issues (Storch et al., 2003). Key to this issue is the role of classroom teachers who must manage disruptive student behaviors that impede the learning process. In a national poll of middle and high school teachers, over one-third of teachers reported they had seriously considered quitting the teaching profession because of student discipline and behavior problems (Public Agenda, 2004). Although not all students with challenging behaviors and potential emotional and behavioral problems commit violent acts, they do consume a significant amount of teachers' instructional time and resources (Lassen et al., 2006).

Response to student problem behaviors. In response to student behavior problems, many school discipline policy initiatives employ a *get tough* approach (Bohanon et al., 2009). With highly publicized school shootings and school-related violent acts, high schools promoted exclusionary, punitive consequences (e.g., suspension or expulsion) to decrease the likelihood of future violent incidences (Bohanon et al., 2009). This *get tough* approach includes (a) repeating and increasing the severity of the consequences, (b) enforcing a zero tolerance policy, (c) excluding the student from privileges (e.g., after school activities), and (d) implementing alternative options for schooling (Sugai & Horner, 2002). Examples of *get tough* policies are hiring school security officers, installing metal detectors, and operating surveillance cameras (Sugai & Horner, 2002).

The *get tough* approach, unfortunately, has not been associated with decreasing violent acts and promoting safer schools (Sugai & Horner, 2006). Sugai and Horner (2006) noted, "evidence indicates that students with the most severe problem behavior are the least likely to be responsive to these strict consequences, and the intensity and frequency of their behavior is likely to get worse instead of better" (p. 246). Increases in the use of these reactive discipline policies only provide short-term responses to the problem, rather than a long-term reduction in the prevalence of the behavior (Sugai & Horner, 2002). Furthermore, such strict discipline actions do not appear to promote any long-term results in producing positive behavior (Lassen et al., 2006).

In addition, inferences have been made regarding the association of suspensions and expulsions with students' probable entry into the juvenile justice system. This association has informally been termed the *school to prison pipeline,* and is used to describe how school discipline data mirrors that of the juvenile justice system (Bohanon et al., 2009). While investigating this potential association, Bohanon et al. (2009) noted, "When students are removed from school, there is an increased likelihood of their subsequent entry into the juvenile justice system and probability of school dropout" (p. 35). Proactive responses to problem behavior, however, may interrupt the school to prison transition with more successful outcomes, such as secondary education or vocational options.

To test the association between school discipline and students' connection to school, McNeely, Nonnemaker, and Blum (2002) examined the results from the National Longitudinal Study of Adolescent Health (Add Health) survey. McNeely et al. (2002) found that students' overall feeling of connectedness was low in schools that practiced

extreme discipline measures (e.g., assigning suspension to non-violent behaviors, such as theft), and high in schools with less restrictive discipline responses for similar misbehaviors. This finding may suggest that schools should rethink the *get tough* approach and refine their discipline policies. Overall, the school discipline literature and research illustrates many challenges schools face to promote student connectedness.

The literature and research highlight that proactive discipline measures may help create a school learning climate that decreases behavior discipline issues and improves successful academic and social outcomes more than punitive consequences (Bohanon et al., 2009; Lassen et al., 2006; Luiselli et al., 2005; McIntosh et al., 2008; Muscott et al., 2008). In this next chapter, I will review the collection of literature and research with the goal of providing an examination of Positive Behavioral Interventions and Supports, as an alternative approach to *get tough* consequences. The result will be the identification of a need to conduct research on PBIS in an urban, secondary school setting to address students' academic and social outcomes.

CHAPTER II

EXAMINATION OF

POSITIVE BEHAVIORAL INTERVENTIONS AND SUPPORTS

In this chapter, I provide an examination of Positive Behavioral Interventions and Supports (PBIS), a systematic approach that includes a three-tiered model of prevention and intervention applications based on a pyramid model. The purpose of my examination is to provide research-based evidence of school-wide PBIS to support the development of positive, safe learning environments where educators develop students' academic and behavior skills and ultimately promote long term, successful student outcomes.

Identifying effective academic and behavioral interventions within a safe educational environment is a priority (Kincaid, Childs, Blasé, & Wallace, 2007). An alternative approach to the *get tough* consequences for antisocial behaviors and decreasing achievement scores is Positive Behavioral Interventions and Supports (PBIS) (Lassen et al., 2006). In the past fifteen years, school-wide PBIS has emerged as an approach to establishing a positive learning environment while addressing individual student problem behavior (Sugai & Horner, 2006). To examine PBIS, I first review universal intervention research literature on school-wide PBIS. I (a) define PBIS principles, (b) review the research assessing overall PBIS systems, (c) describe areas of PBIS that have not been investigated empirically, and (d) propose a need for research on PBIS in secondary school settings. The focus of my examination is to provide an argument for conducting research on PBIS in an urban, secondary school setting.

Implications of my examination can present evidence on the impact of PBIS on high school students' academic and social outcomes in preparation for adulthood.

Principles of PBIS

PBIS is the "integration of valued outcomes, behavioral and science, empirically validated procedures, and systems change to enhance quality of life and minimize or prevent problem behaviors" (Sugai & Horner, 2006, p. 246). Principles of PBIS are rooted in the application of research-based strategies in which an observer is able to analyze students' behavior by focusing on the context and environment in which the behavior occurs (Sugai & Horner, 2006). Features of PBIS, as described in this section, are (a) prevention, (b) theory and evidenced-based practice, and (c) systems implementation (Sugai & Horner, 2002). Horner, Sugai, Todd, and Lewis-Palmer (2005) stated, "the foundation of school-wide PBIS lies in the application of these features to the whole school context in an effort to prevent, as well as change, patterns of behavior" (p. 360).

Prevention

PBIS employs a school-based prevention model that emphasizes a three-tiered continuum of interventions (see Figure 1) (Sugai & Horner, 2006). The application of interventions is intended to prevent the development of problem behaviors, reduce the occurrence of significant problem behaviors, and decrease the impact and intensity of the problem behaviors upon the school community (Sugai & Horner, 2006). With a systematic tiered approach, trained staff implement evidence-based interventions strategies to create positive, safe, learning environments and promote appropriate behaviors (Warren et al., 2006).

Primary prevention. Primary prevention, or the green zone, is directed toward preventing problematic behaviors for all students and providing a positive learning environment for the entire school community (Sugai & Horner, 2006). Primary prevention focuses on the teaching of relevant social skills and appropriate behaviors by providing frequent reinforcements for expected behaviors and consequences for inappropriate behaviors. School-wide prevention also includes instructional practices, relevant curriculum, and organizational structures that support the development of positive relationships between staff and students. This level of intervention is expected to meet the needs of approximately 80% of the students, those who are able to respond appropriately to school-wide prevention practices and thus do not receive behavior referrals. Primary prevention is the base of the triangle in Figure 1.

Secondary prevention. The yellow zone (see Figure 1) is Secondary prevention, and involves specialized prevention systems for a small portion of students who exhibit at-risk behaviors (Sugai & Horner, 2006). Intended for approximately 15% of students, this level of prevention utilizes group-based intervention strategies to support academic support (e.g., tutoring, writing lab, etc.), personal support (e.g., group counseling, addiction support, etc.), and social support (cultural based groups, interest based groups, etc.). Secondary prevention also employs simple individualized programs that target specific problem behaviors. An example is a *Check-in Check-out* program that partners an individual student with an adult mentor who conducts regular *checks* to provide increased adult attention and monitoring interventions for improved academic and behavioral outcomes. With additional group and individual supports, students exhibiting inappropriate behaviors will receive the additional support needed to modify their

behavior, avoid additional behavior referrals, and meet the behavioral expectations of the school setting.

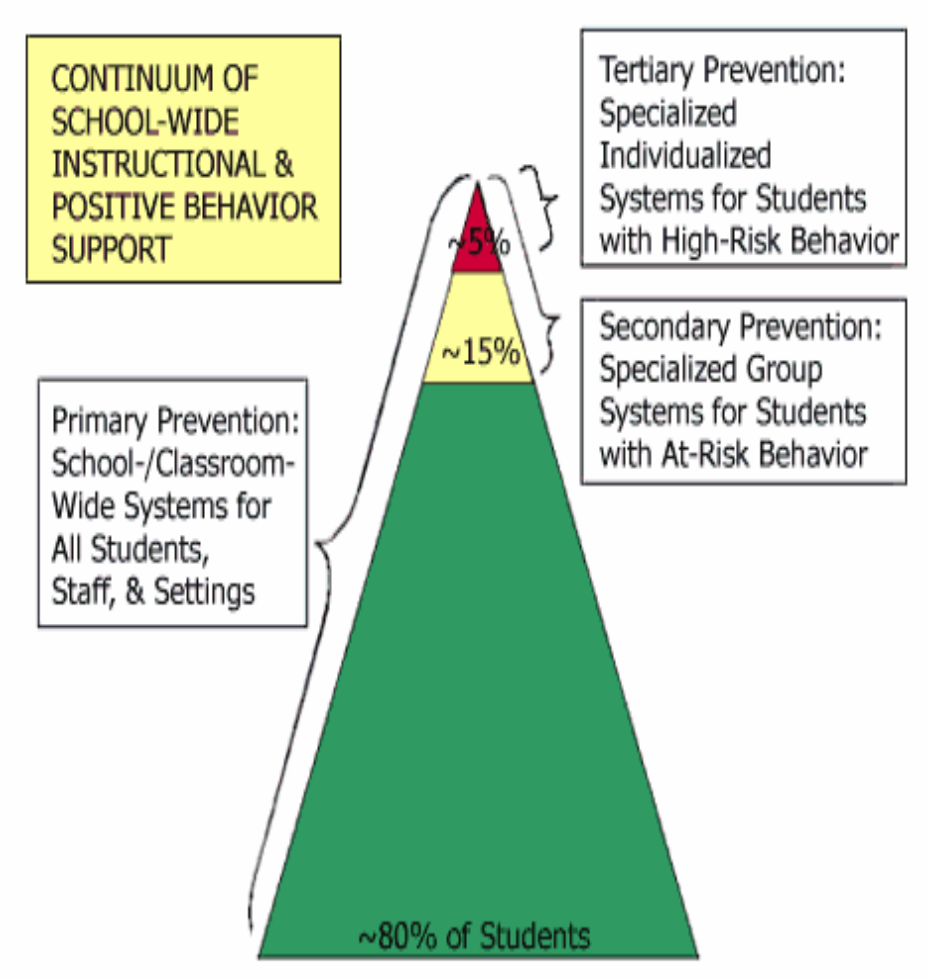

Figure 1. Continuum of School Wide Instructional and Positive Behavioral Interventions and Supports - http://www.pbis.org/

Tertiary prevention. The Tertiary level, which is portrayed as the tip of the triangle (see Figure 1), is the third phase of the continuum, involving about 5% of the student population. Illustrated as the red zone, this level of intervention includes highly individualized and intensive prevention measures for students who do not respond to the primary and secondary prevention practices (Sugai & Horner, 2006). Typically at this level, a team of experts (e.g., school psychologists, special educators, counselors, and

behavior interventionists) work collaboratively to implement individualized behavior supports. Together, the team collects data on the individual student's behavior and response to the behavior supports. Decisions about interventions are based on this collection of data. Regular monitoring of the student's behavior is highly structured, specific, and focused. The goal of the team is to decrease the student's anti-social behavior and teach alternative behaviors.

Prevention model summary. Sugai et al. (2004) summarized essential features present when applying the PBIS three-tiered model (see Figure 1). One important feature is students' ability to describe and provide examples of the behavioral expectations for specific, predictable school settings (Sugai et al., 2004). As a result, problem behaviors are reduced, the removal of students from the classroom is decreased, and the potential for students to engage in learning is increased. Teachers have the opportunity to spend more time providing academic instruction rather than addressing disruptive problem behaviors. Key to these features is that adults and students are able to share more positive interactions in a learning environment (Sugai et al., 2004).

Theory and Evidence-based Practices

PBIS is directly based on applied behavior analysis, a behavioral theory that emphasizes "the ability to affect behavior through environmental manipulations" (Sugai & Horner, 2006, p. 247). PBIS is deeply rooted in behavior analysis and a foundation of research that focuses on the behavior of an individual and the contexts or environment in which the individual's behaviors are observed (Sugai & Horner, 2006). Sugai and Horner (2006) asserted, PBIS "is based directly on behavioral theory (applied behavioral analysis, specifically), emphasizes the lawfulness of behavior, interplay between

physiology and environment, and ability to affect behavior through environmental manipulations" (p. 247). Furthermore, Warren et al. (2006) defined PBIS as "an applied science that uses educational methods to help individuals develop socially appropriate behaviors while also facilitating change in a broader social system that influences the individual's behavior and general quality of life" (p.188). Applying behavioral theory and empirical evidence to support decisions is fundamental to PBIS.

Features of applied behavioral analysis include a team-based approach to implementing interventions identified when analyzing the purpose, or function, of the misbehavior (Sugai & Horner, 2006). Functional Behavior Assessments and Behavior Intervention Plans are two components to effective implementation of school-wide PBIS. For example, a team of teachers addressing a student's continuous disruptive behaviors may conclude the function of the behaviors is to avoid class work and gain attention from peers. A key feature is the use of data (e.g., office discipline referral data) and the application of data collection systems to inform decision-making regarding effective, efficient, relevant, and durable intervention practices (Sugai et al., 2004). With a foundation of theory and evidence, PBIS has "evolved into a viable process for assisting schools to identify, adopt, adapt, implement, and evaluate evidence-based school-wide, classroom, and individual student interventions" (Sugai et al., 2004, p. 2).

Systems Implementation

Successful implementation of school-based PBIS is guided by four major elements (Sugai & Horner, 2006). Sugai and Horner's (2006) four major elements are: (a) measurable long-term goals, (b) school-based outcomes, (c) use of data, and (d) system supports. See Figure 2 for the Systems Implementation illustration.

Measurable long-term goals. First, schools must establish measurable long-term outcomes for behavioral targets that are supported by the school community. Behavioral targets, such as decreasing disruptive behaviors in the classroom, are explicitly taught in a specific context, the classroom, by all staff members. The expected behavior of non-disruptive actions are reinforced through systematic processes and corrected with multiple prevention efforts. Throughout this process, staff members continue to review and revise efforts to meet the long-term goal to reduce the targeted behavior (Sugai & Horner, 2002).

School-based outcomes. Second, practices to achieve school-based outcomes must be relevant and applicable to the educational setting (Sugai & Horner, 2002). For instance, lessons on expected behaviors should be age-appropriate to the student audience. In elementary school, the focus may be on exhibiting simple forms of respect. In high school, the focus may be on more adult-like behaviors, such as exhibiting integrity or perseverance inside and outside of the classroom. The notion of relevance is based on the developmental stage and interest of the students and their learning environment (Sugai & Horner, 2002).

Use of data. The third component to PBIS systems is the use of data. Sugai and Horner (2002) claim that developing a sound organizational system to collect, organize, and communicate data is essential to informing decisions at all levels of implementation. School staff must use data to document behavioral outcomes and guide decision-making processes on the effectiveness and relevance of interventions. Examples of school level data include standardized test scores, attendance records, and grades. Classroom data may include performance on curriculum-based assessments as well as discipline referrals.

Individual data may include behavior support plans, functional behavior assessments, and Individualized Education Program progress. All levels of data can be used to guide effective decision-making so that staff can monitor and adjust practices and make sound decisions to effectively address students' targeted behaviors.

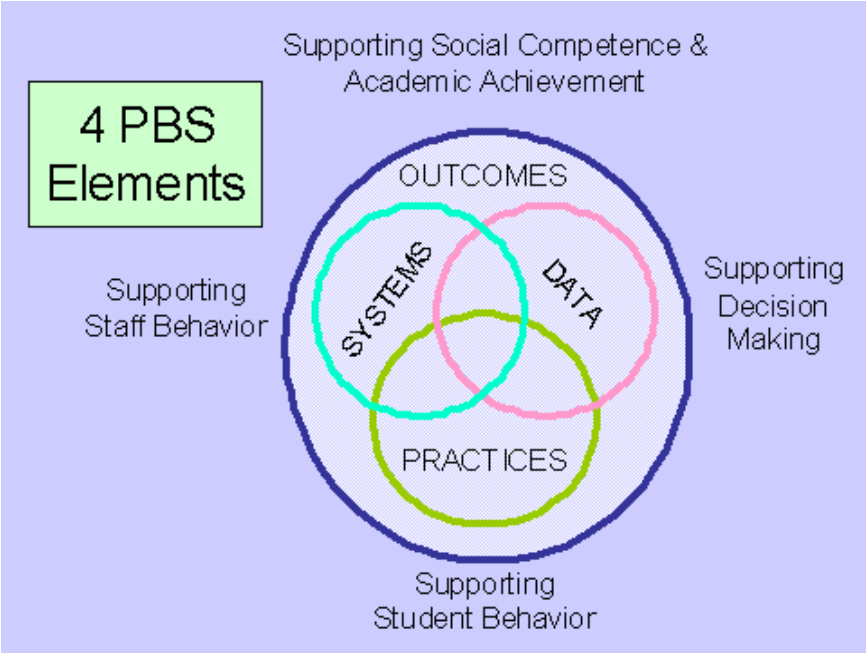

Figure 2. Four PBIS Elements – http://www.pbis.org/

System supports. Finally, the school must establish system supports (e.g., funding, training, and resources) to effectively implement PBIS. A team of school leaders must identify and allocate the supports needed to apply PBIS practices with fidelity (Sugai & Horner, 2002). In summary, Figure 2 illustrates the organization of these four elements as interrelated, collaborative elements sustaining a school-wide PBIS system (Sugai & Horner, 2006).

CHAPTER III

LITERATURE REVIEW OF PBIS

PBIS research focuses primarily on the practices, processes, and assessment of school-wide PBIS systems. To investigate PBIS, I conducted a literature review of studies that examined the impact of school-wide PBIS implementation on student behavior and academic outcomes in secondary schools. I searched for studies that examined the impact of school-wide PBIS implementation on student behavior and academic outcomes in secondary schools by referring to a citation list compiled by Horner and Sugai (2009), reference lists, and online searches (e.g., ERIC, PsychInfo, and www.pbis.org). I also scanned peer-reviewed journals that published PBIS research literature on primary prevention implementation (the green zone) within the last decade, such as *Journal of Positive Behavior Interventions, Journal of Applied Behavioral Analysis,* and *Education and Treatment of Children.* This search procedure resulted in a collection of 32 studies. They are organized, in terms of key design features, to answer the following questions: (a) *What type of research designs are used to examine the impact of universal, school-wide PBIS in a school community?* and (b) *What unit of analysis is examined in most of the universal, school-wide PBIS research?* Accordingly, patterns became clear when answering these literature review questions, which are illustrated in Table 1.

Table 1

Summary of Studies Included in this Synthesis (32 total studies).

Types of Study	**Number**	**Percent (%)**
Experimental	6	19
Quasi-experimental	13	41
Qualitative	1	3
Mixed	1	3
Case Study	11	34
Types of Measure Used to Assess Impact		
Standardized Academic Assessment (e.g., SAT)	6	19
Intervention or Behavior Tracking	11	34
Office Discipline Referral (e.g., ODR)	17	53
Teacher Interview or Observations (e.g., TIC)	15	47
Student Interview or Observations	3	9
Student Product (e.g., GPA)	2	6
Student Attendance	1	3
Implementation Assessment (e.g., SET, BoQ)	18	56
Validity/ Reliability Information		
Validity/Reliability Information Provided	20	60
No Validity/Reliability Information	12	40
Level of School Studied		
Pre-School	2	6
Elementary School	12	38
Middle School	5	16
High School	1	3
Mixed/ Transition		
Elementary/ Middle	1	3
Middle/ High	1	3

Table 1 (continued)

State-wide/ District-wide	10	31
Publication Date		
2000-2005	17	53
2006-2010	15	47

Literature Review

Research patterns, as illustrated in Table 1, are discussed next.

Types of Studies

A growing collection of research studies in the last decade has employed quality measures to document both implementation of core PBIS features and effects on students' academic and behavior outcomes (Horner & Sugai, 2009). The collection of research continues to expand the PBIS database by publishing their findings, sharing their observations, and providing implications for potential future research and practice (Sugai et al., 2004). Between 2000 and 2010, slightly more than half (53%) of the reviewed studies were published between 2000 and 2005, with the remaining 47% published between 2006 and 2010. Consistent examination of universal, school-wide PBIS allows researchers to examine the replication, sustainability and continuous improvement of PBIS implementation (Algozzine et al., 2010).

Experimental. Six of the 32 reviewed studies (19 percent) applied an experimental design to examine the relation between PBIS and student outcomes (Bradshaw, Koth, Bevans, Ialongo, & Leaf, 2008a; Bradshaw, Reinke, Brown, Bevans, & Leaf, 2008b; Bradshaw, Koth, Thornton, & Leaf, 2009a; Bradshaw, Mitchell, & Leaf, 2009b; Duda, Dunlap, Fox, Lentini, & Clarke, 2004; Horner et al., 2009). Bradshaw et al. (2008a, 2008b, 2009a, & 2009b) conducted the majority of these reviewed experimental

studies, examining PBIS in 37 elementary schools representing approximately 2,590 staff members, between 2002 and 2007. All the experimental studies were conducted in elementary school settings.

In the first study, Bradshaw et al. (2008a) established the fidelity of PBIS implementation by using the Schoolwide Evaluation Tool (SET) to measure the presence of school-wide PBIS components. Using a randomized group trial of PBIS, 21 schools received training and implemented PBIS and 16 schools did not receive training but implemented a PBIS model. The SET data of these two groups was analyzed to determine the impact of training in PBIS on school-wide PBIS implementation fidelity. Bradshaw et al.'s (2008a) analyses showed no significant differences in overall SET scores. Controlling for school district effects, data analyses indicated that schools trained in PBIS had greater fidelity than non-trained schools. Conclusions from the study included an enhanced understanding of how PBIS components are applied, adapted, and maintained in a school setting.

Next, Bradshaw et al. (2008b, 2009a) examined the impact of PBIS training on improvements in school climate as measured by reports of school employees' organizational health. Bradshaw et al. (2008b, 2009a) used the Organizational Health Inventory for Elementary Schools (OHI), which targeted five aspects of healthy functioning (e.g., institutional integrity, staff affiliation, academic emphasis, collegial leadership, and resource influence). Staff reports from the trained and non-trained schools were collected annually. Initial findings suggested that PBIS training is associated with higher overall OHI scores and significant improvements in three areas of healthy school functioning: (a) resource influence, (b) staff affiliation, and (c) academic emphasis. After

PBIS implementation, scores in the two remaining OHI areas—institutional integrity and collegial leadership—were enhanced. Bradshaw et al. (2008b, 2009a) concluded that PBIS training and implementation were associated with an enhancement of schools' organizational health.

Continuing this examination, Bradshaw et al. (2009b) investigated the impact of training on student Office Discipline Referrals (ODR). They conducted three analyses of ODRs to investigate differences in rates of ODRs between the trained and non-trained schools. Bradshaw et al. (2009b) found that schools trained in PBIS reported significant reductions in both the percentage of students receiving referrals and the overall rate of ODRs.

Summary of experimental studies. The strength of experimental design studies documented the fidelity of implementation with strong evidence-based practices and outcomes (Horner & Sugai, 2009). Bradshaw et al.'s work (2008a, 2008b, 2009a, & 2009b) illustrated the impact of school-wide PBIS, on staff training and application practices, school climate, and student behavioral outcomes. Such preliminary experimental study findings offer a starting point for drawing evidence-based conclusions when analyzing the application of universal PBIS systems as a preventative approach for school communities.

Quasi-experimental. In addition to the experimental studies using random assignment, researchers conducted thirteen quasi-experimental studies (41%) to examine PBIS at the (a) state, (b) district, and (c) school or classroom level.

State level. Initial examination of large-scale PBIS practices and effects on student outcomes were conducted in Hawaii (Nakasato, 2000), Iowa (Mass-Galloway,

Panyan, Smith, & Wessendorf, 2008), Maryland (Barrett et al., 2008), and New Hampshire (Muscott, Mann, & LeBrunn, 2008). To establish the application of school-wide PBIS, researchers used the SET, the Team Implementation Checklist (TIC), and the Coaches Checklist. To measure student outcomes as an effect of PBIS interventions, researchers collected and analyzed student ODR data.

Researchers (Barrett et al., 2008; Mass-Galloway et al., 2008; Muscott et al., 2008; Nakasato, 2000) found schools with high levels of implementation fidelity experienced a reduction in the rate of ODRs per-day and per-month. For example, Maryland schools (K-12) with PBIS training experienced 72% fewer ODRs than schools that did not complete the training (Barrett et al., 2008). Similar ODR reductions in multi-year examinations provide preliminary evidence in support of large-scale PBIS training and universal implementation (Mass-Galloway et al., 2008; Muscott et al., 2008; Nakasato, 2000). Recommendations from state-wide examinations included: (a) investment in PBIS as a preventative approach (Barrett et al., 2008; Mass-Galloway et al., 2008; Muscott et al., 2008), (b) continued evaluation of schools' maintenance of PBIS (Barrett et al., 2008; Mass-Galloway et al., 2008; Muscott et al., 2008), (c) embedded PBIS practices in pre-existing school-wide programs or initiatives (Mass-Galloway et al., 2008), and (d) continued data collection to examine PBIS (Nakasato, 2000).

District level. Two quasi-experimental studies of district-wide PBIS investigated building district-level capacity and system changes to maintain large-scale PBIS programs (George & Kincaid, 2008; Nersesian, Todd, Lehmann, & Watson, 2000). George and Kincaid (2008) expanded on the School-wide PBIS Implementers' Blueprint and Self-Assessment (Algozzine, 2010) by providing an examination of collaboration

practices applied in a Florida school district, and Nersesian et al. (2000) applied similar research methods in the Eugene School District in Oregon. George and Kincaid (2008) and Nersesian et al. (2002) used the Schoolwide Evaluation Tool (SET), the Teachers' Implementation Checklist (TIC), the Coaches' Checklist, and the Benchmarks of Quality (BoQ) to measure implementation fidelity. Student attendance rate, grades, and ODRs were used to measure students' outcomes affected by PBIS. Both researchers suggested that district personnel support and prioritize PBIS practices by allocating the funding, creating policies, and embedding PBIS in already existing initiatives (George & Kincaid, 2008; Nersesian et al., 2000).

School or classroom level. Consistent with state and district-level study designs, researchers examined small-scale PBIS practices in a school or classroom setting (Benedict, Horner, & Squires, 2007; Blonigen et al., 2008; Lassen et al., 2006; McIntosh et al., 2008; Metzler et al., 2001; Nelson et al., (2009)). Lassen et al. (2006) and McIntosh et al. (2008) applied implementation measures (e.g., SET) and collected extant student data accessed through archival databases maintained by school districts. The extant data included individual student grades, state-level assessment scores, and discipline records. Study results illustrated PBIS as an effective intervention in reducing student problem behavior, improving academic performance, and increasing students' time in the classroom (Lassen et al., 2006; McIntosh et al., 2008). Lassen et al. (2006) also asserted that their study extended existing PBIS literature by examining indicators of student academic and behavior outcomes.

An alternative to analyzing extant data was used by Benedict et al. (2007) and Metzler et al. (2001) to collect time-series discipline reports, acknowledgement system

tallies, teacher surveys, and implementation process data. Benedict et al. (2007) noted the limitation to the data collection process was the inconsistent timing of PBIS initiation throughout the school year. For example, PBIS was implemented in some classrooms in March, others in April, and one classroom during the week before the last day of school. Metzler et al. (2001) observed that many of the schools' practices and interventions were not able to be controlled and could potentially confound the sensitive, time-series data. Benedict et al. (2007) and Metzler et al. (2001) concluded that student reports, teacher reports, and school records all showed consistent evidence of an improved, predictable, safe school climate.

Luiselli et al. (2005) and Nelson et al. (2009) conducted similar longitudinal studies to assess the extent of a school-wide PBIS model to achieve expected behavior and academic outcomes. Students' behavior was measured by ODR data, and academic performance was measured by standardized tests of reading and math skills. Luiselli et al. (2005) conducted the study over three years. The pre-intervention phase and baseline began in the 1999-2000 school year. The intervention development and implementation occurred during 2000-2001. The third year, 2001-2002, was the post intervention year. Luiselli et al. (2005) reported that student discipline problems decreased and academic performance improved following PBIS intervention. Findings illustrated the rate of ODRs decreased from 1.3 referrals per day in 1999-2000 to 0.54 referrals per day in 2001-2002. Both reading comprehension and math percentile ranks improved between the pre-intervention and intervention test dates, increasing by 18 and 25 percentage points, respectively.

Nelson et al. (2009) reported similar findings to Luiselli et al. (2005) when analyzing a school-based PBIS program. A cohort longitudinal model was used to assess the impact of a three-tiered behavior model. The results confirmed that universal interventions might prevent the onset of behavior problems among low-risk students. Results also confirmed gains with children who received selected and indicated interventions and were sustained with universal interventions over time. However, the generalizability of this study is questionable, as there were multiple limitations, such as discrepancies between schools' organization structure, instructional practices, and demographic characteristics. Thus, although these studies offer insights, they should be viewed cautiously.

Qualitative. Chapman and Hofweber (2000) modified the PBIS model to address behavior problems in provincial schools in British Columbia. The British Columbia Council of Administrators of Special Education committed five years to large-scale PBIS implementation, including regional staff trainings, action plans, and data collection. More than 600 teachers and administrators participated in the PBIS implementation process. Key findings from qualitative measures, (e.g., field notes, training feedback, and interviews) were: (a) implementation takes time, (b) implementation demands strong leadership, (c) on-going training is essential, (d) on-going evaluation and data collection is necessary, and (e) program systems must be embedded into pre-existing practices for sustainability. Chapman and Hofweber (2000) provided anecdotal evidence to PBIS processes that added descriptive detail to the collection of PBIS research.

Mixed methods. A review of PBIS literature illustrates limited research has applied PBIS to urban, secondary settings. Bohanon et al. (2006) conducted the one

research study that focused on the features of PBIS that make application of PBIS at the high school level distinct from that at the elementary and middle schools. Bohanon et al. (2006) applied a mixed-method study design to implement PBIS and associated interventions used to enhance student outcomes. Three quantitative measures were used: (a) the SET, to measure the fidelity of implementation; (b) the Effective Behavior Support Survey, to measure the level of implementation across the school, classroom, nonclassroom, and individual students; and (c) ODRs, to measure the rate of student discipline problem outcomes. Qualitative measures included: (a) interviews of staff, (b) school document reviews, and (c) comprehensive field notes from the researchers.

Bohanon et al. (2006) stated that the study's outcomes must be filtered with considerations of a high school setting. During the study, many staff members questioned the age appropriateness of the PBIS acknowledgement system, which is typically used in elementary and middle school settings. Another challenging component was encouraging staff to teach and reinforce the expected behaviors regularly throughout the study. Staff continued to voice concern about the loss of content-focused instructional time that was dedicated to teaching and re-teaching appropriate behaviors. A common assertion was that these teachers presumed that appropriate behaviors should be taught in the home environment. Ultimately, the need for staff to *buy-in* to the process was identified as a priority for sustainable, positive outcomes.

Bohanon et al. (2006) claimed that initial research data suggested that school-wide implementation of PBIS in high school settings may be beneficial to students and staff in terms of outcomes, such as reducing ODRs and increasing instructional time. Future research questions they suggested, based on their preliminary study outcomes,

included: (a) identifying best practices to establish a school-based PBIS model and (b) longer-term evaluations focused on the sustainability of PBIS in a secondary school setting (Bohanon et al., 2006). Implications of Bohanon et al.'s (2006) study provided preliminary findings to document initial evidence to effective PBIS practices at the secondary level.

Case study. Thirty four percent of the reviewed research literature used a case study design to examine the effectiveness of a PBIS model by identifying implementation processes, tracking the rate of students' behavior, and monitoring students' academic outcomes. All 13 studies collected data in three different educational settings: (a) school, (b) classroom, and (c) non-classroom.

School setting. Implementation processes were analyzed in four school settings to identify the critical factors and procedural steps that a school must use to establish a proactive PBIS system (Colvin & Fernandez, 2000; Lohrmann et al., 2000; Luiselli, Putnam, & Sunderland, 2002; Taylor-Greene & Kartub, 2000). Conclusions highlighted the need for an annual commitment to implementing a PBIS model and the formation of a PBIS leadership team when initiating PBIS systems. Schools also needed to create data collection systems to use for decision-making. When staff experienced the beneficial outcomes of a PBIS model in creating a positive school environment with applied quality behavior management and instructional strategies, staff were motivated to sustain the PBIS system (Colvin & Fernandez, 2000; Lohrmann et al., 2000; Luiselli, Putnam, & Sunderland, 2002; Taylor-Greene & Kartub, 2000).

Putnam, Luiselli, Handler, and Jefferson (2003) and Sadler (2000) expanded on implementation case studies to investigate the impact of PBIS on the rate of students'

problem behaviors as measured by the frequency of office referrals. An ABC sequential design was used in which A was the baseline data, and B and C were the application of a classroom PBIS intervention and subsequent data results. Putnam et al. (2003) found office referrals decreased from 3.2 referrals each week to 1.4 referrals. One teacher, who was responsible for 18% of the total school discipline referrals during the baseline condition, reported only 2% of the total referrals by the end of the yearlong study.

Similar ODR decreases were illustrated when Sadler (2000) found that school-wide daily student discipline referrals decreased by 35% between 1998 and 1999. Referrals during lunchtime decreased from 10% in 1998 to 4% in 1999. Incidences of aggressive behavior decreased from 10% to 4%, and inappropriate behaviors decreased from 33% to 12%. Beginning data from both Putnam et al. (2003) and Sadler (2000) illustrated potential successful outcomes of a PBIS system on students' behavior in school. In both cases, the researchers recommended inclusion of the effects of PBIS models on students' academic performance in future studies.

Classroom setting. One case study examined 26 students in a General Education Social Studies classroom led by a 6th grade teacher with over 20 years of teaching experience (DePry & Sugai, 2002). The focus of the intervention was to reduce the rate of minor behavioral incidents, which are typically handled by the teacher and consume a significant amount of the teacher's instructional time. Examples of observed minor incidents included: (a) students who were not engaged in the lesson, (b) eating in the classroom, (c) not following teachers' directions, (d) note passing from peer to peer, (e) out of seat, and (f) copying another student's work. Study procedures involved the collection of baseline observation data, teacher training (e.g., active supervision, pre-

correction, behavior reinforcement, and behavior re-teaching), daily data collection training, and two phases of applied interventions.

DePry and Sugai (2002) demonstrated a relation between the use of a PBIS intervention model and the reduction in minor behavioral incidents in the teacher's classroom. They suggested that the use of a classroom-based PBIS model presented a potential preventative intervention for handling students' minor behavioral incidents. They recommended further testing of the model across grades and school settings.

Non-classroom setting. When considering recommendations for PBIS across school settings, the available research collection of specific non-classroom settings had limited empirical support for large-scale intervention investigations (Lewis, Colvin, & Sugai, 2000). Hirsch, Lewis-Palmer, Sugai and Schnacker (2004) identified procedures for analyzing bus discipline referral databases for researchers to follow when analyzing non-classroom setting discipline. Hirsch et al. analyzed the patterns of students' misbehaviors and defined preventative strategies to meet the implementation needs of the participating district. They found referrals to be an untapped wealth of information, providing insights into factors that led to students exhibiting misbehaviors. Analysis of non-classroom referrals could improve application of preventative measures (e.g., PBIS) to remediate students' behavior and reduce the rate of discipline referrals.

Three case studies applied the referral analysis procedures identified by Hirsch et al. (2004) to examine the effectiveness of a PBIS model, which included teacher driven social skills review, pre-corrections, and active supervision, on the rate of students' problem behaviors (Lewis et al., 2000; Lewis et al., 2002; Putnam et al., 2003). Lewis et al. (2000) and Lewis et al. (2002) used a multiple baseline design across target recess

periods to examine intervention effects on an elementary school playground. Putnam et al. (2003) applied a similar design to examine the effects of two intervention cycles on improving middle school students' bus-riding behavior. Results from these non-classroom case studies indicated that applying PBIS interventions reduced the overall rate of observed problem behavior during unstructured playground or bus-riding activities.

Summary of types of study. The analysis of PBIS study designs can illustrate patterns of research procedures, assessment applications, and data examinations. Patterns of research procedures provide common steps to initial PBIS implementation, suggestions for professional development trainings, active application of PBIS components, and continuous examination of implementation fidelity. Patterns of assessment applications include common measurements, such as the SET and TIC, to measure implementation fidelity as well as ODR and academic reports when measuring student outcomes. Patterns of data examinations include pre- and posttest analyses that provide evidence of decreased students discipline referrals and increased academic performance. These study design patterns can assist researchers and educators in making informed decisions about maintaining and sustaining effective, school-wide PBIS systems that promote successful student outcomes (Safron & Oswald, 2003).

School Level Analysis

Research studies on PBIS implementation at various school levels have shown improvements in student outcomes, such as a reduction in discipline referrals, an improvement of behavior in nonclassroom settings, and an increase in academic performance. Three school levels studied empirically include (a) elementary, (b) middle, and (c) high school settings.

Elementary school. Thirty-eight percent of the reviewed PBIS research was conducted in elementary school settings. Much attention has been given to identifying effective intervention practices with young students to prevent the development and intensification of problem behavior (Sugai et al., 2004). Addressing the behavioral needs of children in their early development and school years may be a preventative measure to decrease the occurrence of worsening behavior. This large collection of research provides documented evidence to inform effective PBIS implementation practices and support evidence-based decisions regarding elementary students' behavior and academic development. The result is a research-based understanding of effective implementation practices and maintenance strategies of PBIS systems in elementary school settings.

Middle school. Sugai et al. (2004) asserted it is equally important to prevent the occurrence of problem behavior in pre-adolescent and adolescent youth as it is in younger students. The result is a focus on PBIS practices that are unique to middle schools. Sixteen percent of the reviewed research literature examined PBIS processes in middle schools and provided evidence to support effective practices specific to middle school settings. Middle school level research continues to identify effective, evidence-based practices for school-wide PBIS systems that meet needs unique to adolescence.

High school. The obvious gap in the reviewed research literature is the absence of high school based studies. Bohanon et al. (2006) conducted a research study examining PBIS in a large, urban high school in the Chicago Public Schools. The PBIS components implemented across two-years were: (a) the development and direct teaching of behavioral expectations, (b) the application of an acknowledgement system for continuous and intermittent reinforcement, and (c) the participation in staff trainings,

including the use of data for decision-making. The high school served approximately 1,800 students with a variety of needs: 87% of students were eligible for free and reduced lunch, 21% qualified as English Language Learners, 20% qualified for Special Education, and the drop out rate was 19%. Bohanon et al. (2006) studied the ways in which traditional school-wide PBIS models would need modification for urban high school settings and evaluated the impact of a high school PBIS model on school-wide discipline outcomes.

Bohanon et al. (2006) used two measures to evaluate the implementation of PBIS. First, the Schoolwide Evaluation Tool (SET) measured implementation fidelity. This tool showed that PBIS was implemented with an overall rating of 80% for all critical variables, indicating a high level of implementation fidelity. Second, the Effective Behavior Support Survey (EBS Survey) measured the level of implementation and priority for change in four areas: school-wide systems, classrooms, nonclassroom settings, and individual supports. Survey results provided information for selecting priorities for future action planning, such as modifying discipline procedures for school-wide consequences and promoting student engagement in learning outcomes.

To measure the impact of PBIS on student discipline, Bohanon et al. (2006) reviewed Office Discipline Referral (ODR) data. Pre-PBIS implementation reported 5,215 referrals for the first year and 4,339 referrals for the second year when PBIS was implemented. Post-PBIS implementation, ODR data indicated a 20% overall reduction in average daily referrals to the office. Results from this case study provide initial documented evidence of PBIS implementation in a high school setting. Potential next

steps include more studies examining PBIS as a viable approach in the secondary school setting.

Bohanon et al. (2006) provided emerging documentation for improved delivery of PBIS applications and support of student development. These initial research findings provide an emerging alternative to the traditional *get tough* behavior consequences and a potential preventative approach to the behavior and academic pressures, which are unique to the high school setting (Bohanon et al., 2006). The study highlighted a need to develop the capacity of high schools to prioritize, plan, and implement PBIS components (Bohanon et al., 2009).

Missing Elements to PBIS Research at the Secondary Level

The practices, process, and assessment of PBIS systems have not been demonstrated or documented widely or sufficiently in high school settings (Bohanon et al., 2004). Researchers are challenged to evaluate and potentially modify PBIS practices in the high school. Features that promote the successful implementation of PBIS practices in elementary schools may not be effectively translated to secondary school settings based on the specific academic and social development of high school students (Sugai et al., 2004). The variation between school levels presents challenges in conducting research that provides outcomes to guide effective implementation methods, particularly at the secondary school level.

A concern of both researchers and educators is the lack of evidence-based practices to guide PBIS implementation in relation to the unique qualities of high school and post-secondary outcomes (Bohanon et al., 2009). Bohanon et al. (2009) asserted that an increase in research on PBIS in high schools would address high school specific

issues, such as (a) decreasing problematic behaviors that lead to dropping out of school, (b) improving school completion rates, (c) promoting successful transition from high school to adult life, and (d) improving adult to student interactions.

Unique Characteristics of High Schools

High schools are generally complex systems influenced by student interactions, staff relations, community involvement, and administrative support (Bohanon et al., 2009). Newcomer and Barrett (2009) examined the complex systems of secondary school settings, specifically focusing on the unique structures and challenges that impact the implementation of strategies inherent to PBIS. Different than elementary and middle schools, Newcomer and Barrett (2009) characterized high schools as educational settings that are typically larger in size and enrollment with organizational structures that center on subject matter departments. Daily interactions between staff and students within this organizational setting become content-focused rather than student-focused (Sugai et al., 2004). These interactions inhibit the sense of shared responsibility for individual student progress or the school environment as a whole (Newcomer & Barrett, 2009). When implementing initiatives such as PBIS, the complex system of high schools is further magnified by an interplay of three variables: (a) the hierarchal management structure, (b) the use of multiple data collection systems, and (c) academic and behavioral student outcomes.

Hierarchal management structure. In contrast to the elementary principal leading a school community as an instructional leader, the high school principal functions in a unique managerial role. The high school principal leads an administrative team to address the school community's daily functions while leaving instructional expertise to

content area teachers (Newcomer & Barrett, 2009). In this role, specific responsibilities are delegated to members of an administrative team, who assume the authority over specific departments, areas of focus, staff, and related issues. Any progress or concerns are then brought back to the high school principal. A hierarchal management structure has the potential to encourage efficient monitoring of daily functions and minimize developing problems (Newcomer & Barrett, 2009). However, limited communication and inconsistency amongst the administrative team can lead to overall fragmentation of staff and programming (Newcomer & Barrett, 2009). Such fragmentation can prevent the development of a shared mission and vision for the entire high school community to embrace.

The magnitude of the high school hierarchal management structure impacts the effectiveness and success of implementing a multi-component system such as PBIS. The inability to align already existing practices with various new strategies creates a greater challenge to accomplish large-scale reform efforts (Newcomer & Barrett, 2009). Failure of implementation occurs when the multiple levels of management are not consistent in engaging staff in the adoption and continued implementation of a new initiative.

Kincaid et al. (2007) examined the fidelity of PBIS implementation and essential barriers and facilitators in adopting PBIS components. By interviewing elementary and secondary school staff members who are implementing PBIS, Kincaid et al. (2007) identified *administrative support* as a common theme when discussing successful school-wide PBIS implementation practices. Success occurred when the principal played an active role in creating a shared vision and accountability system for school-wide sustainable implementation practices (Kincaid et al., 2007).

Additionally, Bambara, Nonnemacher, and Kern (2009) interviewed school-based PBIS teams and identified *administrative support* as one of the main themes to successful PBIS implementation. The findings reveal the need for strong leadership, consistent communication, and active participation in promoting PBIS (Bambara et al., 2009). Given the hierarchal structure of high schools, Kincaid et al.'s (2007) and Bambara et al.'s (2009) studies highlight sustainable implementation of an initiative, such as PBIS, requires committed, active support from all administrative and leadership levels.

Data collection systems. The efficient and systematic use of data-based decision-making is essential to implementing multiple components of an initiative (Kennedy et al., 2009). Unique to secondary schools with a large number of staff members, complex organizational structure, and a variety of competing initiatives, the use of data is a necessary component to improved practices. Kennedy et al. (2009) defined an effective data system as one that "provides the right information to the right people in the right format at the right time for active decision-making" (p. 83). With an effective data system, high school communities are able to utilize data both systematically and individually as a means to monitor and adjust reform practices (Moroz, 2004).

A challenge for large secondary school settings is a lack of efficient strategies for data management (Bill & Melinda Gates Foundation, 2003). Because secondary schools typically have more staff and students than elementary schools, additional resources are required to coordinate the multiple data collection systems used with various reform initiatives and accountability under NCLB (2002) mandates (Bohanon et al., 2006). Relevant sources of data for implementing an initiative, such as PBIS, are students' academic outcomes (e.g., graduation rate, grade point average, assessment scores) and

behavior outcomes (e.g., attendance rate, discipline referrals, drop-out rate). Key to using data for decision-making is a consistent and efficient use of identified data collection systems to inform and guide the school community's practices (Moroz, 2004).

A component to introducing and adopting PBIS features is the strategic exploration, collection, and sharing of data (Kennedy et al., 2009). In addition to *administrative support*, Kincaid et al. (2007) found that staff identified the *use of data* as a key component to the implementation of PBIS. Kincaid et al.'s (2007) findings emphasize the necessary provision of school-wide technical, financial, and training support to develop an effective, efficient data collection system. Although the use of data is required for high school communities to make data-based decisions on both implementation and on-going adaptation of PBIS (Kennedy et al., 2009), without the necessary infrastructure to make this data accessible, PBIS may face large challenges.

Moroz (2004) analyzed findings from discussions on data-based decision making between 30 secondary school teams. Moroz (2004) found 70% of the respondents claimed the *use of data* for decision-making was a high priority, but 63% reported data-based decision-making procedures were not in place. The teams noted resistance to using data initiated from staff's lack of involvement and time constraints with data entry, organization, and reporting (Moroz, 2004). Conclusions from Kincaid et al. (2007) and Moroz (2004) emphasize the necessity of data-based decision-making procedures to address high school's academic and behavioral issues.

Student outcomes. The high school years mark a unique developmental period of adolescence when students are looking for choices, decision-making, autonomy, and identification with their peer group (Bohanon et al., 2009). High school students are more

likely to seek reinforcement and acceptance from peers than from adults. In response, high schools may benefit from developing methods to gain students' input and suggestions for change in order to improve school-wide student academic and behavioral outcomes (Bohanon et al., 2009).

Academic outcomes. Secondary schools' academic focus is the mastery of knowledge acquisition, application, synthesis, and generalization (Sugai et al., 2004). The course structure and offerings tend to be content specific (e.g., English I, II, III, and IV) with associated specialized electives (e.g., Creative Writing) and mandated programs (e.g., Special Education - Language Arts). Teachers' instruction, traditionally, appears in an isolated, lecture format (Sugai et al., 2004). Students' learning might be described as an independent study, with assessment embedded during class periods (Sugai et al., 2004). The incentive for academic achievement is the promise of earned credits to meet graduation requirements and to be competitive for post-secondary options. Consequences of academic failure include dropping out of school and not completing graduation requirements (NCES, 2007).

A typical high school class period does not encourage staff interactions with students (Ryan, 2001; Sugai et al., 2004). An indirect consequence is the inability to build appropriate mentor-apprentice relationships. Sporadic encounters disrupt the potential for positive bonds built during class time between teachers and students (Sugai et al., 2009). Ryan (2001) found that students who felt socially connected (bonded) and accepted were more likely to graduate than their peers who felt isolated. When high school completion is the overall goal, the promotion of school connectedness between staff and students becomes an essential component to the school community (Sugai et al., 2004).

Behavioral outcomes. As a social system, high schools provide little attention or instruction to character building (Bohanon et al., 2006). Rather, high school staff assume that students have learned how to behave in previous grades and already know how to manage and monitor their own behavior in an educational setting (Sugai et al., 2004). The result is when students present problem behaviors, the consequence does not involve the teaching of an alternative behavior. For example, if a student initiates a fight at school, the consequence is based on a continuum of detentions to suspensions, and/or expulsions. Bohanon et al. (2005) argued, "This approach to managing disciplinary problems fosters environments of control, actually triggers and reinforces antisocial behavior, shifts accountability and education responsibility away from the school, devalues the student-teacher relationship, and weakens the link between academic and social behavior programming" (p. 8). The result is that problem behavior consequences in high school lack any association to teaching or reinforcing a positive behavioral alternative that can affect overall academic success (Bohanon et al., 2005). By not teaching behavioral expectations, teachers do not encourage students to relate their behavior to the consequence and the associated implications to their academic success.

When analyzing currently used prevention programs for youth violence, the U.S. Surgeon General (2001) reported that nearly half of the most thoroughly evaluated strategies are ineffective and a few are even harmful. The removal of students from their school environment through punitive discipline measures "increases the likelihood of their subsequent entry into the juvenile justice system and the probability of school dropout" (Bohanon et al., 2009, p. 35). Conversely, the Surgeon General (2001) defined an effective youth violence prevention program as a targeted approach to address age-

appropriate risk and protective factors that can directly increase students' school completion rates and access to school-to-work options.

PBIS is an example of a prevention program, based on the Surgeon General's definition. School-wide PBIS has been examined as an effective model for reducing office discipline referrals and improving behavior inside and outside of the classroom (Sugai & Horner, 2006). By systematically applying a three-tiered intervention model, the argument goes, PBIS can increase students' likelihood for successful outcomes, both academically and behaviorally.

PBIS Research in Secondary School Settings

Research studies of PBIS, set mostly in elementary and middle schools, provide evidence that PBIS has a high level of efficacy in impeding anti-social behaviors when compared to punitive methods that include suspension and expulsion (Bohanon et al., 2005). Because the research base related to the implementation of PBIS at the high school level is much less established, more high school based research studies are required to provide evidence of the effect of PBIS on high school students' social success, academic progress, and transition to post secondary options (Bohanon et al., 2009).

Initial support for PBIS in high schools. Initial research efforts to examine the implementation of school-wide PBIS in high schools have been exploratory in nature (Bohanon et al., 2005; Warren et al., 2006). An additional focus for high school-based studies is to identify effective implementation practices and systems that support school-wide PBIS. Through systematic investigations, researchers can examine the impact of PBIS on high school variables. If PBIS is shown to positively impact overall school

climate, academic performance, rate of anti-social behaviors and rate of student attendance, findings from such research has the potential to shape high school policies and procedures in supporting student outcomes.

Additional research studies on PBIS are beginning to be conducted in high school settings. Bohanon et al.'s (2006) study is currently being replicated to extend the study's findings by examining PBIS at a second high school site with similar demographics to the initial case study conducted in Chicago Public Schools (Bohanon et al., 2009). Preliminary evidence has indicated similar SET scores and overall reductions of ODRs during a shorter implementation time. For example, in the replication site, the school has reported a 17% reduction in ODR in 11 months of implementation instead of the two years of implementation in Bohanon et al.'s (2006) original study. Through application and replication of such high school PBIS studies, researchers can begin to build a foundation of research evidence about PBIS as a potential approach to high school behavioral and academic challenges.

Key patterns from initial high school studies have the potential to inform practices and process for high school implementation, as well as to guide additional research. Sugai et al. (2004) reported that implementation efforts seem to be more effective when the high school takes on a preventative approach to rethinking how to teach, acknowledge, and reward expected behaviors and consequence misbehaviors. These initial findings may help improve the efficiency, effectiveness, and relevance of future PBIS examinations (Sugai et al., 2004). By referring to research practices at other school levels as well as the initial patterns from beginning exploratory high school findings,

researchers have a foundation from which to examine the potential of PBIS in the secondary school setting.

Summary of Literature Review

In summary, this synthesis of 32 published PBIS research studies on primary prevention implementation within the last decade suggests the need to conduct research on PBIS implementation at the high school level. The literature review yielded 32 studies that employed a variety of study designs and measurement tools in multiple school levels. Key patterns highlighted a majority of studies that employed quasi-experimental or case study designs as well as a variety of implementation (e.g., SET) and student outcome-based (e.g., GPA) measurements. More importantly, patterns highlighted a majority of published studies of PBIS implementation were conducted in elementary school settings. Only a few of the studies were conducted in middle school settings and just one study was set in a high school setting. This synthesis clearly indicates that the collection of literature did not demonstrate or document widely or sufficiently the practices, processes, and assessments of PBIS systems in high school settings.

The research focus on school-wide PBIS has been at the elementary school level. Research in secondary school settings is sparse. The lack of PBIS research conducted at the high school level forms the impetus for my own study. In the next chapter, I describe the methodology I used to investigate the impact of PBIS in an urban high school setting. I analyze the impact of PBIS on a student cohort's academic performance and discipline outcomes over a four-year period. My study addresses the question: *What impact does PBIS have on academic performance and discipline outcomes of a cohort of students*

when implemented systematically over a four-year period in an urban high school setting?

CHAPTER IV

METHODOLOGY

High school educators are responsible for helping students develop skills in academic and behavior areas and creating safe learning environments that promote student success (Lassen et al., 2006). The focus for educators is to increase students' rates of proficiency, address student dropout rates, and develop skills that prepare students for successful future outcomes (Sugai et al., 2004). Prevention-minded educators must create a positive, safe school climate that decreases behavior discipline issues and improves academic and behavior experiences. The goal is to identify effective academic and behavioral interventions that are supported by research-based evidence.

One such promise in effective supports at the high school level is the application of PBIS, as a school-wide positive system. As the literature review confirmed, researchers identified the need to study the effects of school-wide PBIS applications on overall high school social climate, students' academic achievement, and rates of problem behavior in a safe learning environment (Bohanon et al., 2006; Bohanon et al., 2009; Sugai et al., 2004). Thus, the purpose of this study was to examine the impact of school-wide PBIS on student academic and behavior outcomes when implemented in a high school. My research question was: *What impact does PBIS have on academic performance and discipline outcomes of a cohort of students when implemented systematically over a four-year period in an urban high school setting?* To address this question, I examined two student outcomes, (a) Social Behavior Outcomes and (b) Academic Performance Outcomes.

Methodology

In my research, I examined the impact of an urban, high school PBIS model on school-wide discipline outcomes and academic performance of a student cohort over a four-year period. Multiple measurements were collected to evaluate trends in student outcomes over four years. Conducted by school district PBIS coaches, the implementation of PBIS was measured using the Schoolwide Evaluation Tool (SET) and the Benchmarks of Quality (BoQ) to establish fidelity and application of PBIS components. Extant student data were collected from the school-based database to analyze students' academic and behavior progress. Students' outcomes were analyzed to determine the potential impact of a universal, school-wide PBIS intervention model. Documented evidence of students' academic and behavior outcomes in concert with PBIS has the potential implication to develop, guide, replicate, and extend current PBIS practices from elementary and middle school levels to secondary school settings.

Research Design

I used a case study with ordered time-series data to examine the impact of PBIS on a cohort of secondary school students. The research design allowed for multiple measurements of student outcomes during a four-year period, as the students moved from 9^{th} to 12^{th} grade. Specific to this study, the student cohort included students who began their 9^{th} grade year in Fall 2006 and completed high school in Spring 2010. This research design provided the means by which to examine trends in student academic and behavior outcomes and the potential impact of school-wide PBIS implementation in a secondary school setting.

For this case study design, school-wide PBIS was systematically implemented in an urban, high school in a metropolitan region of the Pacific Northwest. A baseline measurement was conducted at the beginning of the students' 9th grade year. The first time-series measurement was collected at the end of the students' 9th grade year. Subsequent time-series measurements were collected at the end of each academic year. The final measurement was collected at the end of the students' 12th grade year, indicating the student cohort's completion of four years of high school and the end of the study period.

Setting and Participants

Located in a metropolitan region of the Pacific Northwest, the Positive Behavioral Interventions and Supports-High School (PBIS-HS) is a comprehensive, urban high school for students in grades nine to 12. Nine elementary schools and three middle schools feed into the PBIS-HS, which is the only high school in the district. Led by a team of six administrators, the PBIS-HS is founded on fifty years of tradition where the school community upholds the school mission, "A place where connections are made."

The school curricular programming emphasizes post-secondary career readiness. The focus for programming includes two courses in career exploration during students' 9th and 10th grade years and eight Career Learning Areas for 11th and 12th grade students' study focus. The Career Learning Areas are: (a) Agriculture, Food, and Natural Resource Systems; (b) Arts, Information, and Communications; (c) Business and Management; (d) Education and Human Development; (e) Health Sciences; (f) Hospitality and Tourism; (g) Human Resources; and (h) Industrial and Engineering Systems. For high school completion, the PBIS-HS requires students to master the knowledge and skills in one

Career Learning Area in addition to earning 25 credits and maintaining a 2.0 Grade Point Average, which is equivalent to a *C* average.

The PBIS-HS is one of the largest high schools in the region. The teaching staff is composed of 176 teaching staff members, with 131 teaching core subjects (e.g., English, Math, Science) and 45 teaching elective subjects (e.g., Art, Music, Automotive). According to the Oregon Department of Education (ODE) (2010), the average years of teaching experience is 11 years. Additionally, 70% of the teachers have earned their Masters' Degree or higher, and 97% are identified as Highly Qualified based on NCLB (2001) mandates. During the four years of the study, the teaching staff increased by 24 teachers.

With a reported 3,113 total students, the PBIS-HS is known for its diverse student population. According to the Oregon Department of Education (ODE) (2010), the PBIS-HS has 14% English Language Learners, with Spanish (15%), Russian (7%), and Vietnamese (6%) as the three most common languages, other than English. As well, 75% of students are identified as receiving Free and Reduced Price Meals and 13% are eligible for Special Education services. Amidst the diversity, the PBIS-HS maintains a 90% attendance rate, a 59% graduation rate, and an approximate 3% dropout rate (see Table 2).

Sampling frame and procedures. The sampling frame included all students in the intact cohort group enrolled at the PBIS-HS beginning September 2006 and ending June 2010. Enrollment was defined by completion of annual School Registration and Class Schedule Forecasting, and confirmed attendance during each reported grading

period. Students who stopped attending, moved, or were placed in an alternative education setting were removed from the sampling frame.

The sampling frame's initial enrollment was 820 total students. As a cohort, the sampling frame consisted of 12% qualified as English Language Learners, 10% eligible for Special Education services, and 53% identified as receiving Free and Reduced Price Meals. As well, the sampling frame included a 90% Attendance Rate, a 5% Dropout Rate, and a 51% Graduation Rate. Table 2 provides PBIS-HS school and the sampling frame variables based on the 2009-2010 ODE Report Card.

Table 2

Demographics of Participating School

PBIS-HS Student Enrollment	*# of Staff*	*ESL*	*SPED*	*F&R Meals*	*Attendance Rate*	*Dropout Rate*	*Graduation Rate*
3,113	176	14%	13%	75%	90%	3%	59%
Sampling Frame Enrollment	*# of Staff*	*ESL*	*SPED*	*F&R Meals*	*Attendance Rate*	*Dropout Rate*	*Graduation Rate*
820	176	12%	10%	53%	90%	5%	51%

Note: Table 2 data is based on 2009-2010 ODE Report Card.

Intervention

The independent variable of the study was PBIS. As defined previously, PBIS is an evidence-based approach for establishing a positive school climate that provides behavior support strategies for achieving social and academic outcomes while preventing problem behaviors (Sugai & Horner, 2002). The foundation of PBIS is the application of PBIS principles to a whole school setting in an effort to improve patterns of student behavior. PBIS is not a specific model or curriculum, but a framework of combining

research-based behavior interventions and procedures to create a safe, positive learning environment where all students can succeed (Horner et al., 2005). Documenting the phases of implementation of PBIS is essential to replicating and sustaining PBIS efforts (Algozzine et al., 2010). Specific to this study, the PBIS-HS implemented PBIS practices in conjunction with revising the discipline procedures.

PBIS-HS implementation practices. In August 2006, the PBIS-School District developed an improvement plan to implement school-based PBIS systems district-wide. With the coordination of district administration, PBIS coaches, and teacher leadership teams, the first year of implementation began at the nine elementary and three middle schools. During the second year, implementation was initiated at the district's only high school, the PBIS-HS. The goal of the district-wide implementation model was to establish PBIS practices to support all students' development of successful academic and behavior outcomes.

Prior to implementation (2005). In the 2005 Student Handbook, the PBIS-HS defined discipline procedures and actions in the section entitled, *Student Rule Violations and Consequences* (2005). Consequences for student behavior and discipline ranged from Parent Conferences to Expulsion. Consequences did not include preventative actions, such as providing verbal and/or written warnings before assigning a discipline action. In the handbook, a documented system for providing consequences for problem behaviors was described; conversely a system for providing acknowledgements and rewards for expected behaviors was not described. The handbook indicated that school administrators were responsible for providing all consequences related to students' behavior violations. After reviewing these components of the handbook, a select group of high school

administrators and staff began to examine alternative, less punitive approaches, such as PBIS, to manage students' discipline problems.

Phase one (2006-2007). In spring of 2007, a high school PBIS leadership team was created to learn about and investigate PBIS systems and processes. With a representative from each department and two vice principals, a team of 18 members attended local trainings and a state PBIS conference, visited neighboring high schools with PBIS programs, and regularly presented information to the school staff. The district supported this preparation by allocating resources, such as four team training days to work with a paid consultant from Portland State University, four leave days for five team members to visit PBIS-model schools, additional team work days to prepare for staff presentations and trainings, and miscellaneous implementation costs.

By summer of 2007, the preliminary design of the PBIS-HS model was named PRIDE. Each letter of PRIDE represented a value that the school staff had identified as important qualities for a positive school climate: *Participation, Respect, Integrity, Diversity, and Excellence*.

Phase two (2007-2008). In school year 2007-08, the PBIS leadership team implemented the first phase of PRIDE by applying the national training model from the Rehabilitation Research and Training Center of PBIS (RRTC-PBIS) (Reid & Parsons, 2004). This model identifies key implementation features that include: (a) training a multidisciplinary audience in a manner that promotes collaboration, (b) providing a dynamic training process that is practical and generalizable, (c) providing a comprehensive range of topics, and (d) promoting community building and systems

change (Reid & Parson, 2004). The training model provided the framework to systematically implement PRIDE school-wide.

Phase three (2008-2009). Next, staff followed the RRTC-PBIS curriculum for staff training that included specific elements of content, such as: (a) a collective vision and goals for intervention; (b) collaboration and team building among families and professionals; (c) functional assessments and gathering of information and data; (d) hypothesis-driven, multi-component support plans; (e) intervention strategies that included prevention, teaching, appropriate consequences, and lifestyle enhancements; (f) monitoring and evaluation of intervention outcomes; and (g) addressing broader system issues (Reid & Parson, 2004). Throughout the 2007-2008 school year, staff used PRIDE to teach and acknowledge behavior while addressing and consequencing inappropriate behaviors. They used a common language of PRIDE to support a sustainable change in school-wide discipline practices that decreased reactive, punitive responses and increased preventative, positive teacher to student interactions.

Phase four (2009 – present). After two years of implementation, the PBIS-HS staff continue to focus on the fundamentals of PBIS implementation in concert with building sustainable PBIS systems and interventions to support student outcomes. Although the student handbook includes violations and associated discipline actions, the handbook also includes behavioral expectations for PRIDE. Professional development and time is provided for staff to use referral data and rewards data collection processes to guide decision-making, inform future PBIS practices, and enhance sustainable PBIS components.

PBIS-HS student behavior policy. Students' behavioral expectations and discipline procedures are defined in the Student Planner (2009). The first page of the planner states, the PBIS-HS is a "hate free zone" (Student Planner, 2009, p. 1). The description of PRIDE is:

> We show *participation* when we get involved in our school community, come to class prepared and on time, and when we give consistent efforts. We exhibit *respect* when we treat others as we would want to be treated, follow the school rules, and take pride in our facilities. We demonstrate *integrity* by being responsible, doing the right thing, and being honest with ourselves and others. We value *diversity* when we appreciate differences, avoid assumptions about one another, and are open to learn. We strive for *excellence* by being a positive influence on others, setting personal goals, and always trying our best. (Student Planner, 2009, p. 2)

Additional pages outline school-wide practices for acknowledging students' academic and behavior performance, such as Student of the Month, Excellence Awards, and Scholastic Honors Awards. Administrators and staff are expected to teach and reinforce PRIDE throughout the high school.

The PBIS-HS Student Behavior Policy also outlines behavior violations and consequences in the Student Planner. The policy differentiates between minor and major behavior violations. Minor violations include cheating, internet misuse, and dress code violations. Consequences for minor violations are considered low-level responses, including warning, parent/student/teacher conference, detention, or loss of privilege (e.g., attending an after school athletic event). Major violations are more serious offenses such

as fighting, class cutting, and possession of drugs/alcohol. Such offenses warrant high-level responses such as suspension and/or expulsion. In total, consequences for behavior violations are organized on a continuum of lost privileges that are directly related to the level of the student's behavior violation.

Summary of policy. The PBIS-HS administrators emphasize the importance of consistent acknowledgements of behavior expectations in concert with a consistent application of the continuum of discipline procedures. The PBIS-HS student behavior policy system applies proactive student acknowledgements and consequences to decrease the removal of students from the classroom and increase the potential for student engagement and learning.

Fidelity of Treatment

To measure treatment fidelity, I used both the Schoolwide Evaluation Tool (SET) and the Benchmarks of Quality (BoQ), which were conducted by the school district PBIS coach. The SET was used annually to identify the level of fidelity of the school's implementation practices. The BoQ was administered the third year of implementation as a secondary measurement to ensure implementation fidelity. Both measurement results were used to: (a) assess PBIS features that were in place, (b) determine annual goals for school-wide implementation, (c) evaluate on-going efforts, (d) design and revise procedures, and (e) compare application efforts from year to year (Algozzine et al., 2010).

Schoolwide evaluation tool. The Schoolwide Evaluation Tool (SET) (see Appendix A) measures seven major principles, or sub-scales, of PBIS (Horner et al., 2004). The SET is conducted annually, in the fall of each school year, when an observer

interviews school personnel, who are randomly selected, and asked questions about the school-wide PBIS program, such as PRIDE (Algozzine et al., 2010). The SET involves a two to three hour review of systems outcomes conducted in the school. Each question is given a numerical value, from zero to two, based on the level of implementation. These values are then averaged together for final percentages for reporting. A SET score of 80% on each sub-scale indicates a high level of program implementation fidelity of: (a) expectations defined, (b) expectations taught, (c) rewards system, (d) violations system, (e) monitoring, (f) management, and (g) district support (Algozzine et al., 2010).

The fidelity of PBIS implementation can be measured effectively with the use of the SET as a technically adequate measurement tool (Algozzine et al., 2010). Horner, Todd, Lewis-Palmer, Irvin, Sugai, and Boland (2004) indicated the SET is internally consistent (Cronbach's alpha = .96), has a strong test-retest reliability (mean test-retest = 97.3% across 8 schools; range = 93-100%), and trained assessors have high inter-observer reliability (mean = 99% across 17 schools with 2 observers; range = 98.4-100%). The seven sub-scales correlate at the moderate to moderately high levels, $r = .71$.

As a follow-up to Horner et al. (2004), Vincent, Spaulding, and Tobin (2010) conducted a reexamination of SET data. Vincent et al. (2010) concluded that their data replicated the findings of Horner et al. (2004), noting the elementary level SET scores had a good internal consistency (r = .85) and the middle school levels (r = .85) and high school levels (r = .90) had stronger internal consistency. These results provide evidence that the SET is an appropriate instrument to measure PBIS implementation and to guide research-based decisions, especially at the high school level (Vincent et al., 2010).

Benchmarks of Quality. The Benchmarks of Quality (BoQ) (see Appendix B) is a 53-item annual self-assessment tool that measures the degree of school-wide PBIS implementation. School PBIS teams and their PBIS coach complete the BoQ and use the summary scores to develop action-planning steps. Typically, the BoQ is conducted after a year of implementation to allow teams to review their progress toward implementing critical elements of PBIS, identify areas in need of development, and refine preliminary practices (Cohen, Kincaid, & Childs, 2007). The BoQ consists of three documents: (a) a coach scoring form, (b) a scoring guide, and (c) a team rating form. The PBIS Coach and team members complete the rating form, identifying whether the content of each item is *not in place*, *needs improvement*, or *is in place*. Each rating is given a value between one and three. A total summary score of greater than 70% denotes meeting implementation criterion of the following sub-scale areas: (a) PBIS team, (b) faculty commitment, (c) discipline procedures, (d) data analysis, (e) expectations developed, (f) reward program, (g) lesson plan, (h) implementation plan, (i) crisis plan, and (j) evaluation (Algozzine et al., 2010).

Cohen, Kincaid, and Childs (2007) examined the reliability of the BoQ. Internal consistency for all of the BoQ subscales was calculated using Cronbach's coefficient alpha. The results document an overall alpha of 0.96. Pearson product-moment correlations suggested moderate item-subscale and item-total correlations, which fell between 0.40 and 0.70. Test-Retest reliability of the Coach Scoring Form was calculated using Pearson product-moment correlations, indicating a high correlation of 0.94. Interrater reliability also resulted in a high correlation of 0.87 using Pearson product-

moment correlations. Cohen et al.'s reliability results documented the BoQ as an effective measurement tool to determine the fidelity of PBIS implementation.

Concurrent validity of the SET and BoQ. Cohen et al. (2007) provided evidence of concurrent validity between the SET and the BoQ, with a correlation of .51. The BoQ measures many of the same subscales but with more specificity than the SET, and both measures have different sub-scales for similar PBIS components. For example, the BoQ has four sections that are not included on the SET: (a) faculty buy-in, (b) lesson plans, (c) crisis plans, and (d) evaluation. Also, the SET includes a section on teaching expectations, but the BoQ focuses on the quality of the lesson. Used together, the BoQ and SET are reliable, efficient and useful instruments to measure the degree of implementation of school-wide PBIS application (Cohen et al., 2007).

Dependent Variables

Dependent variables of the impact of PBIS on student outcomes were: (a) social behavior- office discipline referrals, suspensions/expulsions, and attendance rate; and (b) academic performance- grade point average, course credits, and graduation rate. Multiple dependent variable measurements provided evidence to examine universal, school-wide PBIS in secondary school settings. Sources of data related to the dependent variables are presented in Table 3.

Measurement of student outcomes. Impact measurements provide illustrations of intended and unintended outcomes and can provide a basis for maintenance and improvements of PBIS systems (Algozzine et al., 2010). Impact indicators represent data gathered after a PBIS program is implemented to give evidence of the program's outcomes and the extent to which intended outcomes were achieved (Algozzine et al.,

2010). To measure the impact of PBIS, state and school-based data sources were used as indicators of student outcomes.

Table 3

Dependent Measures

Needed Information	Specific Variables to be Counted and considered	Sources of Information
Student Social Behavior Outcomes	Office Discipline Referral (ODR) counts disaggregated by: grade and frequency	Education Student Information System (eSIS)
	Suspension/ Expulsion counts disaggregated by: frequency	Education Student Information System (eSIS)
	Attendance Rate: overall rate	Education Student Information System (eSIS)
Student Academic Performance Outcomes	Overall Grade Point Average (GPA): elective courses and core subject courses	Education Student Information System (eSIS)
	Course Completion: core course credit attempted and earned	Education Student Information System (eSIS)
	Graduation Rate: overall rate	Education Student Information System (eSIS)
Schoolwide PBIS Implementation Fidelity	Universal (Tier One) components: expected behaviors, acknowledgement systems, consequence systems, data monitoring, management, district/ leadership support	Schoolwide Evaluation Tool (SET) Benchmarks of Quality (BoQ)

Note: Table 3 is modified from Kennedy et al., (2009).

Social behavior. Three measures of Social Behavior included: (a) office discipline referrals, (b) suspensions/expulsions, and (c) attendance rate.

Office discipline referral. To measure students' social behavior, office discipline referrals (ODR) can be used as an indicator of frequent student problem behavior and a school's social climate (Horner et al., 2005). ODRs were entered, organized, managed, and reported in a school-wide database, Education Student Information System (eSIS). Guiding questions used when collecting and analyzing ODR reports from eSIS were: (a) *What is the frequency of the different discipline infractions?* (b) *Who is engaging in the discipline infractions?* Horner et al. (2005) reported a normative distribution of ODRs suggesting that across schools 87% of students had zero to one ODR, 9% had two to five referrals, and 4% had six or more referrals. Levels of behavior risk are reflected in similar ranges, such as zero to one is *low risk*, two to five is *some risk*, and six or more is *high risk* (Algozzine et al., 2010).

Irvin, Tobin, Sprague, Sugai, and Vincent (2004) conducted a review of research and evaluation reports to document the validity of ODR measures when used to examine the effectiveness of a school-wide intervention program, such as PBIS. Irvin et al. (2004) found that higher levels of school-wide ODRs were associated with higher levels of problematic behavior climates in schools. Furthermore, they noted when a school experienced an increase in ODRs, these increases occurred in the form of victimization, academic failure, social maladjustment, juvenile delinquency, or behavior disorders. Without a school-wide preventative, intervention program, high ODR levels are likely to continue. Their summary of evidence supported the interpretation of ODRs as a school-wide behavioral climate indicator.

Suspensions/expulsions. A secondary analysis of ODRs, specifically reviewing the consequences, provided additional information associated with students' social

behavior. When collecting and analyzing ODR reports, two discipline actions, or consequences, were used: (a) in-school suspension or out-of-school suspension, and (b) expulsion. The eSIS defines in-school suspension, as an instance in which a child is temporarily removed from his/her regular classroom(s) for disciplinary purposes but remains under the direct supervision of school personnel. Out-of-school suspension is defined as an instance in which a child is temporarily removed from his/her regular school for disciplinary purposes to another setting, such as home or a behavior center. Expulsion is the action by which the local educational agency removes a child from his/her regular school for disciplinary purposes for the remainder of the school year or longer in accordance with local educational agency policy.

The guiding questions for further analysis of the exclusionary consequences reported on ODRs were: (a) *What percentage of students received one or more suspension?* (b) *What percentage of students were expelled?* Answers to these questions illustrated the number of suspensions and expulsions assigned during a school year and the number of students excluded from their learning environment. ODR data can serve as an efficient evaluative measure because it is routinely recorded, easily quantified, and can provide initial patterns and practices of school discipline profile (Luiselli et al., 2002). Tobin and Sugai (1999) suggested that analyzing students' discipline referrals should prompt educators and parents to intervene, not merely with traditional consequences, but with preventative, positive behavior supports that are likely to change the continuation of problematic behaviors.

Attendance rate. School-wide attendance rates can be reflective of a positive school environment where students find relevance in what they are learning and can

benefit from positive relationships developed with staff members (Spaulding et al., 2010). Conversely, school-wide attendance rates can also illustrate potentially problematic unsupervised time when students may become involved in unhealthy and/or illegal activities in the community or at home (Spaulding et al., 2010). Attendance rate data was identified as an effective source of information for analyzing students' social behavior.

A longitudinal evaluation of PBIS in a public middle school illustrated an increasing trend in student attendance during each academic year (Luiselli et al., 2002). Luiselli et al. (2002) emphasized the importance of long-term implementation and planning and the impact of PBIS on students' attendance rate when PBIS practices are sustained. To analyze students' attendance, the guiding question was: *What is the overall attendance rate?*

Summary of social behavior outcomes. Spaulding et al. (2010) affirmed school-wide ODR data collection systems, students' access to instruction, and students' attendance are of considerable interest to educators and researchers. These databases allow for further examination of proactive, preventative intervention models helpful in establishing an effective, personalized educational setting where students exhibit appropriate behaviors, attend, and access instruction (Spaulding et al., 2010).

Academic performance. Data related to academic performance were gathered from three different measures: (a) GPA, (b) course credits, and (c) graduation rate.

Grade point average. Individual student GPA can be used as an indicator of student academic performance (Algozzine et al., 2010). Students' cumulative GPAs were calculated and reported on students' academic transcripts. GPAs were updated at the end of each grading period (Semester 1 and Semester 2). When collecting and analyzing

student GPAs, the guiding question was: *What percentage of students have earned a 2.0 GPA or above?*

McIntosh et al. (2008) examined the prediction of academic performance based on student behavior outcomes. Students with more referrals had lower average GPAs, and students with two or more referrals had GPAs that dropped from the beginning to end of the school year (McIntosh et al., 2008). In contrast, the mean GPA of students with zero to one referral maintained a stable average. The result is a potential for using students' academic outcomes, such as GPAs, to measure the impact of school-wide PBIS (Algozzine et al., 2010).

Course credits. Because students experience significant pressure in meeting high school completion requirements, earned or failed course credits can be used as a measure of students' academic performance. The guiding question for evaluating course credit was: *What percentage of students attempted and earned course credit in core subject areas (e.g., English, Math, and Science)?* After each semester, teachers were required to record students' grades in eSIS. When students earned a passing grade, they earned an associated credit towards the graduation requirements; when students earned a failing grade, they did not earn the associated credit. Students' transcripts reflected whether or not students earned each attempted course credit.

Graduation rate. The guiding question when measuring students' graduation rate was: *What was the overall graduation rate?* When analyzing the relationship between academics and problem behavior of transitioning students from middle school to high school, McIntosh et al. (2008) identified factors that influenced students to drop out of school. McIntosh et al. (2008) claimed students with deficits in both academic and social

behavior skills were at much greater risk of dropping out than students with problems in either academics or social skills. Identifying the factors that impact students' high school completion and schools' graduation rate is valuable to school communities that can provide a continuum of supports to students as they reach graduation.

Summary of academic performance outcomes. When examining evidenced-based PBIS practices, Horner, Sugai, and Anderson (2010) claimed a safe, consistent, positive school culture will improve the behavioral engagement of students in learning. Furthermore, Horner et al. (2010) stated students' engagement coupled with effective teaching has the potential to produce successful student academic outcomes. The analysis of students' overall GPA, course credits, and graduation rate provided essential data to analyze the impact of school-wide PBIS practices.

Data Collection and Procedures

Specific to this research study, the PBIS-HS allocated resources to refining data collection systems to become more accurate, efficient, and consistent in order to evaluate PBIS impact. For each annual time-series measurement, the PBIS-HS district's technology coordinator collected data from the state or district databases. Student outcome data was then graphically organized.

Procedures for PBIS implementation measures. Procedures to evaluate PBIS implementation fidelity were specific to each measurement tool.

Schoolwide Evaluation Tool. The SET was initially conducted on September 19, 2007 by a District PBIS Coach to gather pretest, baseline SET scores. The subsequent SET measurements were conducted on December 1, 2008, and January 5, 2010 by a District PBIS Coach to collect posttest measurements. The SET was not conducted in

2006 due to a district-wide lack of readiness for PBIS implementation and measurement practices.

The SET was conducted annually during one school day throughout the two main high school buildings - the North Building and South Building. Staff members and students did not know why they were being interviewed, nor did they know the District PBIS Coach. Due to timing issues, interview questions were conducted in the school hallways, cafeteria, staff room, office, and classrooms. After administration, the District PBIS Coach collated the data and presented SET findings to the PRIDE Team and administration. SET scores were presented to the PBIS-HS faculty on January 28, 2010 and the School Board on April 22, 2010 by the PBIS-HS Vice Principal responsible for the PBIS initiative and implementation.

Benchmarks of Quality. The BoQ was applied as a secondary measurement of PBIS implementation fidelity. The district PBIS coach conducted the BoQ on October 28, 2009. The District PBIS Coach, the PBIS-HS Vice Principal, and two PRIDE Team leaders participated in the BoQ.

The BoQ was administered in the PBIS-HS Vice Principal's office during a two-hour session. Participants answered survey questions independently then discussed their answers while assigning a numerical value to their responses. The District PBIS Coach collected responses, collated the scores, and presented findings to the PBIS-HS Vice Principal and two PRIDE Team Leaders. The District PBIS Coach also shared BoQ results with the School Board on April 22, 2010.

Procedures for student social behavior outcome measures. Procedures for collecting student behavior outcomes were specific to each data source.

Office discipline referrals and suspensions/ expulsions. The PBIS-HS used a staff meeting in November 24, 2008 to evaluate and modify discipline referral collection procedures. The result was a revised process called the *Path of a Referral*. The process outlined steps to follow when a staff member observed a student's misbehavior. First, the staff member completes a discipline referral and escorts the student to the vice principal's office. Next, the student's vice principal meets with the staff member (if available) and student, reviews the misbehavior incident, and assigns an appropriate consequence. Later, the vice principal's secretary inputs the referral into eSIS. The PBIS-HS policy requires all referrals must be processed by mid-June of each academic year for ODE reporting.

Attendance rate. To collect attendance rate data, PBIS-HS teachers were required record their class attendance in eSIS during the first 10 minutes of each 85-minute class period. If a student entered the classroom after ten minutes, the student was recorded as absent. If the student's absence or tardiness was excused, eSIS was automatically updated with the excuse. The cumulative attendance rate was recorded annually and reported to ODE.

Procedures for Student Academic Performance Outcome Measures.

Procedures for collecting student academic performance outcomes were specific to each data source.

Student grade point average. The PBIS-HS follows a semester grading calendar whereby teachers are required to enter a letter grade for each student in their classes in the eSIS database at the end of each grading period (end of January for Semester 1 and middle of June for Semester 2). Continuous training in using the eSIS grading database was available to all teachers in the beginning of the school year and during each semester.

Per their *Certified Collective Bargaining Agreement*, teachers were given one non-instructional day per semester to complete and input semester grades without student contact.

The PBIS-HS used the letter grades *A, B, C, P* and *D* to represent passing grades and an *F* grade to represent a failing grade. The number of classes and type of grades earned are converted into numbers, which are then used to calculate students' overall GPA. At the end of each school year, GPAs are published on the students' academic transcript.

Course credits. When teachers record students' earned grade in eSIS, the database automatically records the course credit on the students' transcript. Passing grades result in an earned credit in the course subject. Each earned credit is applied to students' progress towards high school completion.

Graduation rate. The Oregon Department of Education (ODE) measures graduation rate by establishing a cohort of students who enter high school and complete high school within a four year period (ODE, 2010). The graduation rate for the cohort of students in this research study was reported to ODE and published in the annual ODE Report Card.

Training of Data Collectors

Collecting and employing data as a mechanism for communication with school staff can produce support for implementing PBIS (Kennedy et al., 2009). The central role of data-based decision making for school-wide PBIS practices requires effective data collection training as described next.

Training for PBIS implementation measures. A district PBIS Coach conducted both PBIS implementation measures - the SET and BoQ.

Schoolwide Evaluation Tool. The District PBIS Coach was trained in 2004 to conduct the SET. He first completed an Advanced Behavior Class taught by Dr. Chris Borgmeier at Portland State University. The district coach attended the two-hour class and learned the purpose of the SET and how to use the SET templates. He also participated in five hours of independent field study alongside Dr. Borgmeier to increase rates of interrater reliability. The district coach was trained in conducting the survey, scoring the responses, and reporting the overall SET scores and results regarding implementation fidelity.

The Northwest PBIS Network conducted follow-up trainings at regional Coaches' Trainings, which the district coach attended regularly. Members of the Coaches' Trainings continue to refine their skills by assisting each other in conducting SET measurements throughout the region.

Benchmarks of Quality. In 2005, the District PBIS Coach completed a BoQ training facilitated by Ann Todd and colleagues from the University of Oregon. The Northwest PBIS Network conducted the trainings at regional Coaches' Trainings, which were four sessions over the course of several months. During these two-hour sessions, the district coach learned the purpose of the BoQ as well as how to use the BoQ templates, facilitate the team and leadership scoring, compare results, and report the overall BoQ scores.

Follow-up trainings occurred at the Coaches' Trainings between 2005 and 2006 when PBIS coaches collaborated to refine their skills to gain higher rates of interrater

reliability. Continued practice and collaboration occurred as district coaches called on each other to assist in conducting site-based BoQ measurements.

Training for student outcome measures. The training and education practices emphasize to what extent the efforts of PBIS implementation can be replicated and sustained (McIntosh et al., 2009). The result is that much attention is given to highlight effective training processes (Algozzine et al., 2010). Training related to the collection of student outcome data varied by measure.

Social behavior- Office discipline referrals and suspensions/expulsions. The PBIS-HS staff members participated in training on April 22, 2008 to establish consistent definitions of problem behaviors. In small groups, teachers defined each behavior and organized the behaviors on a continuum from least disruptive, minor misbehavior to greater threatening, major behavior. Groups of teachers held difficult conversations to agree upon common definitions and philosophies regarding problem behaviors. The product of these conversations was a continuum of problem behaviors with observable definitions for all staff to consistently identify and report by following the previously defined *Path of a Referral*.

A follow-up training on February 3, 2010 was conducted to review the PBIS-HS teachers' definitions and philosophies regarding the previously structured continuum of problem behaviors. During this training, staff identified the behaviors that could be managed in the classroom, *Minor Incidences* (e.g., dress code violation), and the behaviors that required administrator's attention, *Major Referrals* (e.g., fighting). Again, groups of teachers held difficult conversations about students' misbehaviors and effective, consistent ways to respond to the behaviors inside and outside of the classroom.

Attendance rate. The PBIS-HS provided annual trainings on how to record students' attendance for each class in eSIS. On-going technological support and coaching was provided to individual teachers who struggled to complete their attendance reporting duties. Routine staff emails provided directions and suggestions for recording accurate attendance.

Academic performance - Grade point average. The provision of academic data collection trainings was minimal. The PBIS-HS provided training on how to follow steps to input students' grades into the eSIS database. The high school did not provide trainings to align consistent grading policies across different core and elective subject matters and teachers.

Course credit. Training for course credit was not required. Course credit was calculated electronically in the eSIS database. School Counselors corrected any course credit recording on an individual student basis in eSIS.

Graduation rate. Training for reporting the graduation rate was not required. District personnel were responsible for reporting graduation rates to ODE at the end of each academic year.

Data Analysis

A multiple time-series analysis was conducted to examine the impact of PBIS on annual measures of students' social behavior (ODR, suspensions/ expulsions, attendance rate) and academic performance (GPA, course credits, and graduation rate). The analysis led to answering the research question: *What impact does PBIS have on academic performance and discipline outcomes of an intact cohort of students when implemented*

systematically over a four-year period in an urban high school setting? Results of this analysis are presented in the next chapter.

CHAPTER V

RESULTS

My initial investigation of the impact of PBIS on students' social behavior and academic performance has provided preliminary descriptive data of PBIS in a secondary school setting. The data presented a comprehensive narrative of a secondary school community's experience in implementing and applying PBIS components during a four-year period. For researchers and educators to wholly understand, analyze, and associate with the experience of PBIS practices in a high school setting, the descriptive data must tell a *story* from beginning implementation to on-going sustainability. The *story* of the PBIS-HS provides both an example of a school-wide secondary school PBIS system, as well as insight into the impact of PBIS in a secondary school setting.

In this chapter, I begin by describing the results of the two PBIS implementation fidelity measures: the Schoolwide Evaluation Tool (SET) and Benchmarks of Quality (BoQ). Tables of data and visual displays illustrate the SET and BoQ results in order to indicate a level of PBIS implementation fidelity. These implementation measures provide insight into the degree to which the PBIS-HS implemented the multiple components of PBIS according to the expectations for full implementation.

Next, I present four years of extant student outcome data collected, organized, and analyzed, from September 2006 to June 2010, labeled PBIS-HS Cohort Graduate Outcomes. I provide the descriptive data of a cohort of 416 students from their 9th grade year to their 12th grade year at the urban PBIS-HS around academic achievement and academic engagement. This cohort analysis was important to eliminate possible

alternative arguments that change in the PBIS-HS data was caused by attrition of the lower quartile of students in academic and behavior categories. The loss of the lower quartile of students logically should produce a regression to the mean for all scores. However, if the scores of students who stated over the four years showed improvement, one could possible deduce that the primary change factor was PBIS.

Tables of behavior and academic measurements are accompanied by graphical representations of school-wide student outcomes. Together, these sources of data provide insight into what the students experienced over a four-year period. I begin the *story* with school-wide student outcome measures and continue with specific student group outcome measures and individual analyses. My results provide initial insight and descriptive findings about the impact of PBIS on secondary school students' social behavior and academic performance.

Implementation Measures

The use of fidelity measures allows those implementing PBIS to (a) assess implementation across school levels, (b) support school-wide PBIS as an evidence-based practice, (c) analyze further PBIS application, and (d) expand PBIS to all school levels (Vincent et al., 2010). In my study, I used the Schoolwide Evaluation Tool (SET) and Benchmarks of Quality (BoQ) to measure implementation practices and examine the implementation fidelity of school-wide PBIS components in the PBIS-HS.

Schoolwide Evaluation Tool

The SET assessed the implementation fidelity of the universal systems of school-wide PBIS. Horner et al. (2004) indicate that a total score of 80% signifies a high level of implementation. Table 4 and Figure 3 present the SET assessment scores for the PBIS-

HS. The first SET score in 2007-08 was established as a baseline score; the two subsequent years, 2008-09 and 2009-10, were identified as school-wide implementation years. It should be noted that a SET was not conducted in 2006-07 because the PBIS-HS staff were investigating and learning about PBIS while continuing to apply *get tough* discipline practices and policies.

Table 4

Schoolwide Evaluation Tool (SET) data, 2007 to 2010

SET Subscale	2007-2008	2008-2009	2009-2010
Expectations Defined	0	100	100
Expectations Taught	30	100	100
Reward System	0	100	83.3
Violations System	62.5	100	87.5
Decision Making	50	87.5	62.5
Management	62	87.5	93.7
District Support	50	100	100
Implementation Average	36	96	90

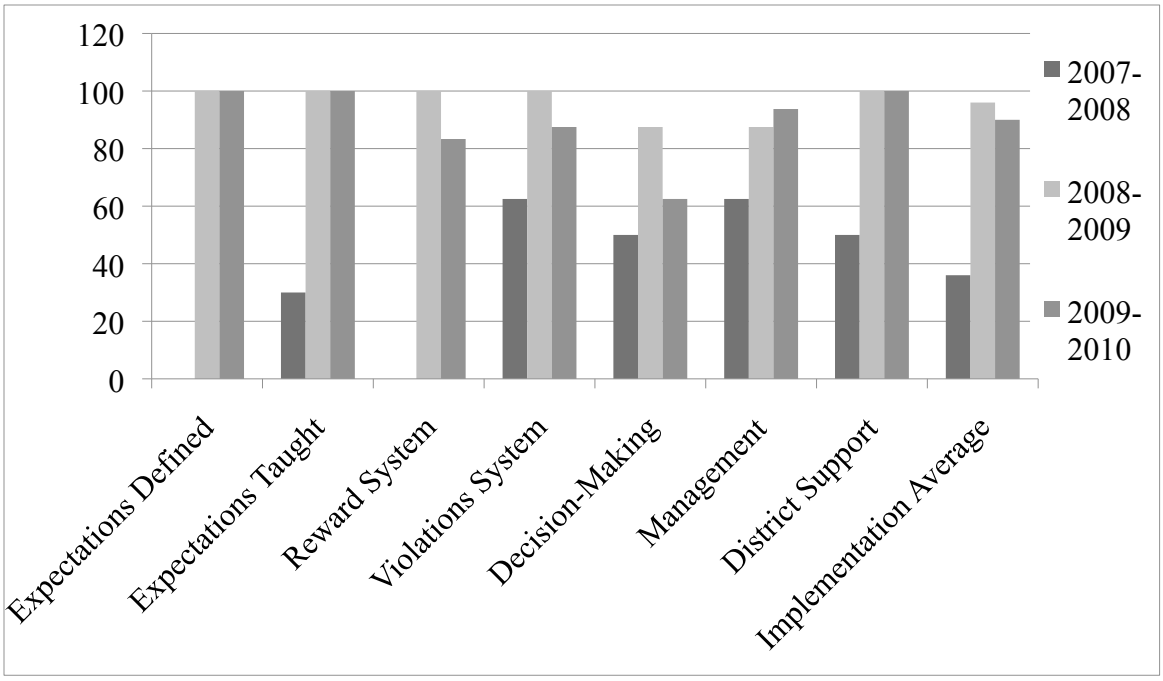

Figure 3. Schoolwide Evaluation Tool (SET) data, 2007 to 2010

School Year 2007-2008

The 2007-08 baseline year data indicated that the PBIS-HS was not implementing components of PBIS at an acceptable 80% or greater fidelity level. Although not at the acceptable percentage levels, the four subscales that received the highest scores were: (a) Violations Systems (62%), (b) Management (62%), (c) District Support (50%), and (d) Decision Making (50%). The Expectations Taught (30%), Expectations Defined (0%), and Reward System (0%) were identified as *partially* or *not in place*. The overall total was an average of 36% implementation across all seven PBIS components. The average score gave evidence that the school-wide PBIS was not being implemented with fidelity. The school-based PBIS team analyzed the 2007-08 SET results to plan the next phase of implementation for the 2008-09 school year.

School Year 2008-2009

The 2008-09 SET results showed great improvement in school-wide PBIS application with a 96% overall total score, indicating a high level of implementation fidelity. Five subscales were rated at 100% implementation: (a) Expectations Taught, (b) Expectations Defined, (c) Reward System, (d) Violations System, and (e) District Support. Two subscales, Decision Making and Management, received an 87.5% rating, which was the lowest score by the PBIS-HS. In total, the 2008-09 SET score illustrated great gains in the fidelity of implementation at the PBIS-HS. Based upon the 2008-09 results, the PBIS-HS PBIS team created next-step action plans to sustain implementation practices for the following school year, 2009-10.

School Year 2009-2010

The 2009-10 SET results marked a decline in overall implementation. The total overall total average was 90%, which is lower in comparison to the 96% average in 2008-09. Specific subscales showed a decrease in percentages. For example, the Decision Making subscale decreased 20%, from 87.5% in 2008-09 to 62.5% in 2009-10. Similar declines were noted with the Reward System subscale, which decreased from 100% in 2008-09 to 83% in 2009-10, and Violations System, which decreased from 100% in 2008-09 to 87% in 2009-10. Three subscales that maintained a 100% rating included: (a) Expectations Defined, (b) Expectations Taught, and (c) District Support. Scores on only one subscale (Management) increased, moving from an 87.5% to 93.75% rating. The overall SET score remained above the recommended 80%, indicating acceptable implementation fidelity, however, the school-based PBIS team analyzed each subscale rating to create action steps to improve and sustain school-wide PBIS applications.

Summary of SET Data

According to Horner et al.'s (2004) criterion for acceptable implementation fidelity (a total score of 80% or better), the PBIS-HS was implementing PBIS components with fidelity, as indicated by their average implementation rating of 96% in 2008-09 and 90% in 2009-10. The school-wide PBIS-HS SET results, as a fidelity measure, guided the development, implementation, and future evaluation of PBIS application in the PBIS-HS through data based decision-making.

Benchmarks of Quality

The PBIS Team used the BoQ as a self-report rating scale to assess their own strengths and weaknesses regarding the fidelity of PBIS implementation practices. The purpose of administering the BoQ after three years of PBIS implementation was to motivate reflection, dialogue, and a review of the PBIS-HS team's progress toward implementing the critical components of PBIS. Algozzine et al. (2010) suggest a minimum score of 70% on the BoQ signifies a high level of implementation and a BoQ score less than the 70% suggests implementation challenges and potential error. Table 5 and Figure 4 illustrate the BoQ assessment score for the PBIS-HS in 2009-2010.

Table 5

Benchmarks of Quality (BoQ) data, 2009 to 2010

BoQ Subscale	2009-2010 Percentage
PBS Team	71
Faculty Commitment	50
Discipline Procedures	58
Data Analysis	44
Expectations Developed	91

Table 5 (continued)

Reward Program	82
Lesson Plans	78
Implementation Plan	85
Crisis Plan	100
Evaluation	69

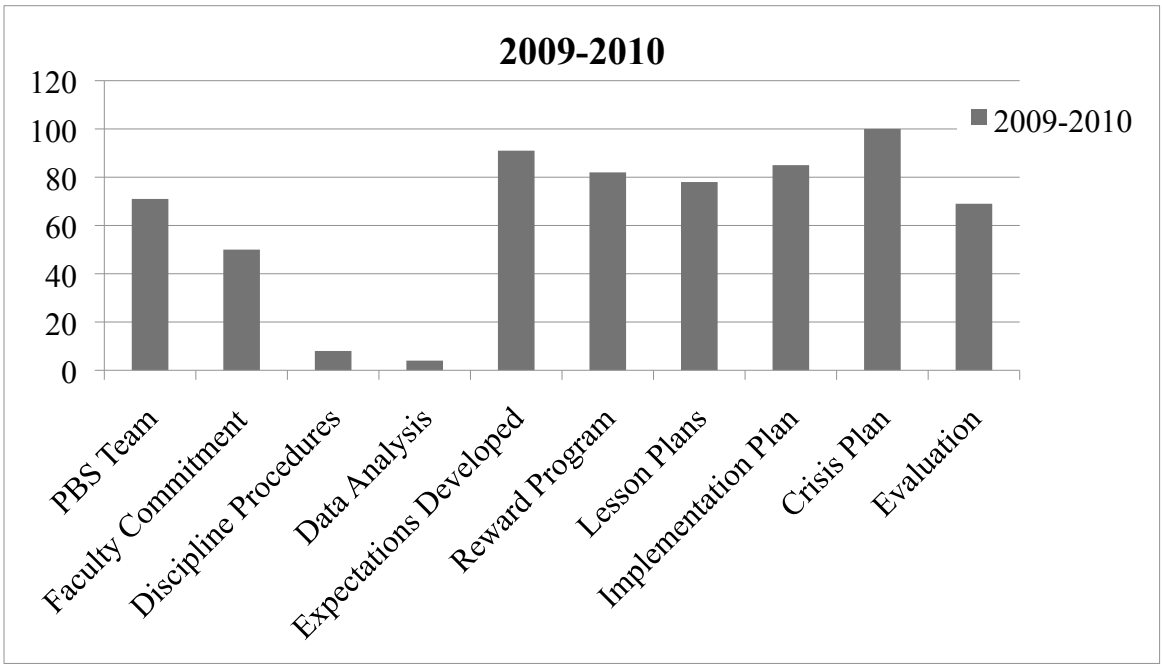

Figure 4. Benchmarks of Quality (BoQ) data, 2009 to 2010.

School Year 2009-2010

Based on the 2009-10 BoQ, the PBIS components that the PBIS Team considered *in place* with a 70% or higher rating were: (a) the PBS Team (71%), (b) Expectations Developed (91%), (c) Reward Program (82%), (d) Lesson Plans (78%), (e) Implementation Plan (85%), and (f) Crisis Plan (100%). The components that were judged as *partially in place* or *not in place* with less than a 70% rating were: (a) Faculty Commitment (50%), (b) Discipline Procedures (58%), (c) Data Analysis (44%), and (d)

Evaluation (69%). In total, six of the ten subscales were identified as implemented with fidelity.

Summary of BoQ Data

The team-level use of the BoQ provided self-evaluative data for dialogue and action planning for future PBIS implementation practices. The PBIS team reviewed the subscales that met or did not meet the 70% criterion. Further review led to summarizing the subscale scores and creating action plan steps for improved or sustained implementation practices. The BoQ provided a finer analysis of critical PBIS components necessary for sustainability. Cohen et al. (2007) highlighted overall BoQ data allows for the PBIS-HS to celebrate successes and plan action steps to address deficits in school-wide implementation efforts.

School-wide PBIS-HS Student Outcomes

PBIS is identified as a preventative, research-based approach that is effective in increasing academic success and decreasing behavior problems (Lassen et al., 2006). Of great interest to researchers and educators is the translation of research and evidence-based practices to the school environment, particularly to the high school setting (Bohanon et al., 2009). Analyzing the following student social behavior and academic performance outcomes enables researchers and educators to gain insight into the experience, successes, and failures of students who attend a school that is applying PBIS components.

To gain a holistic understanding of the PBIS-HS student cohort, I present a comprehensive analysis of school-wide student outcomes. This analysis includes a collection of the school-wide PBIS-HS data: (a) Student Enrollment, (b) Attendance

Rate, (c) Office Discipline Referrals, (d) Suspensions/expulsions, (e) Grade Point Average, and (f) Core Credits Earned. The descriptive data tells the *story* of what the students experienced during the process of implementing PBIS components school-wide.

PBIS-HS Enrollment

The student cohort, enrolled in October 2006, began with 820 9th grade students. At the end of each year in June, student enrollment numbers were collected from eSIS, the districts student information database. Table 6 and Figure 5 provide data on the total number of students enrolled per year and student enrollment trends from the 2006-07 school year to the 2009-10 school year. The trend indicated a decrease in enrollment from a baseline measurement of 820 total students in Fall 2006 to 709 students in Spring 2007. The decreasing trend continued with 589 total students in 2007-08, 503 students in 2008-09, and 452 students in 2009-10. In all, 416 students from the 2006-07 9th grade cohort completed their high school experience and met the graduation requirements at the PBIS-HS by the end of school year 2009-10.

Table 6

PBIS-HS Student Enrollment, 2006 to 2010

Year	Baseline	2006-07	2007-08	2008-09	2009-10	Completion
Enrollment	820	709	589	503	452	416

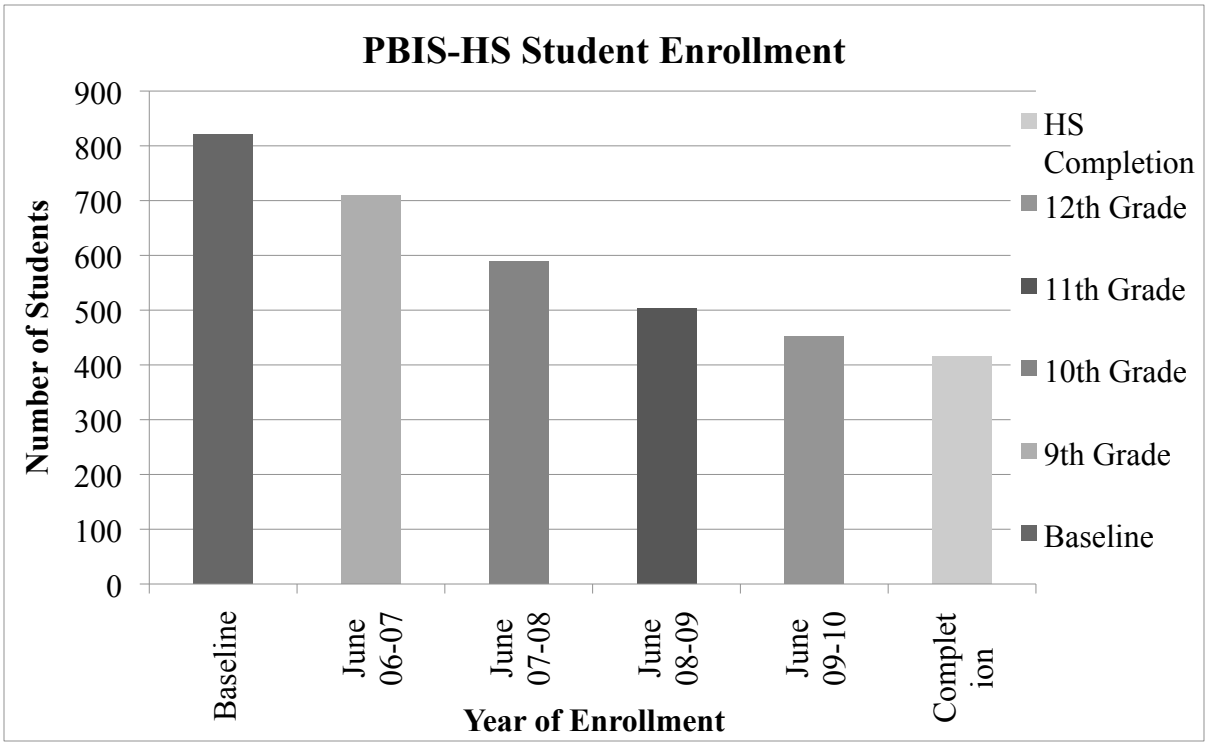

Figure 5. PBIS-HS Student Enrollment, 2006 to 2010

Summary of PBIS-HS enrollment. When associating PBIS implementation to the student enrollment numbers, the descriptive data provide evidence that PBIS may have impacted the student enrollment trends. The greatest decline in student enrollment occurred during students' first two years of high school when PBIS was not fully implemented. In 2006-07, 111 students (15.7%) left the PBIS-HS, and in 2007-08, 120 students (20.4%) left. Conversely, when PBIS was implemented with fidelity during students' last two years of high school, enrollment numbers steadied. In 2008-09, only 85 students (16.9%) left the PBIS-HS, and in 2009-2010, only 51 students (11.2%) left. During the last two years of students' high school experience, when exposed to PBIS, more students remained at the PBIS-HS. The high school's successful retention of enrolled students at the PBIS-HS and implementation of PBIS may have enabled students to access the supports necessary for social and academic achievement.

Attendance Rate

It is important to analyze students' time allocated to instructional activities, academic achievement, and overall school attendance (Algozzine et al., 2010). When a predictable, positive, and safe learning environment is established, students are more likely to be engaged in learning (Horner et al., 2010). Typically, about 10 to 15 percent of the school population are at risk for the adoption of serious antisocial behavior (McCurdy et al., 2007), such as chronic absenteeism and tardiness.

Students' attendance rate, as calculated in eSIS, is graphically illustrated in Table 7 and Figure 6. During the cohort group's students' first year of high school, 2006-07, the majority of the students (n = 457, 65%) attended 90 to 99% of the time, and four students attended 100% of the time. This attendance rate was equivalent to students attending at least 159 out of 177 school days. Additionally, 124 students (17%) attended 80 to 89% of the time, 34 students (5%) attended 70 to 79%, 20 students (3%) attended 60 to 69%, and eight students (1%) attended 59% or less of the time.

Similar attendance rate trends continued in each subsequent high school year. In 2007-08, the majority of the students (n = 365 students, 62%) attended 90 to 99%. Interestingly, students who attended 100% percent of the time increased from four students (the previous year, 2007-08) to 64 students (11%). An additional 98 students (17%) were reported attending 80 to 89% of the school year, 43 students (7%) attended 70 to 79%, 10 students (2%) attended 60 to 69%, and four students (1%) attended 59% or less during 2007-08.

During 2008-09, the majority of students (n = 354 students, 70%) continued to attend 90 to 99% of the time and 37 students (7%) had 100% attendance rate. As well, 63

students (13%) had 80 to 89% attendance rate and 20 students (4%) had 70 to 79% attendance rate. Only 6 students (1.2%) attended 60 to 69% of the time and 5 students (1%) attended 50 to 59% of the time.

For their last year of high school, 310 students (69%) had a 90 to 99% attendance rate, 20 students (5%) had perfect attendance with a 100% attendance rate, and 83 students (18%) had 80 to 89% attendance rate. Only 24 students (5%) had a 70 to 79% attendance rate and 2 students (0.5%) had a 69% or below attendance rate in 2009-10.

Table 7

PBIS-HS Attendance Rate, 2006 to 2010

Year	100%	90-99%	80-89%	79-70%	69-60%	59% below
2006-07	0.5%	65%	17%	5%	3%	1%
2007-08	11%	62%	17%	7%	2%	1%
2008-09	7%	70%	13%	4%	1.2%	1%
2009-10	5%	69%	18%	5%	2%	0.5%

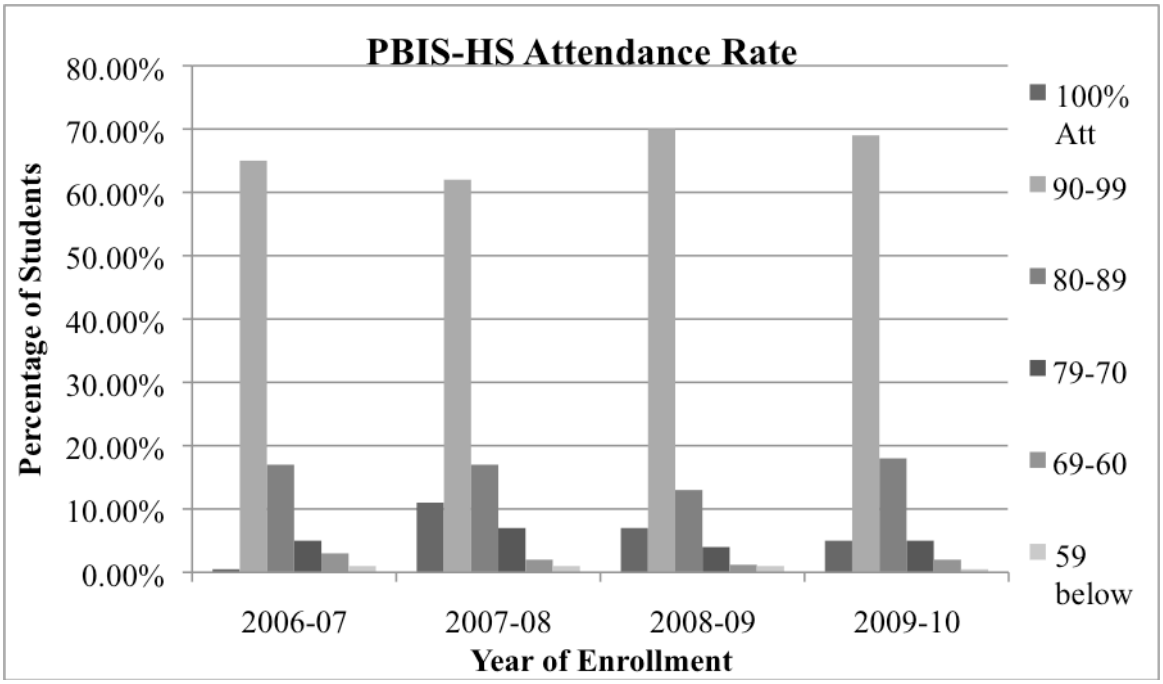

Figure 6. PBIS-HS Attendance Rate, 2006 to 2010

Summary of PBIS-HS attendance rate. At first glance, students' attendance rates showed a normative distribution in which most students attended 90 to 99% of the time throughout their four years of high school. When analyzing this data further, it is interesting to note how the implementation of PBIS may have affected students' attendance. For example, during students' first two years (2006-07 and 2007-08) of high school, *get tough* consequences for inappropriate behaviors, such as unexcused absences, were applied. If students were not at school, they received exclusionary consequences that included detentions and suspensions. The 62 students (8.7%) in 2006-07 with 79% or lower attendance rates most likely earned exclusionary consequences that kept them from attending classes and achieving, both academically and socially.

However, when school-wide PBIS was implemented in 2008 to 2010, students in the lower attendance rates shifted to the higher attendance rate categories. When students were exposed to the PBIS preventative methods, the typical non-attending student began

to attend school more often. An example is in 2009-10 when the 80 to 89% attendance rate category increased to 83 students (18.4%) and the 79% or lower attendance rate category decreased to 26 students (5.6%). Such descriptive data shows evidence to the impact of preventative methods found in the PBIS framework that counteract the previously applied *get tough* consequences.

Office Discipline Referrals

Office Discipline Referrals (ODR) are widely used as indicators of student problem behavior and descriptors of the educational social climate (Algozzine et al., 2010; Horner et al., 2005; Irvin et al., 2004). A favorable educational social climate mirrors the PBIS continuum when 87% of students had zero to one ODR, 9% had two to five referrals, and 4% had six or more referrals (Horner et al, 2005). Such a normative distribution of ODRs is indicative of a school creating and sustaining PBIS components (Algozzine et al., 2010).

Throughout the four years of this study, 83 to 93 percent of students at the PBIS-HS maintained a perfect behavior record and did not receive an Office Discipline Referral (ODR). In 2006-07, 638 students (91% of the total student population in the cohort that year) did not receive an ODR. In the same year, 54 students (8%) earned one ODR, 11 students (2%) earned two ODRs, 4 students (0.6%) earned three ODRs, and 2 students (0.3%) earned four ODRs.

During students' second year of high school (2007-08), 83%, or 488 students, did not earn an office referral. Fifty-six students (10%) earned one ODR while 23 students (4%) earned two ODRs, 6 students (1%) earned three ODRs, and 6 students (1%) earned four or more ODRs.

Previous ODR data trends continued in 2008-09 with 428 students (85%) who followed the school-wide expectations and did not earn a referral. However, 54 students (11%) earned one ODR, 9 students (2%) earned two ODRs, and 10 students (2%) earned three or more ODRs.

By the end of their high school experience in June 2010, 89% of students had not earned an office referral. This percentage was equivalent to 401 total students. Next, 35 students (8%) earned one ODR, 10 students (2%) earned two ODRs, and 6 students (1%) earned three ODRs. ODR trends, from 2006 to 2010, are illustrated in Table 8 and Figure 7.

Table 8

PBIS-HS Office Discipline Referrals, 2006 to 2010

Year	Zero	One	Two	Three	Four	Five or more
2006-07	91%	8%	2%	0.6%	0.3%	0
2007-08	83%	10%	4%	1%	0.8%	0.2%
2008-09	85%	11%	2%	1%	1%	0.4%
2009-10	89%	8%	2%	1%	0	0

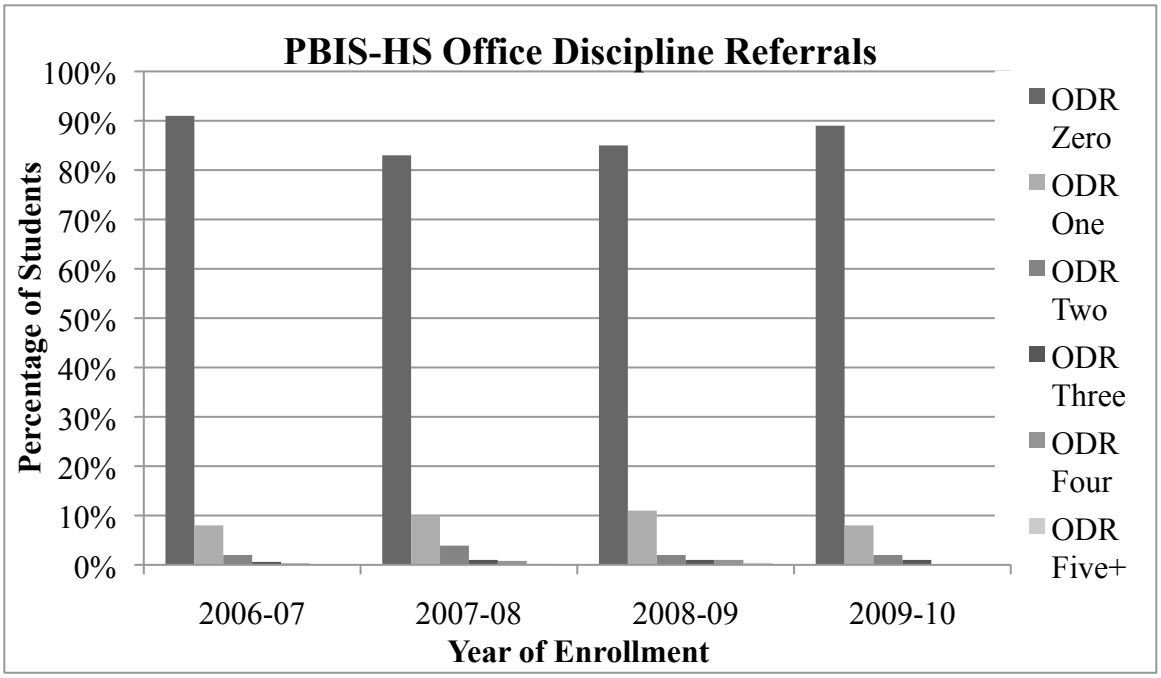

Figure 7. PBIS-HS Office Discipline Referrals, 2006 to 2010

Summary of PBIS-HS office discipline referrals. Similar to the PBIS-HS attendance rate trends, the ODR data trends show the difference between applying *get tough* practices or prevention-based strategies. When analyzing the data of students who earned two or more referrals, a trend emerges that may be associated to PBIS. From 2006 to 2008, 62 students (8.8%) earned two or more referrals. During this time, students received consequences that provided initial exclusion from the high school setting without teaching an alternative behavior or expectations for future behavior incidents.

When PBIS components were applied, specifically when teaching and rewarding expected behaviors, the data showed a decrease in the number of students earning two or more ODRs. From 2008 to 2010, 31 students (7.4%) earned two or more referrals. This decrease equates to a 50 percent decline in the specific number of students who were continuously presenting inappropriate behaviors in the school setting. The promise that

PBIS acted as a preventative measure in keeping students from earning ODRs is inspiring for future applications of PBIS in secondary school settings.

Suspensions/expulsions

Similar to ODR data, Suspensions/expulsions are used as markers for behavior and other results indicating a high level of PBIS fidelity (Algozzine et al., 2009). When analyzing the impact of PBIS, researchers (Luiselli et al., 2002; McIntosh et al., 2008) have found that 80% of students earning zero to one Suspension/expulsion consequence is indicative of an effective school implementing PBIS. Such findings parallel the primary tier (or green zone) of the continuum of PBIS in which an estimated 80% of students earn a consequence for inappropriate behavior and subsequently follow the behavioral expectations of the learning environment.

Students' Suspensions/expulsions data at the PBIS-HS paralleled the PBIS-HS ODR data trends. Suspensions/expulsions consequences were recorded on individual student office referrals. Because the majority of students did not receive an office referral, they could not receive a Suspensions/expulsions consequence. For example, in 2006-07, 657 students (93%) received neither an office referral nor a Suspensions/expulsions consequence. The few students who earned multiple ODRs also earned one to two Suspensions/expulsions consequences. In 2006-07, 45 (6%) students earned at least one ODR, and 52 (7%) students earned one or two Suspensions/expulsions consequences.

Trends established in 2006-07 continued in the subsequent high school years, as reflected in Table 9 and Figure 8. In 2007-08, 571 students (97%) were not suspended and/or expelled and only 18 students of 589 (3%) were given one or two

Suspensions/expulsions. In 2008-09, 491 students (97%) did not earn a Suspension/ expulsion and only 12 students of 503 (2%) earned one or two Suspensions/expulsions consequences. During 2009-10, 434 students (96%) did not receive a Suspension/expulsion consequence while 16 students of 452 (3%) earned one Suspensions/expulsions, and 2 (0.4%) students earned two Suspensions/expulsions.

Table 9

PBIS-HS Suspensions/expulsions, 2006-2010

Year	Zero	One	Two
2006-07	93%	6%	7%
2007-08	97%	3%	0.3%
2008-09	97%	2%	0.3%
2009-10	96%	3%	0.4%

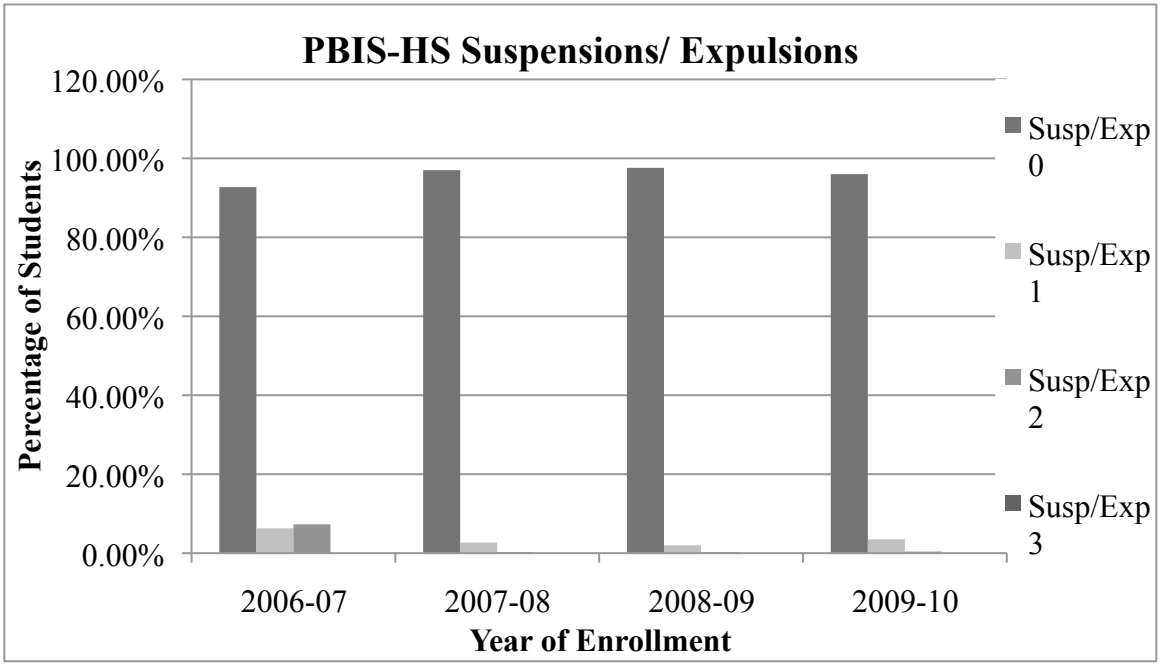

Figure 8. PBIS-HS Suspensions/expulsions, 2006-2010

Summary of PBIS-HS suspensions/expulsions. Overall, Suspensions/expulsions data trends indicated a decrease in exclusionary consequences. It was noted that fewer students earned a suspension or expulsion during the last three years of this study, especially when school-wide PBIS was implemented with fidelity. Furthermore, when taking into consideration the decline in student enrollment, only two to four percent of the student population earned one to two Suspensions/expulsions during their last two years of high school, from 2008 to 2010. This percentage represents the tertiary tier, or top of the triangle, found in the PBIS continuum (see Figure 1). Such preventative practices established in the PBIS framework were implemented at the PBIS-HS to respond to this small percentage of students who required additional, individualized supports from a team of educators and experts. When implementing these PBIS components, students at the PBIS-HS were provided the preventative supports, such as Behavior Support Plans or individualized Check In-Check Out systems, needed to continue their educational experience. In total, this descriptive data continued to highlight the potential impact of PBIS, especially when modifying PBIS applications to meet the social and academic needs of smaller groups or individual students.

Grade Point Average

The PBIS-HS has a graduation requirement that all students must earn a 2.0 Grade Point Average (GPA) or above. If a student does not meet the GPA requirement, the student must retake a course to raise his/her grade, potentially causing a student to attend Summer School, Night School, or an additional fifth year of high school. Table 10 and Figure 9 illustrate the PBIS-HS GPA data over the four years of the study, from 2006 to 2010.

In 2006-07, among the total 709 enrolled students, only 26 students (4%) earned a perfect 4.0 GPA. A total of 133 students (19%) earned a 3.5 to 3.9 GPA, 124 students (17%) earned a 3.0 to 3.4 GPA, 99 students (14%) earned a 2.5 to 2.9 GPA, and 91 students (13%) earned a 2.0 to 2.4 GPA. Surprisingly, the largest percentage of students, 235 total students (33%), had below a 2.0 GPA.

During students' second year of high school (2007-08), 16 students (3%) maintained a perfect 4.0 GPA. The rest of the GPA categories became more consistently balanced, with 129 students (22%) earning between a 3.5 and a 3.9 GPA, 103 students (17%) earning a 3.0 to 3.4 GPA, 100 students (17%) earning a 2.5 to 2.9 GPA, and 89 students (15%) earning between a 2.0 and a 2.4 GPA. One hundred forty-five students (25%) had below a 2.0 GPA in 2007-08, which was nearly 100 students less than the previous year (2006-07).

A similar trend of students per GPA category continued in 2008-09. For the 4.0 GPA category, 13 students (3%) continued to earn a perfect GPA. Next, 104 students (21%) earned a 3.5 to 3.9 GPA and another 104 students (21%) earned a 3.0 to 3.4 GPA. Additionally, 108 students (22%) earned a 2.5 to 2.0 GPA, and 94 students (19%) earned a 2.0 to 2.4 GPA. Only 77 students (15%) were represented in the less than 2.0 GPA category.

During their last year of high school, 2009-10, 10 students (2%) maintained a perfect GPA. A range of 100 to 116 students represented the 2.0 to 3.9 GPA, with 106 students (24%) earning a 3.5 to 3.9, 100 students (22%) earning a 3.0 to 3.4 GPA, 116 students (26%) earning a 2.5 to 2.9 GPA, and 101 students (18%) earning a 2.0 to 2.4

GPA. In total, 11 students (2%) did not meet the 2.0 GPA graduation requirement of the PBIS-HS.

Table 10

PBIS-HS Grade Point Average, 2006 to 2010

Year	4.0	3.5 - 3.9	3.0 – 3.4	2.5 - 2.9	2.0 - 2.4	1.9- below
2006-07	4%	19%	17%	14%	13%	33%
2007-08	3%	22%	17%	17%	15%	25%
2008-09	3%	21%	21%	22%	19%	15%
2009-10	2%	24%	22%	26%	18%	2%

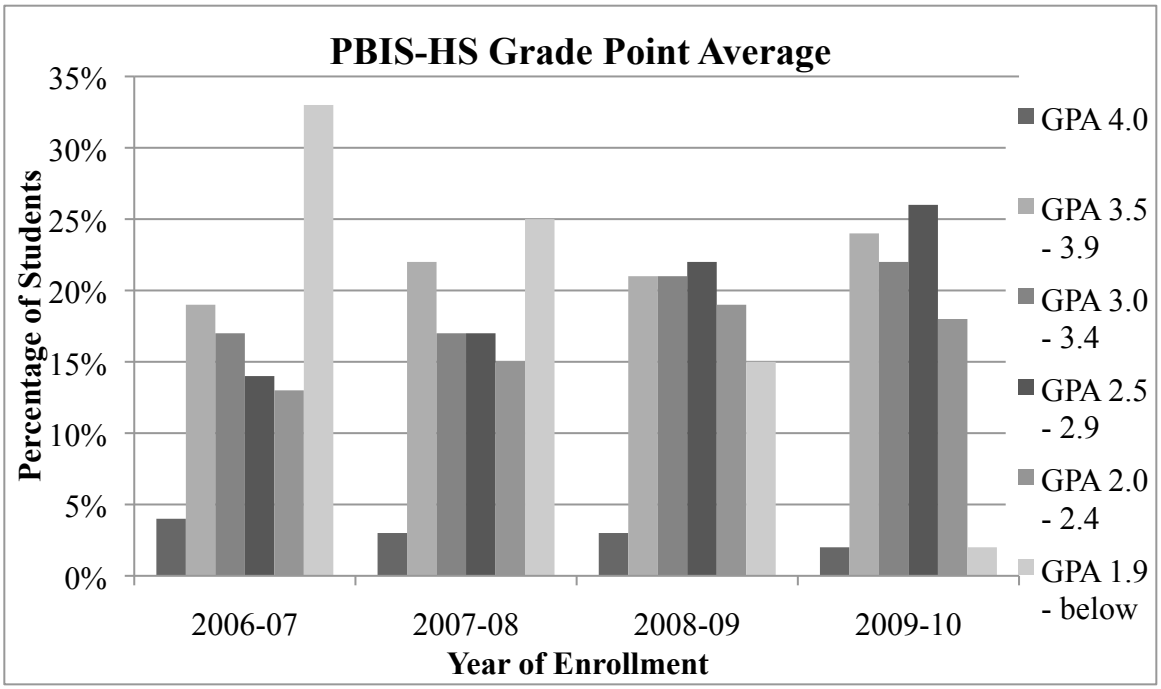

Figure 9. PBIS-HS Grade Point Average, 2006 to 2010

Summary of PBIS-HS grade point average. During the first two years of the study, when PBIS was not implemented with fidelity, students' grade point averages were sporadic across each category. The data trends indicated inconsistent achievement levels

for all students. An example is that the highest number of students was found in the 1.9 or below GPA category during 2006 to 2008. Expected academic behaviors were not taught and students were not provided alternative strategies to experience academic success.

A different experience began to emerge when school-wide PBIS was implemented with fidelity during 2008 to 2010. During these last two years, students' GPA trends became more consistent. Fewer students earned below a 1.9 GPA while more students achieved the graduation requirement of a 2.0 GPA or above. PBIS, as a preventative framework, provided the support necessary for students to begin experiencing academic success. School-wide PBIS components had the potential to impact students' academic achievement by supporting their progress and preventing high school failure.

Core Credits Earned

The expectation is that improving the social climate will lead to students being more engaged in instruction and gaining more instructional time, which will result in greater academic achievement (Horner et al., 2010).

Students at the PBIS-HS had an opportunity to earn eight credits per year. Given the course schedule and course offerings each year, a student who was on track to graduate would enroll in at least four core credit classes (e.g., English, Science, Math, and Social Studies) and an additional four elective credit classes (e.g., Auto Mechanics, Foods and Nutrition, and Pottery). Most students earned three to five core credits each year during their four years at the PBIS-HS. Specifically, in 2006-07, 402 of the 709 students (57%) earned between three to five core credits while 307 students (43%) earned between zero to two core credits.

The next three years of high school, 2007 to 2010, showed a similar data trend. The majority of the students stayed on track to graduate, earning three to five core credits each year. In 2007-08, 436 out of 589 students (74%) earned between three to five core credits, 103 students (17%) earned zero to two, and 8 (1%) earned six to eight credits. In 2008-09, 366 out of 503 students (73%) earned three to five core credits while 119 students (24%) earned zero to two and 18 students (4%) earned six to eight core credits. In 2009-10, 369 out of 452 students (82%) earned three to five core credits while only 56 students (12%) earned zero to two and 27 students (11%) earned six to eight core credits. These credit trends are graphically illustrated in Table 11 and Figure 10.

Table 11

PBIS-HS Core Credits Earned, 2006-2010

Year	0-2 Core Credits	3-5 Core Credits	6-8 Core Credits
2006-07	43%	57%	0
2007-08	17%	74%	1%
2008-09	24%	73%	4%
2009-10	12%	82%	11%

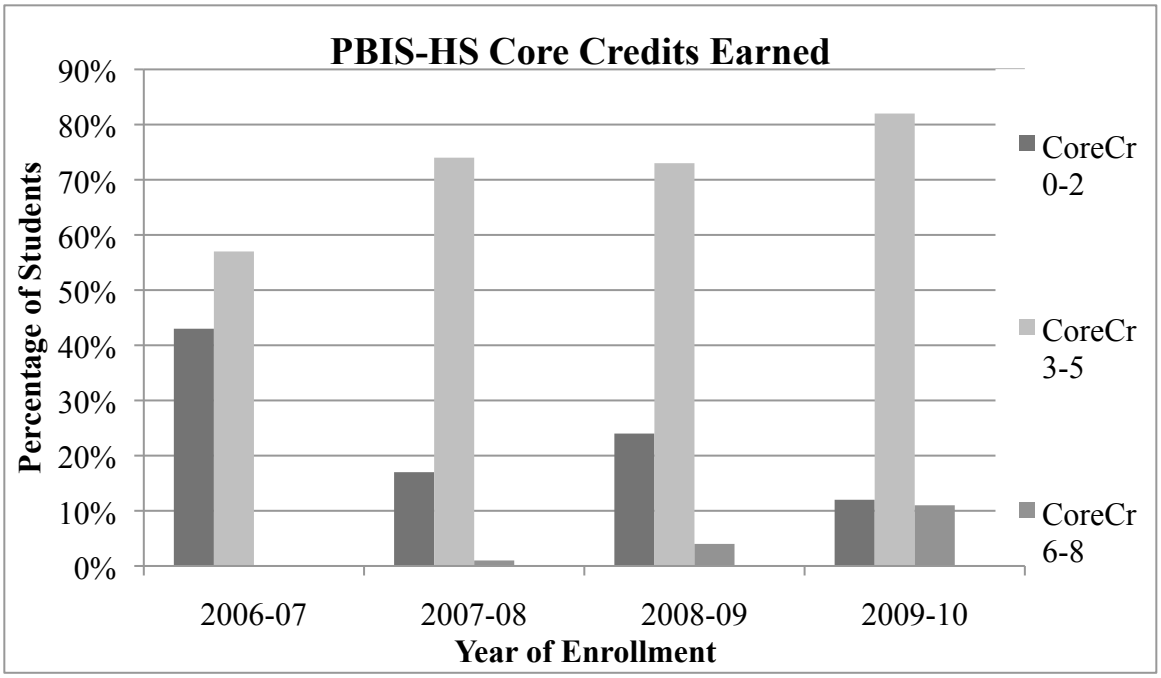

Figure 10. PBIS-HS Core Credits Earned, 2006-2010

Summary of PBIS-HS core credits earned. During the four-year period, the majority of the students continued to earn three to five core credits. The interesting trend in this descriptive data is the shift between zero to one core credits earned to six to eight core credits earned. When PBIS was not implemented, from 2006 to 2008, only eight students (1%) earned six to eight core credits. When PBIS components were applied, from 2008 to 2010, 45 students (15%) earned six to eight core credits. The total number of students earning more core credits increased across each data category. The impact of PBIS on student achievement is reflected in this data source. By analyzing school-wide descriptive data, initial evidence emerges that supports the application of preventative methods, such as school-wide PBIS.

Summary of School-wide PBIS-HS Student Outcome Results

Preliminary data describing the initial application of PBIS in the secondary school setting is promising (Bohanon et al., 2009). The PBIS-HS data presents the *story* of what

students experienced when attending a high school that applies PBIS components with fidelity. The students' outcome data provided insight and evidence while presenting an example of the implementation and preliminary evaluation of school-wide PBIS in an urban high school setting for (a) Student Enrollment, (b) Attendance Rate, (c) Office Discipline Referrals, (d) Suspensions/expulsions, (e) Grade Point Average, and (f) Core Credits Earned.

In summary, the descriptive student data tells the *story* of the important successes made during the application process of PBIS components school wide. In regards to student enrollment, the number of students leaving the PBIS-HS decreased from 111 (15.7%) in 2006-07 to 51 (11.2%) in 2009-10. Students' attendance rate showed improvement as 28 students (4%) had less than a 70 percent attendance rate in 2006-07 and only two students (0.5%) has less than a 70 percent attendance rate in 2009-10. Additionally, students' behavior data illustrated improvement with 62 students (8.8%) earning two or more referrals in 2006 to 2008 to 31 students (7.4%) in 2008 to 2010. Similar results were found in the Suspension/Expulsion data as 52 students (7%) earned one or more suspensions/expulsions in 2006-07 and in 2009-10 only 18 students (3.4%) had one or more suspensions/expulsions. Finally, students' academic performance increased from 2006-07 when 235 students (33%) had a 1.90 GPA or lower to only 11 students (2%) who had a 1.90 GPA or lower in 2009-10; and 307 students (43%) earned zero to two core credits in 2006-07 and only 56 students (12%) earned zero to two core credits in 2009-10. The result is a collection of promising data that illustrates important achievements in students' social and academic performance in preparation for a competitive future.

PBIS-HS Cohort Graduate Outcomes

Students' academic achievement and academic engagement can be influenced by direct, positively-focused interventions (Luiselli et al., 2005). The story continues with an analysis of the 416 cohort graduates' academic achievement (GPA) and academic engagement (Attendance Rate) was conducted to further investigate the impact of PBIS, a positively- focused intervention. This cohort analysis was conducted to eliminate possible alternative arguments generated by the school-wide analysis. Importantly, my cohort data analysis revealed a positive change of behavior and academic outcomes for the students who maintained consistent enrollment at the PBIS-HS over the four-year period of the study.

Grade Point Average

In the beginning of their high school experience (2006-07), the majority of PBIS-HS graduates (n = 358, 86%) met the 2.0 GPA graduation requirement. The 2006-07, 25 students (6%) earned a 4.0 GPA, 110 students (26%) earned a 3.5 to 3.9 GPA, 98 students (24%) earned a 3.0 to 3.4 GPA, 64 students (15%) earned a 2.5 to 2.9 GPA, and 61 students (15%) earned a 2.0 to 2.4 GPA. Last, 58 students (14%) earned below the graduation requirement of 1.9 or below GPA.

The data trend established in 2006-07 continued in 2007-08. The majority of students (n = 369, 89%) continued to earn above a 2.0 GPA. Fifteen students (4%) earned a 4.0 GPA, 121 students (29%) earned a 3.5 to 3.9 GPA, 88 students (21%) earned a 3.0 to 3.4 GPA, 80 students (19%) earned a 2.5 to 2.9 GPA, and 72 students (17%) earned a 2.0 to 2.4 GPA. The remaining 40 students (10%) earned a 1.9 or below GPA.

In 2008-09, 12 students (3%) earned a 4.0 GPA and 104 students (25%) earned a 3.5 to 3.9 GPA. The remaining GPA categories illustrated increased achievement trends from 2006-07 with 95 students (23%) earning a 3.0 to 3.4 GPA, 97 students (23%) earning a 2.5 to 2.9 GPA, 76 students (18%) earning 2.0 to 2.4 GPA, and 32 students (8%) earning a 1.9 or below GPA.

The last year of high school GPA results (2009-10) continued to illustrate an increasing trend with zero students earning a 1.9 or below GPA. The total 416 students met the PBIS-HS graduation requirement by earning above a 2.0 GPA. Specifically, ten students (2%) earned a 4.0 GPA, 104 students (25%) earned a 3.5 to 3.9 GPA, 94 students (23%) earned a 3.0 to 3.4 GPA, 113 students (27%) earned a 2.5 to 2.9 GPA, and 95 students (23%) earned a 2.0 to 2.4 GPA. These GPA trends are illustrated in Table 12 and Figure 11.

Table 12

Grade Point Average of PBIS-HS Cohort Graduates, 2006 to 2010

Year	4.0	3.5 - 3.9	3.0 – 3.4	2.5 - 2.9	2.0 - 2.4	1.9- below
2006-07	6%	26%	24%	15%	15%	14%
2007-08	4%	29%	21%	19%	17%	10%
2008-09	2%	21%	19%	19%	15%	8%
2009-10	2%	25%	23%	27%	23%	0%

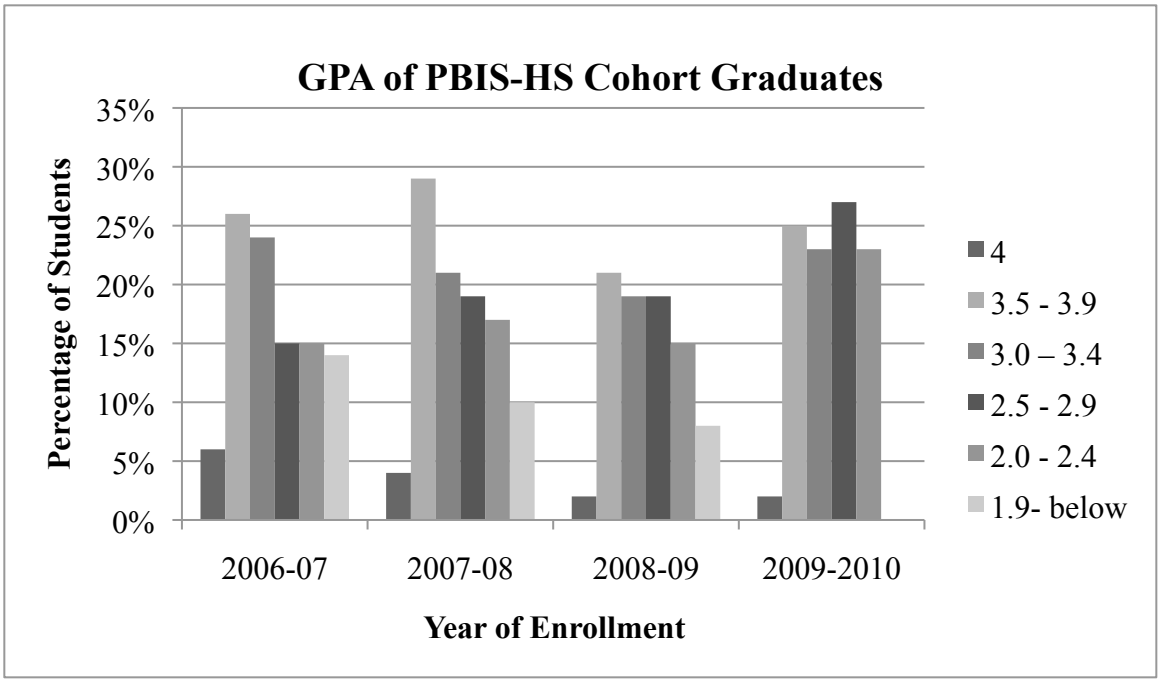

Figure 11. Grade Point Average of PBIS-HS Cohort Graduates, 2006 to 2010

Attendance Rate

Throughout their four years of high school (2006 to 2010), the majority of PBIS-HS graduates maintained a 90 to 99% attendance rate including 312 students (75%) in 2006-07, 291 students (70%) in 2007-08, 315 students (76%) in 2008-09, and 293 students (70%) in 2009-10. Eighteen percent or less of the 416 graduates were identified in the remaining attendance rate categories across the four years.

Specifically, in 2006-07, 40 students (10%) had 100% attendance, 38 students (9%) had 80 to 89% attendance, 24 students (6%) had 70 to 79% attendance, and two students (0.05%) had 60 to 69% attendance. For 2007-08, 58 students (14%) had 100% attendance, 45 students (11%) had 80 to 89% attendance, 21 students (5%) had 70 to 79% attendance, and one student (0.03%) had 60 to 69% attendance. In 2008-09, 34 students (8%) had 100% attendance, 41 students (10%) had 80 to 89% attendance, 23 students

(6%) had 70 to 79% attendance, one student (0.03%) had 60 to 69% attendance, and two students (0.05%) had 59% or below attendance.

Finally, during their last year of high school (2009-10), 19 students (5%) had a perfect 100% attendance rate. Next, 75 students (18%) had a 80 to 89% attendance rate, 27 students (6%) had a 70 to 79% attendance rate, and two students (0.05%) had a 60 to 69% attendance rate. These data trends for the PBIS-HS graduates' attendance rates are found in Table 13 and Figure 12.

Table 13

Attendance Rate of PBIS-HS Cohort Graduates, 2006 to 2010

Year	100%	90-99%	80-89%	79-70%	69-60%	59% below
2006-07	10%	75%	9%	6%	0.05%	0%
2007-08	14%	70%	11%	5%	0.03%	0%
2008-09	8%	76%	10%	6%	0.03%	0.05%
2009-10	5%	70%	18%	6%	0.05%	0%

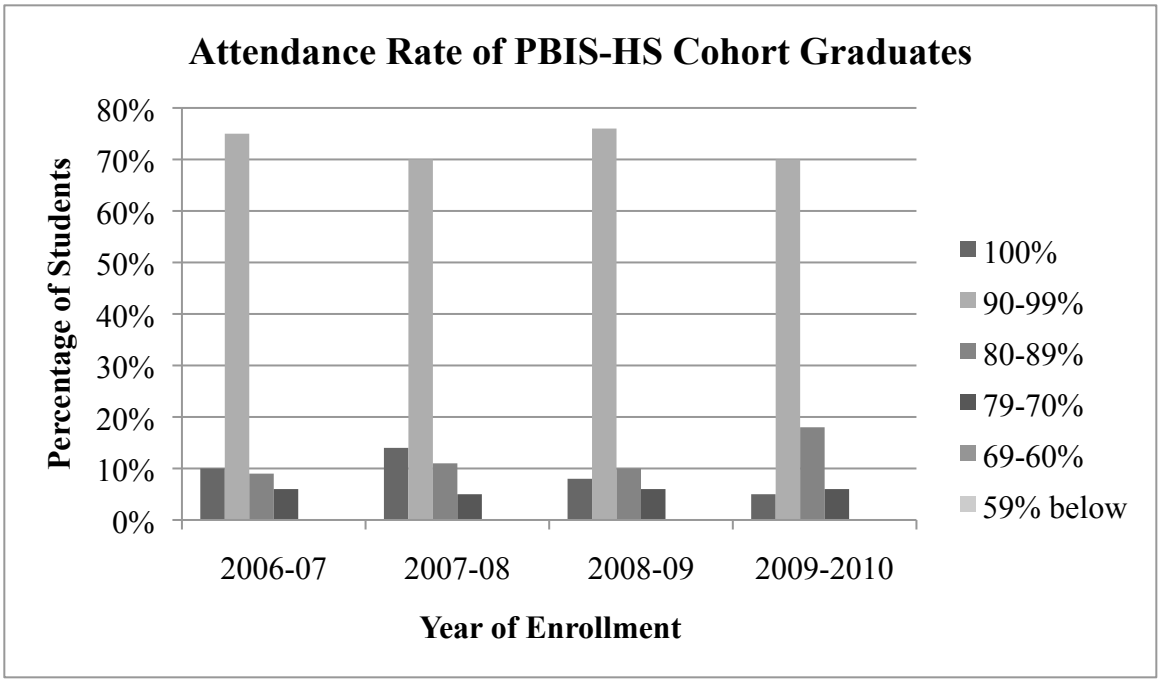

Figure 12. Attendance Rate of PBIS-HS Cohort Graduates, 2006 to 2010

Summary of PBIS-HS Cohort Graduates' GPA and Attendance Rate

Taken collectively, the results of the PBIS-HS graduates' outcomes indicate that the school-wide PBIS implementation was effective in increasing students' GPAs and attendance rates. A closer examination of the data revealed that students, when exposed to PBIS components, improved their overall academic achievement and engagement. For example, prior to PBIS implementation (2006 to 2008), 45 students (24%) earned a 1.9 or below GPA, and after PBIS implementation (2008 to 2010), 32 students (8%) in 2008-09 and zero students in 2009-10 earned below the 2.0 GPA graduation requirement. Additionally, students consistently maintained high rates of attendance with an increase from 83 students (20%) in 2006 to 2008 to 116 students (28%) in 2008 to 2010 earning 80 to 89% attendance rates. These findings that the PBIS intervention was associated with increased students' outcomes (e.g., GPA and attendance rate) are consistent with previous research supporting the effects of PBIS on students' behavior and academics

(Luiselli et al., 2005). The results of the 416 students' outcomes are encouraging in strengthening the case that PBIS implementation positively impacted students' behavior and academic achievement.

Specific Student Subgroup Outcomes

To further comprehend the unique application of PBIS in secondary school settings, researchers and educators must focus on smaller groups of students. Bohanon et al. (2006) confirmed that issues of specific student groups, especially in urban settings, have a direct impact on the need to modify school-wide PBIS as a preventative method for high schools. Implementing a PBIS framework may be important to the success of individual students with individual academic and learning needs (Bohanon et al., 2009).

A descriptive analysis of outcomes for students who are English Language Learners, students who are eligible for Special Education services, and students who are identified by race (e.g., Asian, Black, Hispanic, and White) continues to tell the story of the PBIS application at the PBIS-HS.

Student Subgroups

Based on the Continuum of School Wide Instructional and Positive Behavioral Interventions and Supports (see Figure 1), the following student outcomes were collected and organized by distribution of Office Discipline Referrals (ODR). The *primary* level of prevention is defined by the percentage of students receiving zero to one ODR; the *secondary* level is defined by the percentage of students receiving two to four ODRs; the *tertiary* prevention level is defined by the percentage of students receiving five or more ODRs. Analyzing the distribution of ODRs by specific student groups provides greater insight into how school-wide PBIS might play an influential, preventative role in an

individual student's high school academic and social success. The following student subgroups were analyzed: (a) all students, (b) English Language Learners (ELL), (c) students in Special Education (SPED) (d) Asian students, (e) Hispanic students, (f) Black students, and (g) White students. These subgroups were identified as the six student groups that represent the largest percentage of students attending the PBIS-HS.

All students. For all students at the PBIS-HS, who were categorized in the primary prevention level, 95 percent of students in 2006-07 earned zero to one ODR. During the following years, 88 percent of students in 2007-08 earned zero to one ODR, 87.6 percent of students in 2008-09 earned zero to one ODR, and 91.1 percent of students earned zero to one ODR.

Next, the collected data of all students recognized in the secondary level of the continuum were the percentage of students who earned two to four ODRs. In 2006-07, 3.5 percent of students earned two to four ODRs and in 2007-08, 9.1 percent of students earned two to four ODRs. During 2008-09, 8.1 percent of students earned two to four ODRs, and in 2009-2010, 6.7 percent of students earned two to four ODRs.

The decreasing trend of the amount of students earning multiple ODRs continued in the tertiary level, as defined by the percentage of students who earned five or more ODRs. In 2006-07, only 1.5 percent of students earned five or more ODRs. The next two years increased minimally with 3.5 percent of students in 2007-08 and 4.4 percent of students in 2008-09. The last year, 2009-10, 2.2 percent of students earned five or more ODRs. These data trends for all students are illustrated in Table 14 and Figure 13.

English Language Learners. ELL students (n = 436) make up 14 percent of the total population of the PBIS- HS. The majority of ELL students at the PBIS-HS earned

either zero or one ODR. This ELL student data is reflected throughout all four years of high school, as illustrated in Table 14 and Figure 13. Specifically, in 2006-07, 96 percent of ELL students earned zero to one ODR; in 2007-08, 84% earned zero to one ODR; in 2007-08, 90% earned zero to one ODR; and in 2009-10, 93% earned zero to one ODR.

Few ELL students earned two or more ODRs. During their first year of high school, 2006-07, 3 percent of ELL students earned two to four ODRs and 0.5 percent of ELL students earned five or more ODRs. In 2007-08, 13% earned two to four ODRs while 3 percent of ELL students earned five or more ODRs. In 2008-09, 9% earned two to four and 1% earned five or more ODRs. During ELL students earned five or more ODRs.

Students in special education. Students who were eligible for Special Education (n = 405) were distributed more evenly across the primary, secondary, and tertiary levels of prevention of PBIS. Students receiving special education services make up 13 percent of the total PBIS-HS student population. During students' first year of high school in 2006-07, 90 percent of students in SPED earned zero to one ODR, 5% earned two to four ODRs, and 4% earned five or more ODRs. In 2007-08, 81 percent of students in SPED earned zero to one ODR, 13% earned two to four ODRs, and 7% earned five or more. During 2007-08, 74 percent of students in SPED earned zero to one ODR, 12% earned two to four ODRs, and 13% earned five or more ODRs. In SPED students' last year of high school, 2009-10, 80% earned zero to one ODR, 13% earned two to four, and 7 percent of students earned five or more ODRs. These distributions of ODRs for students in Special Education are presented in Table 14 and Figure 13.

Table 14

PBIS-HS Distribution of ODRs by Subgroup, 2006 to 2010

	All			ELL			SPED		
Year	0 - 1	2 - 4	5 +	0 - 1	2 – 4	5 +	0 - 1	2 - 4	5 +
2006-07	95%	3.5%	1.5%	96.2%	3.3%	0.5%	90.3%	5.4%	4.3%
2007-08	88%	9.1%	3.5%	83.8%	13%	3.1%	80.7%	13.3%	6.8%
2008-09	87.6%	8.1%	4.4%	89.8%	8.8%	1.4%	74.3%	12.3%	12.5%
2009-10	91.1%	6.7%	2.2%	93.3%	5.1%	1.5%	79.8%	13.4%	6.7%

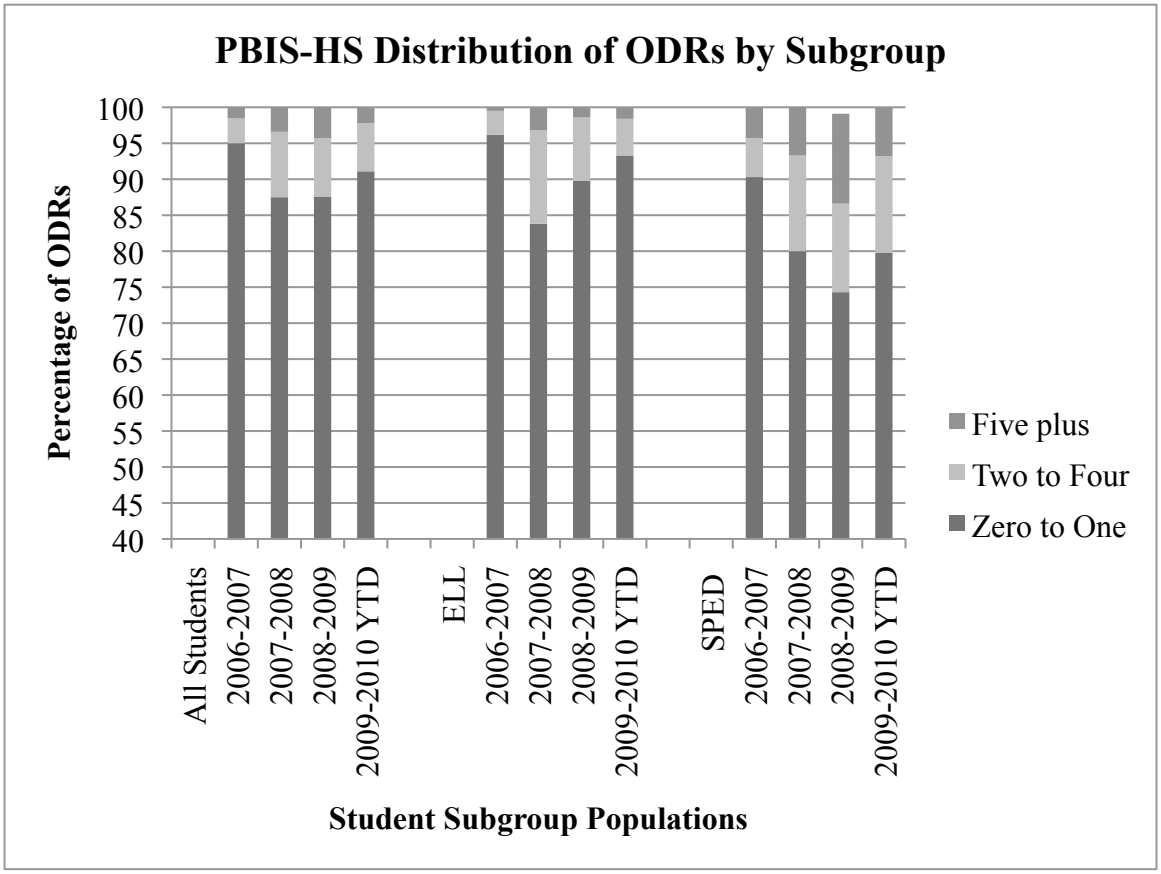

Figure 13. PBIS-HS Distribution of ODRs by Subgroups, 2006 to 2010

Asian students. Asian students (n = 436) make up approximately 14 percent of the total student population at the PBIS-HS. Similar to ELL students, the majority of Asian students were represented in the primary prevention level, as shown in Table 15 and Figure 14. Specifically, 98 percent of Asian students in 2006-07, 97% in 2007-08, 96% in 2008-09, and 97% in 2009-10 earned zero to one ODR. In the secondary prevention level, 2 percent of Asian students earned two to four ODRs in 2006-07. This trend continued in 2007-08, 2008-09, and 2009-10 with 3 percent of Asian students earning two to four ODRs. Finally, only 1% was represented in the five or more ODR category during 2006-07 and 2008-09. The other two years, 2007-08 and 2009-10, did not include any Asian students at the PBIS-HS.

Black students. Black students (n = 280) represent nine percent of the total student population at the PBIS-HS. During their first year of high school, 2006-07, 90 percent of Black students earned zero to one ODR. However, the number of students dropped in 2007-08 with 79 percent of Black students earning zero to one ODR and in 2008-09 with 71 percent of students earning zero to one ODR. In 2009-10, 80 percent of Black students earned zero to one ODR.

Data trends showed an increase in Black students earning two or more ODRs over the course of the study. For example, in 2006-07, 9 percent (n = 25) of Black students earned two to four ODRs. In 2007-08, 12% earned two to four ODRs, and in 2008-09 and 2009-10, 14% earned two to four ODRs. In 2006-07, 2 percent of Black students earned five or more ODRs. In 2007-08, 9% earned five or more ODRs, a number that increased to 15% percent in 2008-09. In 2009-2010, 7 percent of Black students earned five or

more ODRs. These data trends for Black students are illustrated in Table 15 and Figure 14.

Hispanic students. Of the total student population, approximately 17 percent (n = 529) of the PBIS-HS students are Hispanic. The majority of Hispanic students earned zero to one ODR. Specifically, in 2006-07, 95 percent of Hispanic students earned zero to one ODR; in 2007-08, 84% earned zero to one ODR; in 2008-09, 89% earned zero to one ODR, and in 2009-10, 93% earned zero to one ODR. Only 3 percent of Hispanic students earned two to four ODRs in 2006-07. In 2007-2008, this number increased, with 14% earning two to four ODRs. In 2008-09, 8% earned two to four ODRs, and in the last year, 2009-10, the number of Hispanic students who earned two to four ODRs decreased to 5%. Finally, in the tertiary level of prevention, only 3 percent of Hispanic students earned five or more ODRs in 2006-07 and 2008-09 and only 2% in 2007-08 and 2009-10. Hispanic student data trends are shown in Table 15 and Figure 14.

White students. In all, 58 percent of students (n = 1,806) at the PBIS-HS are White. During the first year of high school, 2006-07, 96 percent of White students earned zero to one ODR, 3% earned two to four ODRs, and 2% earned five or more ODRs. In their second year, 2007-08, 83 percent of White students earned zero to one ODR, 11 percent of students earned two to four ODRs, and 6 percent of students earned five or more ODRs. In 2008-09, 89 percent of White students earned zero to one ODR, 8% earned two to four ODRs, and 3% earned five or more ODRs. In 2009-10, 92 percent of White students earned zero to one ODR, 6% earned two to four ODRs, and 2% earned five or more ODRs. Data trends for White students are shown in Table 15 and Figure 14.

Table 15

PBIS-HS Distribution of ODRs by Race, 2006 to 2010

Year	Asian			Black			Hispanic			White		
	0 - 1	2 - 4	5+	0 - 1	2 – 4	5+	0 - 1	2 - 4	5+	0 - 1	2 - 4	5+
2006 - 07	98%	2%	1%	90%	9%	2%	95%	3%	3%	96%	3%	2%
2007 - 08	97%	3%	0%	79%	12%	9%	84%	14%	2%	83%	11%	6%
2008 - 09	96%	3%	1%	71%	14%	15%	89%	8%	3%	89%	8%	3%
2009 - 10	97%	3%	0%	80%	14%	7%	93%	5%	2%	92%	6%	2%

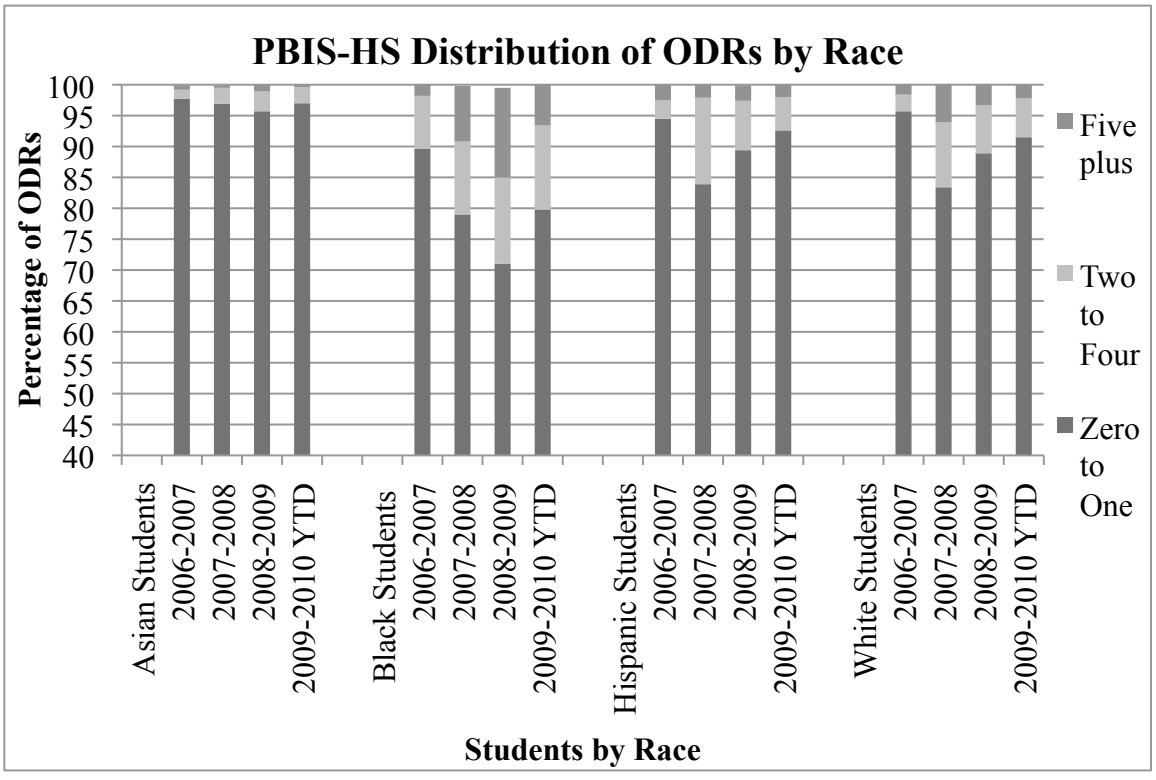

Figure 14. PBIS-HS Distribution of ODRs by Race, 2006 to 2010

Summary of Specific Student Subgroup Outcomes

The focus for PBIS is to apply preventative methods to teach students the expected behaviors of a secondary school setting, reward students when they present the expected behaviors, and reteach behaviors as needed. The hope is to keep approximately 80 to 85% of students in the primary prevention tier, or the green zone, of the triangle. The next hope is to keep 10 to 15% in the secondary tier, or the yellow zone, and about 5% in the red zone, or tip of the triangle. When analyzing the data for each subgroup population, the student data showed promising, increasing trends that represent the PBIS model. For All students, ELL students, Asian students, Hispanic students, and White Students, the ODR distribution consistently illustrated the PBIS triangle with expected percentages of students in each category of ODR data. When PBIS was implemented with fidelity, student ODR data showed an exemplary representation of the PBIS continuum.

In contrast, the SPED student and Black student population data showed inconsistent trends during 2006 to 2008 when PBIS was not implemented at the PBIS-HS. During these first two years of the study, more students were represented in the yellow and red zones. The applied *get tough* practices did not prevent students from exhibiting inappropriate behaviors or earning exclusionary consequences. However, when PBIS was implemented, the data indicated a significant movement towards illustrating the triangle with an increase in the green zone and decrease in the red zone. With continued application of preventative methods, established in the PBIS framework, the data shows a promising trend with few students earning referrals and remaining in school.

The descriptive data outcomes illustrated what students in specific subgroups experienced at the PBIS-HS. The data continues to tell more of the *story* of students who are English Language Learners, eligible for Special Education, and identified as a specific race. By analyzing these data trends, researchers and educators can focus on the unique modifications needed to enhance the school-wide PBIS continuum of prevention in a secondary school setting for specific student subgroup academic and social needs for success.

Individual Student Outcomes

The ability to focus on school-wide primary prevention supports established in the PBIS continuum (see Figure 1) allows researchers and educators to analyze whole group and subgroup student population outcomes. Such focus enables school-based PBIS teams to use student outcome data to determine more readily the individual students who are in need of additional behavioral and academic support and to apply PBIS components accordingly (Bohanon et al., 2009). I continue to narrate the story of the impact of PBIS at an urban high school by analyzing four individual student profiles.

Individual Student Profile

Four individual student profiles were randomly selected from the total PBIS-HS student cohort. A stratified random sampling method was used to sample each subpopulation independently. The total student cohort was divided into subgroups based on the specific variables defined in the 2009-2010 ODE Report Card (2010): (a) ESL, (b) SPED, (c) F&R Meals, (d) Attendance Rate, and (e) Graduation Rate. The Dropout Rate variable was not a part of the random sampling because it would eliminate the individual student. From these subgroups, four individual students were identified.

Each student began attendance at the PBIS-HS in Fall 2006 and continued attending the PBIS-HS as confirmed by spring enrollment reports from eSIS. Throughout their four years, each student was identified as receiving Free and Reduced Price Meals. All four students completed high school and earned a standard high school diploma. However, the students differed in their individual experiences throughout their four years in high school as evidenced by their (a) GPA, (b) Attendance Rate, (c) ODRs, and (d) Core Credits.

The first student, whom I will refer to as SP, is a white male who struggled with the transition to a large, comprehensive, urban high school setting as shown in his Attendance Rate and Core Credit data. This struggle impacted his academic and behavioral success during 2006-07, which challenged him to make up credits and grades to meet the graduation requirements.

The second individual case, who will be referred to as KR, is a white student who was placed in the English as a Second Language (ESL) program and continued to receive ESL services throughout his four years of high school. His individual student outcome data illustrated his challenges as an English Language Learner in a large secondary school setting. KR specifically struggled behaviorally, which was exemplified in his ODR data.

The third student is a black female, SG, who was eligible for Special Education services. SG had a documented Specific Learning Disability in Written Expression. Evaluating her outcome data provided insight into what a female, black student receiving SPED services experienced at the PBIS-HS. SG struggled both academically and behaviorally, especially during 2007-08 and 2008-09.

The last student, JV, is a female Hispanic student. She did not receive ESL services during her four years at the PBIS-HS. Her outcome data shows steady improvements as JV learned skills to successful achievement. All four individual students' outcome data is presented below to gain better insight into the experiences of individual students at the PBIS-HS.

Individual GPA. The GPA outcome data for all four individual students showed an increasing trend, which is illustrated in Table 16 and Figure 15. SP finished his first year of high school, 2006-07, with a 0.5 GPA. The next year, 2007-08, he earned a 2.03 GPA. During his last two years of high school, 2008 to 2010, SP maintained a 2.74 GPA. KR, SG, and JV had similar experiences to SP. Specifically, KR completed his first year of high school by earning a 0.47 GPA. His second year showed great improvement with a final 1.89 for 2007-08. In 2008-09, KR earned a 2.21 and in 2009-10, KR earned a 2.32. SG started with the highest GPA of all four students. SG earned a 2.13 for 2006-07. Although the gains she made were smaller than the gains made by other students, SG continued to make GPA gains. In 2007-08, she earned a 2.29 GPA. In 2008-09, SG earned a 2.34 GPA. And in 2009-10, she earned a 2.33. Conversely, JV began with the lowest GPA of all four students. She earned a 0.27 GPA for 2006-07. Next, she made small gains by earning a 0.83 GPA in 2007-08. Then in 2008-09, JV increased her GPA to a 1.56 GPA and in 2009-2010, JV completed her last year of high school with a 2.02 GPA. All four students met the 2.0 GPA graduation requirement at the PBIS-HS.

Table 16

PBIS-HS Individual GPAs, 2006 to 2010

	SP	KR	SG	JV
2006-07	0.5	0.47	2.13	0.27
2007-08	2.03	1.89	2.29	0.83
2008-09	2.74	2.21	2.34	1.56
2009-10	2.7	2.32	2.33	2.02

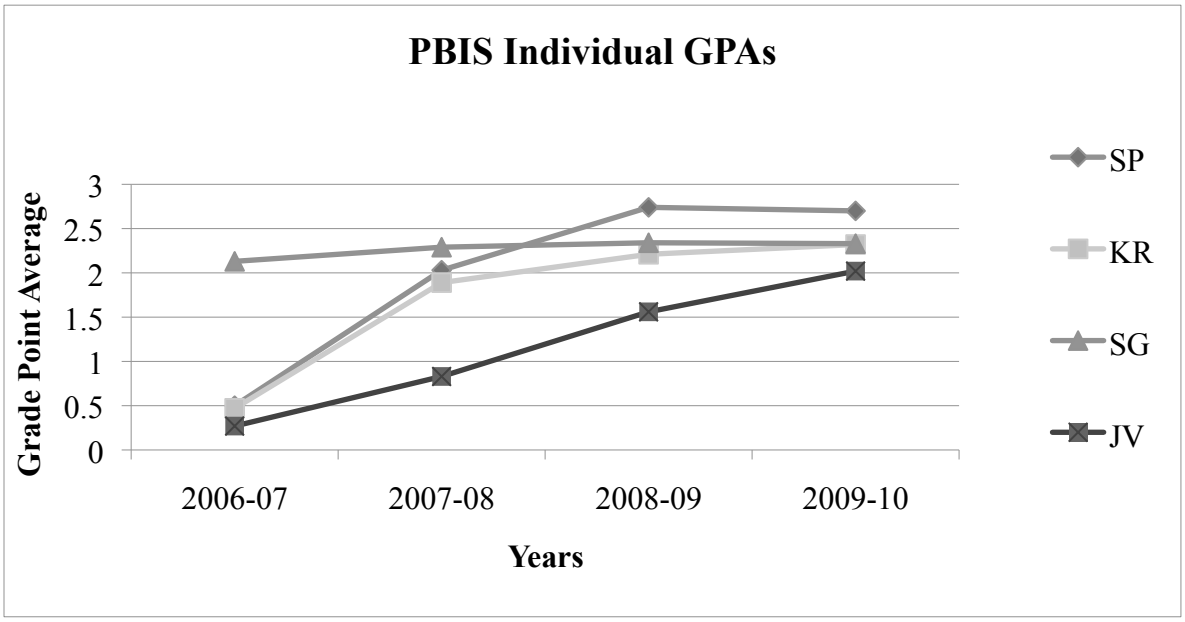

Figure 15. PBIS-HS Individual GPAs, 2006 to 2010.

Individual attendance rate. Similar to students' increasing GPA trends, each of the four students experienced increased Attendance Rates. SP began with a 60% Attendance Rate in 2006-07 and finished with a 95% Attendance Rate. KR started his high school experience with a 77% Attendance Rate in 2006-07. KR finished his fourth year of high school, 2009-10, with a 96% Attendance Rate. JV began in 2006-07 with a 74% Attendance Rate and ended in 2009-10 with a 90% Attendance Rate. Interestingly,

SG maintained above a 90% Attendance Rate all four years of high school with a 93% in 2006-07, 96% in 2007-08, 94% in 2008-09, and 97% in 2009-10 (see Table 17 and Figure 16).

Table 17

PBIS-HS Individual Attendance Rate, 2006 to 2010

	SP	KR	SG	JV
2006-07	59.7	77	93.4	73.9
2007-08	98.9	98.9	95.5	80.4
2008-09	97.4	94.6	93.7	90
2009-10	94.9	95.8	96.6	89.6

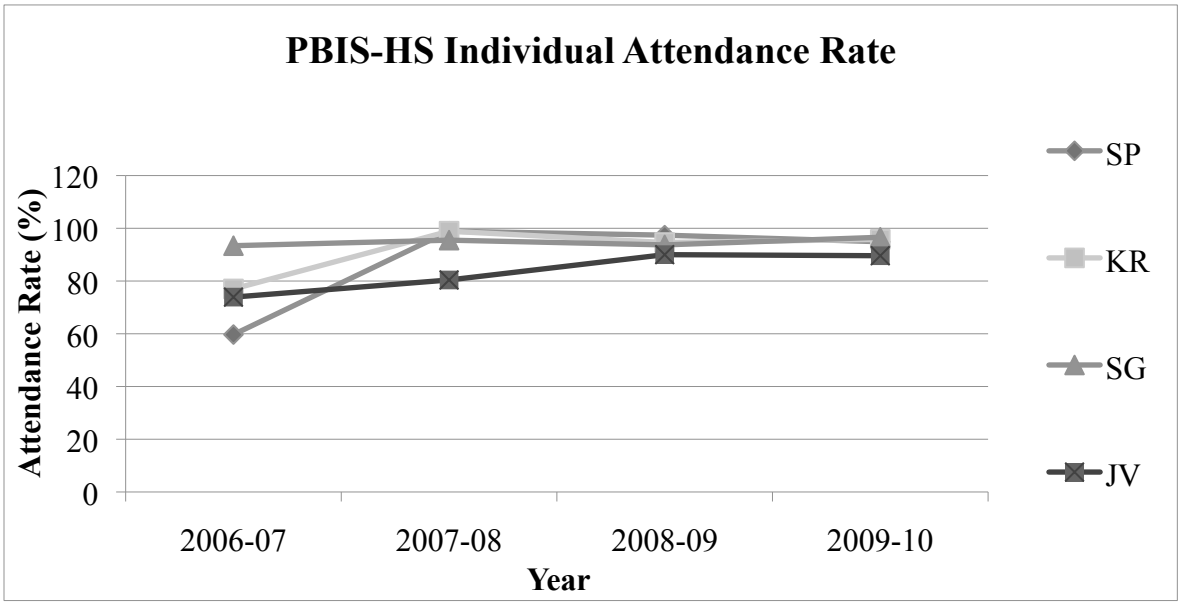

Figure 16. PBIS-HS Individual Attendance Rate, 2006 to 2010.

Individual office discipline referrals. The individual student's ODR outcome data is illustrated in Table 18 and Figure 17. KR and JV earned the most ODRs out of the four students. KR earned one ODR in 2006-07, one in 2007-08, two in 2008-09, and zero in 2009-10. JV earned one ODR in 2006-07, two in 2007-08, and zero during 2008-09

and 2009-10. Conversely, SP and SG earned the least amount of ODRs out of the four students. Interestingly, SG earned only one ODR her first year of high school in 2006-07. During the next three years, from 2007 to 2010, SG did not earn any ODRs. SP did not earn any ODRs during his four years at the PBIS-HS.

Table 18.

PBIS-HS Individual ODRs, 2006 to 2010.

	SP	KR	SG	JV
2006-07	0	1	1	1
2007-08	0	1	0	2
2008-09	0	2	0	0
2009-10	0	0	0	0

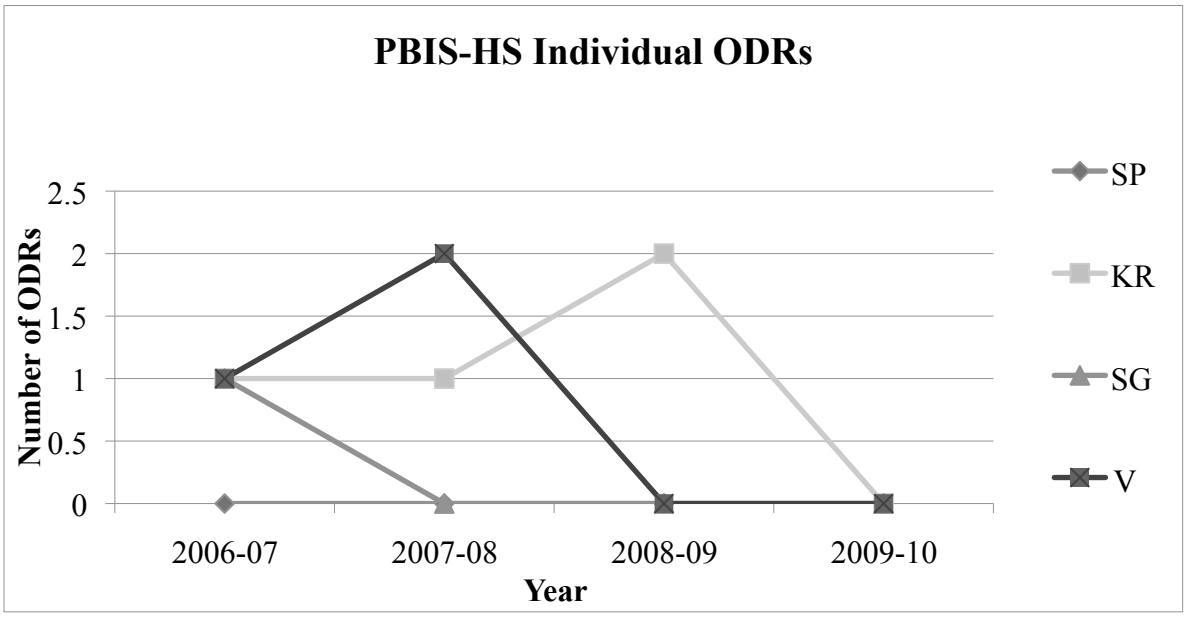

Figure 17. PBIS-HS Individual ODRs, 2006 to 2010

Individual attempted / earned core credits. A focus on the four students' academic experience can provide insight into what they experienced when attempting and

earning the Core Credits required for graduation. The core classes in which the students were enrolled is graphically illustrated under the *Attempted* credit category. The actual core credits the students earned are graphically illustrated under the *Earned* credit category (see Table 19 and Figure 18).

During the last year of high school, in 2009-10, each student earned all of the credits he / she attempted. SP was enrolled in six core classes and earned all six credits; KR was enrolled in five core classes and one elective course and earned all six credits; SG was enrolled in four core classes and earned all four credits; JV was enrolled in 4.5 core classes and earned all 4.5 core credits. However, the success of their last year in high school was not imitated during their first three years, from 2006 to 2009.

The first year of high school was a struggle for all four students. While SP was enrolled in 3.5 core classes, he only earned one credit. As well, SG was enrolled in 3.5 credits, and she only earned 2.5 credits. JV, who was also enrolled in 3.5 core classes, did not earn any. Additionally, KR was enrolled in 5 core classes, but he only earned one credit.

During 2007-08, some individual students continued to struggle to earn the required core credits. KR attempted 5 core credits and earned 4.5 credits; SG attempted 4.5 credits and earned 4; JV attempted 5 core credits and earned 2 credits; Interestingly, SP attempted 4.5 core credits and earned all 4.5 core credits.

In 2008-09, similar attempted and earned core credit data trends continued. SP continued to earn as many credits as he attempted, which equaled 6 total core credits. KR attempted 6.5 core credits and earned 6 credits. Both SG and JV earned one fewer core credit than they attempted. SG attempted 5 credits and earned 4 while JV attempted 7.5

credits and earned 6.5. In total, all four students earned the required amount of credits needed to graduate from the PBIS-HS.

Table 19

PBIS-HS Individual Attempted (Atmpt) / Earned (Earned) Core Credits, 2006 to 2010

Years	SP		KR		SG		JV	
	Atmpt	Earned	Atmpt	Earned	Atmpt	Earned	Atmpt	Earned
2006-07	3.5	1	5	1	3.5	2.5	3.5	0
2007-08	4.5	4.5	5	4.5	4.5	4	5	2
2008-09	6	6	6.5	6	5	4	7.5	6.5
2009-10	6	6	5	5	4	4	4.5	4.5

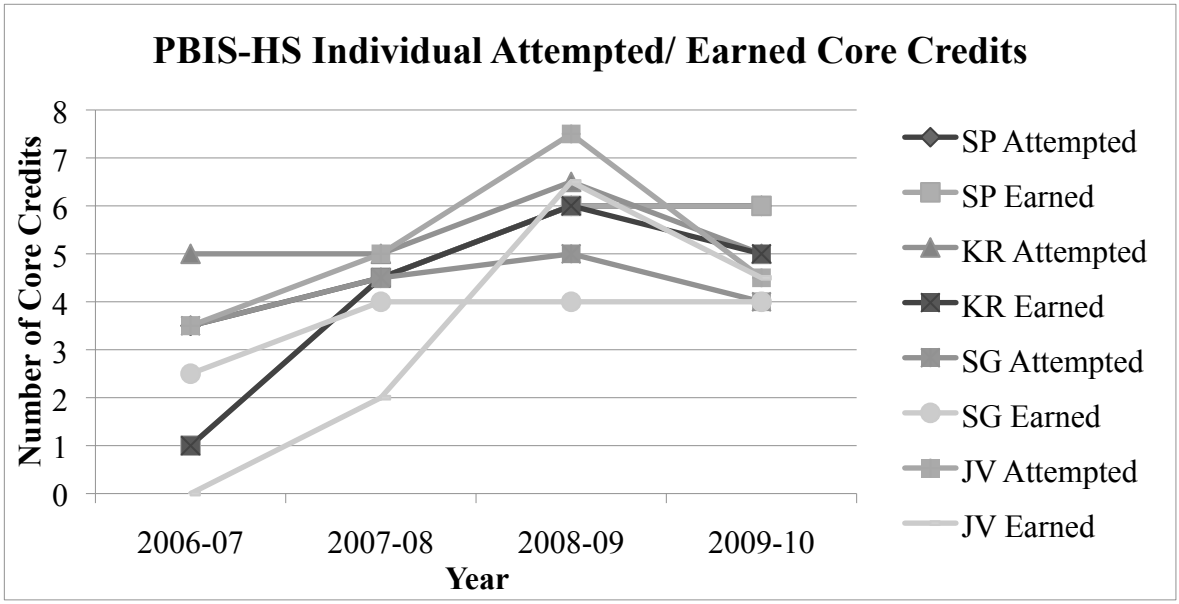

Figure 18. PBIS-HS Individual Attempted / Earned Core Credits, 2006 to 2010

Summary of Individual Student Outcomes

Each data source provided a similar trend that described what the four students experienced at the PBIS-HS during the four years of the study. Before PBIS was

implemented with fidelity, students were inconsistent with their academic achievement, attendance, and social behavior. When PBIS was applied with fidelity, an increasing trend began to show in students' individual data. An example is students' showed more consistent attendance rates and less ODRs, which reflected the PBIS-HS's behavior policies. Additionally, an increase in students' GPAs and earned core credits met the academic expectations of the school.

These four individual students provide evidence and insight into what students experienced when school-wide PBIS was implemented. Such promising descriptive data presents an example of how preventative strategies, found in the PBIS framework, can successfully impact students in an urban, secondary school setting. By evaluating these four students' experiences at the PBIS-HS, researchers and educators can readily learn about the specific behavioral and academic needs that individual students face during their high school career. This insight could guide future implementation, modification, and replication of PBIS applications to unique secondary school settings.

Summary of Results

The case study analysis of PBIS implementation and potential impact on students' outcomes is significant as it provides an example of high school students' social and behavior experiences within a secondary school PBIS framework. The school-wide PBIS implementation measurements indicated a high level of implementation fidelity as the SET assessment criterion of 80% was surpassed in 2008-09 with a 96% and in 2009-10 with a 90% implementation average, and the BoQ assessment criterion of 70% was met in 2009-10. Students' social achievement showed: (a) the number of students dropping out of school improved from 111 students (15.7%) in 2006-07 to 51 students (11.2%) in

2009-10, (b) the number of students attending less than 70% of the time improved from 28 students (4%) in 2006-07 to two students (0.5%) in 200-10, (c) the number of students earning two or more discipline referrals improved from 62 students (8.8%) in 2006 to 2008 to 31 students (7.4%) in 2008 to 10, and (d) the number of students earning one or more suspensions/expulsions improved from 52 students (7%) in 2006-07 to only 18 students (3.4%) in 2009-10. Students' academic achievement illustrated: (a) the number of students earning a 1.90 GPA or below decreased from 235 students (33%) in 2006-07 to only 11 students (2%) in 2009-10, and (b) the number of students earning zero to two credits decreased from 307 students (43%) in 2006-07 to 56 students (12%) in 2009-10. Study results present an ordered time series display that tells the *story* of the application of PBIS as a preventative approach within an urban, high school setting. This initial description provided evidence that implementing PBIS may have promoted academic and social achievement.

CHAPTER VI

DISCUSSION

As they work to prepare students for successful futures, secondary school educators are challenged to prepare students for success in a competitive future by both instructing students so they reach successful academic outcomes and addressing student behavior within a safe learning environment. The primary purpose of my study was to present a secondary school case study that narrated, demonstrated, and documented the impact of a preventative approach, school-wide PBIS, on students' social behavior and academic performance over time. This case study provides evidence related to the impact of a universal, school-wide PBIS intervention model by documenting PBIS implementation and investigating student outcomes. In my study, I have attempted to answer the research question: *What impact does PBIS have on academic performance and discipline outcomes of an intact cohort of students when implemented systematically over a four-year period in an urban high school setting?* The descriptive findings of this study have the potential implications to develop, guide, replicate, and extend current PBIS research literature and practices to include secondary school students' academic and behavior outcomes. Although the generalizability of the findings are limited, the evidence they add supporting the effectiveness of a properly-implemented PBIS model at the high school level is an important contribution to the research literature.

Review of Findings

Challenging conditions in secondary school settings have encouraged educators to begin identifying and implementing effective strategies that promote successful academic

and behavioral outcomes of all students (McCurdy et al., 2007). My study identified and implemented school-wide PBIS as a potential effective strategy. My findings highlight observations of school-wide PBIS implementation practices, as well as patterns of students' social and academic outcomes over a four-year study period. This initial descriptive data expands the collection of existing school-wide PBIS literature, which was reviewed previously, by adding preliminary findings to the limited research on school-wide PBIS applications in secondary school settings.

This case study of PBIS implementation and potential impact on students' outcomes is significant as it provides an example of high school students' social and behavior experiences within a secondary school PBIS framework. The school-wide PBIS implementation measurements indicated a high level of implementation fidelity as the SET assessment criterion of 80% was met in 2008-09 with a 96% and in 2009-10 with a 90% implementation average, and the BoQ assessment criterion of 70% was met in 2009-10. Students' social achievement showed: (a) the drop-out rates improved because number of students dropping out of school decreased from 111 students (15.7%) in 2006-07 to 51 students (11.2%) in 2009-10, (b) attendance rates improved because the number of students attending less than 70% reduced from 28 students (4%) in 2006-07 to two students (0.5%) in 2009-10, (c) discipline improved because the number of students earning two or more discipline referrals shrank from 62 students (8.8%) in 2006 to 2008 to 31 students (7.4%) in 2008 to 2010, and (d) exclusions from school improved because the number of students earning one or more suspensions/expulsions declined from 52 students (7%) in 2006-07 to only 18 students (3.4%) in 2009-10.

Students' academic achievement illustrated: (a) the number of students earning a 1.90 GPA or below decreased from 235 students (33%) in 2006-07 to only 11 students (2%) in 2009-10, and (b) the number of students earning zero to two credits decreased from 307 students (443%) in 2006-07 to 56 students (12%) in 2009-10. The ordered time series display presented in Chapter 4 tells the *story* of the application of PBIS as a preventative approach within an urban, high school setting. This initial descriptive case study provides evidence that implementing PBIS can promote academic and social achievement.

A closer examination of the PBIS-HS Cohort Grauates' data revealed that students, when exposed to PBIS components, improved their overall academic achievement and engagement. The data illustrated: (a) the number of students earning a 1.9 or below decreased from 45 students (24%) in 2006 to 2008 to 32 students (8%) in 2008-09, and zero students in 2009-10; and (b) the number of students with an 80 to 89% attendance rate increased from 83 students (20%) in 2006 to 2008 to 116 students (28%) in 2008 to 2010. These increased students' outcomes (e.g., GPA and attendance rate) provide evidence to support the positive impact of PBIS.

This study's observations and patterns are discussed in the next section as they relate to results to practice.

Interpretation of Implementation Measures

The use of PBIS implementation measures is an essential part of establishing the level of fidelity of a school's application of PBIS. The majority of reviewed research studies (Barrett et al., 2008; Benedict et al., 2007; Bohanon et al., 2006; Bradshaw et al., 2008b; Bradshaw et al, 2009a; Bradshaw et al., 2009b; George & Kincaid, 2008; Horner

et al., 2009; Lassen et al., 2006; Mass-Galloway et al., 2008; Metzler et al., 2001; Muscott et al., 2008; Nakasato, 2000; Neresian et al, 2000; Scott & Barrett, 2004) applied an implementation assessment (e.g., SET and/or BoQ) to measure the level of implementation fidelity and to establish a school-wide PBIS framework in the study setting (see Table 1). Gathering initial baseline and subsequent follow-up data using SET and BoQ allows for further examination of the impact of PBIS on study variables (e.g., student outcomes). Based on the SET and BoQ findings in this study, which are discussed next, the PBIS-HS established a high level of fidelity during the last two years of the study (2008 to 2010).

Schoolwide Evaluation Tool. The annual SET implementation measurements provide insight into the potential impact of PBIS (Horner et al., 2004). High levels of PBIS implementation are evident, with an average score of 80% on all seven SET subscales (Horner et al., 2004). Upon review of the PBIS-HS SET data, the 2007-08 SET reflected poor implementation performance with an average score of 36%. However, the 80% criterion was met in 2008-09 and 2009-10, with each essential feature of PBIS applied effectively. Similar to previously reviewed research literature, a critical examination of these measurements can allow for an investigation of the impact of school-wide PBIS on high school student outcomes, as well as guiding next steps to school-wide PBIS implementation processes.

2007-2008. The baseline 2007-08 SET average was 36%. The SET data revealed that the PBIS-HS had established a consequence system for managing students' behavior violations, but had not established a system for acknowledging and rewarding expectations. Additionally, the SET highlighted the need to define school-wide

expectations and build decision-making procedures for future implementation practices. The findings of the 2007-08 baseline SET data indicated that PBIS was not implemented with fidelity. Instead, the PBIS-HS staff continued to use *get tough* consequences as a method to address students' academic and social issues during the 2007-08 school year.

Accordingly, the SET scores were used to guide future implementation action plans for 2008-09 and 2009-10. Based upon the 2007-2008 SET outcomes, depicted in a graphic format (see Figure 3), the PBIS-HS needed to: (a) establish school-wide systems to define and teach behavioral expectations, (b) create methods for rewarding student behavior, (c) revamp a *get tough* violations system, (d) initiate data monitoring and management processes, and (e) elicit district support for school-wide PBIS sustainability. The development of the school-wide PBIS framework, *PRIDE*, was reflected in improved SET scores for the following two years (2008-09 and 2009-10).

2008-2009. Conclusions from the 2008-09 SET data (96% total average) showed significant efforts to educate and train the PBIS-HS staff in applying the main components of school-wide PBIS with focus and commitment. The 2008-09 SET results indicated that PBIS was implemented with fidelity. The result of this effort during 2008-09 was an established system for defining, teaching, and rewarding behavioral expectations in concert with a revised violations system.

Continued improvement in leadership support and overall decision-making was a focus for the 2009-10 PBIS action plan. The PBIS-HS team created a communication and decision-making protocol, named the *PRIDE* Communication Flowchart (see Appendix C), to use when analyzing student outcome data, and planning for the next level of PBIS

implementation. This protocol formalized school-wide PBIS systems to strengthen and sustain implementation practices.

2009-2010. The PBIS-HS staff continued to implement PBIS components with fidelity, as indicated by a 90% average on the 2009-10 SET results. The 2009-2010 score reflected a 6% drop. The decline in the overall average was a result of decreases in the Reward System, Violations System, and Decision Making subscale scores. Although the 2009-2010 score showed that the PBIS-HS team met challenges by consistently implementing processes to reward or consequence students who were or were not following the school-wide behavioral expectations, those same results also showed the team's efforts to analyze data to guide their decision-making processes was challenging due to the inconsistent availability of student outcome data. This challenge provided a focus for future implementation practices and steps for sustainable actions. Nonetheless, with two years of SET scores that met the 80% criterion for implementation fidelity, it appears that the PBIS-HS was applying PBIS components effectively and efficiently.

SET limitation. The SET is sensitive to implementation changes (Horner et al., 2006). A limitation of the SET scores was that the SET was administered by different people in different years. Two different District PBIS Coaches conducted the baseline SET measure in 2007-08 and the following two SET measurements in 2008-09 and 2009-10. Potential variance between the coaches, their observations, and their opinions may have influenced the SET ratings and thus impacted the findings of implementation fidelity. To increase future interobserver reliability, PBIS coaches should switch between the primary role of conducting and scoring the SET interviews and the secondary role of observing the SET assessment process (Horner et al., 2004). As district leadership

contemplates future action steps, they are advised to follow this recommended SET evaluation protocol to ensure a consistent application of PBIS components. Such a focus on interobserver reliability can promote the development of a predictable learning environment, as consistently measured in future SET administrations.

Benchmarks of Quality. The BoQ assesses the universal, primary tier of school-wide PBIS and must produce a 70% total score to indicate a high level of PBIS implementation fidelity (Algozzine et al., 2010). As a self-assessment measurement completed by the PBIS team and the district coach, the BoQ was used one time in 2009-10 at the PBIS-HS. The initial administration of the BoQ enabled team members to reflect on their school-wide implementation practices, action plans, and PBIS applications during the previous years.

The BoQ provides a more specific measurement of the essential features of school-wide PBIS (Algozzine et al., 2010). Results from the PBIS-HS BoQ illustrated that six of the ten BoQ subscales were implemented with a high level of fidelity because those six subscales had scores of over 70%. The four subscales that did not reach the 70% criterion were: (a) Faculty Commitment, (b) Discipline Procedures, (c) Data Analysis, and (d) Evaluation. Importantly, these four subscales, which were rated the lowest, were dependent upon external stakeholders, such as district administrators. Next steps for PBIS implementation includes external stakeholders in the decision-making that has the potential to promote implementation fidelity, as measured in future BoQ results.

BoQ limitation. As a self-reflective measure, certain BoQ responses may suggest the participants' experiences during the training, implementation, and follow-up processes (Kincaid et al., 2007). Subjective, individual responses may not have

represented the processes and practices the PBIS-HS applied to ensure a high level of fidelity. Rather, responses may have included additional, personal rater biases that limited the BoQ as an implementation measurement. An example is that the PBIS coach or team member may not accurately assess the performance of the rest of the team or school as a result of limited awareness of school-wide implementation processes (Cohen et al., 2007). Future BoQ administrations must account for a potential variance between subjective responses and minimize rater biases by requiring PBIS coaches to review team members' ratings and facilitate discussions regarding discrepancies before reporting a final BoQ score. As a PBIS team becomes more familiar and consistent with the BoQ assessment items and scoring rubric, the BoQ may provide a finer analysis and overall measurement of school-wide PBIS implementation fidelity (Cohen et al., 2007).

Summary of the SET and BoQ

The SET and BoQ were two measures used to document the school-wide PBIS implementation practices at the PBIS-HS during the study. Even though the SET and BoQ did not measure the actual implementation process or define the elements that guide effective implementation practices (George & Kincaid, 2008), both assessments measured the level of school-wide PBIS implementation fidelity. Specifically, the SET outcomes met the 80% criterion in 2008-09 with a 96% score and in 2009-10 with a 90% average implementation score. These SET scores illustrated a high level of implementation fidelity of the seven essential components of the school-wide PBIS framework. The BoQ outcomes met the 70% criterion in six of the ten subscales, indicating a high level of implementation fidelity and a need to improve specific practices of the PBIS application. Both assessments provided the measurement data to evaluate the

level of school-wide PBIS implementation without providing evaluative information on the effectiveness of the PBIS-HS's implementation processes or practices.

Annual school-wide PBIS implementation assessments can highlight the priority for the next phase of PBIS implementation. The SET and BoQ results encouraged the PBIS-HS to apply PBIS components with a high level of fidelity. Similar to findings from the literature review (Barrett et al., 2008; Benedict et al., 2007; Bohanon et al., 2006; Bradshaw et al., 2008b; Bradshaw et al, 2009a; Bradshaw et al., 2009b; George & Kincaid, 2008; Horner et al., 2009; Lassen et al., 2006; Mass-Galloway et al., 2008; Metzler et al., 2001; Muscott et al., 2008; Nakasato, 2000; Neresian et al., 2000; Scott & Barrett, 2004), the SET and BoQ provided useful information regarding the level of PBIS implementation. Upon review, the PBIS team could identify needs for staff training and continued professional development based on specific subscale scores. For example, the 2008-09 BoQ's lowest scoring subscale was Data Analysis, which guided staff leaders to develop improved data systems (e.g., collection, organization, and communication) and to provide additional time for team analysis and discussion.

The SET and BoQ scores also guided the PBIS-HS team to reevaluate school-wide systems, such as the *get tough* policies, in 2006-07. As a result of reviewing the SET Violations System subscale score in 2006-07, the PBIS-HS team developed a preventative consequence system for responding to students' inappropriate behaviors without providing punitive, exclusionary consequences. In total, the implementation assessments provided guidance to the school-based team to sustain the PBIS applications (e.g., Reward Systems) and continue the development of effective school-wide PBIS practices (e.g., Expectations Defined).

One way to expand the evaluation of implementation fidelity would be to include additional assessment tools, such as the Team Inventory Checklist (TIC) (Mass-Galloway et al., 2002; Muscott et al., 2007), in collaboration with the SET and BoQ to measure specific implementation components and supply greater insight into implementation practices. Similar to the SET and BoQ, the TIC provides a percentage implementation score of universal-level, school-wide PBIS practices. In addition, the TIC provides a measurement for school staff to reflect on practical components of PBIS application, such as: (a) establishing commitment, (b) establishing and maintaining a team, (c) performing self-assessment, (d) establishing school-wide expectations, (e) establishing information systems, and (f) building capacity for function-based support (Mass-Galloway et al., 2002). TIC scores, in concert with SET and BoQ scores, have the potential to confirm the integrity of the implementation fidelity and provide a basis for school-wide PBIS planning and application.

Interpretation of Student Outcomes

Once PBIS is established, the focus becomes the degree to which PBIS impacts students' achievement (Bohanon et al., 2009). The PBIS literature review (see Chapter II) highlighted researchers' interest in studying the impact of PBIS on student outcomes. Researchers (Bohanon et al., 2009; George & Kincaid, 2008; Horner et al., 2009; Lassen et al., 2006; Luiselli et al., 2005; McIntosh et al., 2008; 2009; Muscott et al., 2008) have conducted a variety of research studies, employing a variety of research designs at different school levels to examine the impact of a preventative approach, namely PBIS, on specific student social outcomes (e.g., Office Discipline Referrals) and student academic outcomes (e.g., Grade Point Average) (see Table 1). Notably, the majority of

the school-wide PBIS studies showed improvements of behavior with accompanying increases in academic performance in elementary school settings (38%) and middle school settings (16%). The gap in the research literature was in the lack of studies of PBIS at the high school level. There was only one published study examining PBIS in a large, comprehensive high school (Bohanon et al., 2006). Similar to Bohanon et al.'s previous research, my study utilized an ordered time-series study design to analyze the impact of PBIS, once it was established with sufficient fidelity, at the PBIS-HS.

After my findings of a high level of school-wide PBIS implementation fidelity, my study then presented evidence of the impact of school-wide PBIS on students' social behavior and academic performance over a four-year period. A critical review of student outcomes provided a descriptive analysis of the potential impact and topic for future research of school-wide PBIS.

Social Behavior. A key component to secondary school challenges is the need to address student behavior within a safe learning environment. As student enrollment increases (NCES, 2009a) and students' anti-social behavior escalates (Irvin et al., 2004), the need for proactive discipline measures that help create a safe educational climate also increases (Bohanon et al., 2009; McNeely et al., 2002; Sugai & Horner, 2006). PBIS has been identified as a preventative approach that has an impact on students' behavior development by decreasing discipline issues and improving students' social outcomes (Bohanon et al., 2009; George & Kincaid, 2008; Horner et al., 2009; Lassen et al., 2006; Luiselli et al., 2005; McIntosh et al., 2008; Muscott et al., 2008). My study adds to the evidence reported in previous studies by providing additional evidence to support the

assertion that school-wide PBIS can impact positively students' social development in a secondary school setting.

Student enrollment and attendance rate. Addressing students' enrollment and attendance issues remains a critical concern for secondary schools (Bohanon et al., 2009). As a national concern, the status dropout rates of 16- through 24-year olds have been documented from 1980 to 2007 (NCES, 2009). In 1980, the total dropout rate was 14.1%. By 2007, the total rate improved to an 8.7% dropout rate. The decrease of 5.4% over 27 years reflected annual improvements to retain students and continue the focus of prevention-based practices.

The national dropout rate trends are reflected in the PBIS-HS student enrollment data and attendance rate. During the four-year study, enrollment and attendance rate trends consistently improved from 15.7% in 2006-07 to 11.2% in 2009-10. The application of preventative-based PBIS practices aided in a 4.5% improvement by keeping students engaged and attending the PBIS-HS.

Prior to school-wide PBIS implementation at the PBIS-HS, students exhibiting truancy problems were met with *get tough* consequences, which failed to prevent students from skipping school, or even dropping out. The *get tough* policy failed because it used exclusionary consequences, like suspension and expulsion, that likely rewarded student truant behavior with more non-attendance outcomes rather than positively altering their non-attendance behavior. In the four years during which my study took place, the first year, 2006-07, experienced the greatest decrease in enrollment, dropping from 820 students enrolled in September 2006 to 709 students in June 2007, a total loss of 111 students (15.7%) during the first year of the study. Such a decrease in student enrollment

mirrors the initial national trend The 2006-07 enrollment and attendance outcome data may provide evidence that students did not respond to the *get tough* consequences and continued to drop out of school.

However, as students were exposed to the preventative measures of school-wide PBIS systems, the typical non-attending student began to attend school regularly. In 2007-08, the PBIS-HS defined and taught the behavioral expectations that were found in the letters of *PRIDE - Participation, Respect, Integrity, Diversity,* and *Excellence*. When students followed the behavioral expectations, such as showing *Participation* by regularly attending school, they were acknowledged quarterly with *Participation* certificates and were invited to a celebratory breakfast with their peers and the PBIS-HS team members. As students were exposed to such proactive methods, defined in the PBIS-HS school-wide PBIS framework, they began attending school regularly.

During this first year of PBIS implementation in 2007-08, 589 students were enrolled in the PBIS-HS. During the second year (2008-09), 503 students were enrolled at the PBIS-HS. This loss of 86 students (14.6%) is less than the previous year's loss of 111 students (15.7%). Similar trends continued, as only 51 students (11.2%) dropped out of the PBIS-HS between 2008-09 and 2009-10. In addition, students' attendance rates showed similar improvements as students followed the school-wide behavioral expectations for *Excellence.* When *get tough* policies were applied in 2006-07, 28 students (4%) had less than a 70% attendance rate. Once *PRIDE*, their PBIS framework, was established in 2008-09, only two students (0.4%) had less than a 70% attendance rate. Such examples of students response to the PBIS-HS's school-wide PBIS implementation are similar to the findings of Bohanon et al. (2009), George and Kincaid

(2008), and Lassen et al. (2006), which suggest that PBIS improves attendance and reduces dropout behavior with greater efficacy than *get tough* consequences.

ODR and suspensions/expulsions. Students benefit when a school-wide PBIS system is in place in which expected behaviors are taught and rewarded on a regular basis and are integrated into the daily curriculum (Bohanon et al., 2006). Evidence that such benefits occurred in the PBIS-HS include students showing a decrease in earning two or more ODRs and fewer suspensions/expulsions once a school-wide PBIS system was established. For example, in 2006 to 2008, 62 students (8.8%) earned two or more ODRs and received associated exclusionary consequences, such as removal from the classroom. With a school-wide PBIS framework in 2008 to 2010, only 31 students (7.4%) earned two or more ODRs and received more preventative consequences, such as in-class detention. Similar results were found in the suspension/expulsion data as 52 students (7%) earned one or more suspensions/expulsions in 2006-07, and in 2009-10, only 18 students (3.4%) had one or more suspensions/expulsions. As students showed a decrease in problem behaviors, they were acknowledged with buttons that stated, *I've got PRIDE*.

These ODR and suspension/expulsion outcome trends mirror the research literature that shows the impact of PBIS on students' behavioral performance (Bohanon et al., 2009; George & Kincaid, 2008; Horner et al., 2009; Lassen et al., 2006; Luiselli et al., 2005; McIntosh et al., 2008; Muscott et al., 2008). Components of school-wide PBIS supports are designed to increase consistent application of expected behaviors and discipline policies (Bohanon et al., 2006) in an effort to prevent potential student discipline issues.

ODR limitation. A challenge in using ODR data as an indicator of student problem behavior is that ODR data can reflect a variety of influences from the school community. These influences can affect whether the data are a true measurement of changes in students' problematic behaviors or changes in school-wide discipline policies (Lassen et al., 2006). The influences include: (a) staff's tolerance for certain behaviors, (b) teachers' bias towards certain students, (c) administrators' perceptions of the behavior incident, and (d) consistent application of decision-making procedures (Lassen et al., 2006; McIntosh, Campbell, Carter, & Zumbo, 2009; Morrison, Peterson, O'Farrell, & Redding, 2004).

A further complication to the influences impacting ODR data is the change in staff and administration. Newly hired teachers may feel pressure to handle student misbehaviors in the classroom without writing a behavior referral (Morrison et al., 2004). Newly hired administrators may modify decision-making procedures and policies to manage students' misbehaviors (Morrison et al., 2004). As an example, the PBIS-HS experienced changes in administration and teaching staff during the four-year study. Specifically, two new administrators were hired, including a new principal, and 23 new teachers were hired, including four teachers who retired. Such changes in a staff of 176 members have a direct impact in the yearly data trends of this study.

To address the influences on ODR data, school communities must provide professional development opportunities that center on strategies to improve the accuracy of ODRs (McIntosh et al., 2009). An example is that staff training must include standardizing the procedural use of ODRs, operationally defining behaviors, and regularly analyzing ODR data collections. As well, PBIS teams must use alternative data

sources (e.g., student observations, reinforcement collections, and school climate measures) to supplement ODR data (Clonan, McDougal, Clark, & Davison, 2007). The potential for systematically using ODR data (McIntosh et al., 2009) and identifying additional sources of data (Clonan et al., 2007) allows for valid decisions based upon the PBIS data analysis procedures that measure students' problematic behavior and improve the school-wide preventative efforts of PBIS.

Academic Performance. With legal mandates (IDEA, 2004; NCLB, 2001) and academic pressure to earn credits in core academic areas and raise individual grade point averages (NCES, 2005), educators are challenged to expand learning opportunities that enable students to enter into post-secondary college and career options. PBIS offers a continuum of interventions and supports that addresses the legal and academic pressures. School-wide PBIS provides educators with prevention-focused components that support students' academic achievement. My study supports prior research (Bohanon et al., 2009; George & Kincaid, 2008; Horner et al., 2009; Lassen et al., 2006; Luiselli et al., 2005; McIntosh et al., 2008; 2009; Muscott et al., 2008) that suggests that the PBIS framework supports academic achievement (e.g., Grade Point Average) (see Table 1). Similar to the PBIS research literature, this study provides evidence to the impact of school-wide PBIS on students' academic achievement in the PBIS-HS setting.

GPA and course credits. A unique relationship between student behavior and academics exists (McIntosh et al., 2008). Before PBIS was applied, teachers followed *get tough* academic policies that included grading policies that did not allow for students to complete missing work or to turn in work past the due dates. During this time (2006-07),

33% of students experienced academic failure as measured by earning a 1.90 GPA or lower.

When school-wide PBIS components were established in 2007-08, students began to show improvements in their academic outcome measures. During implementation, students were taught to show *PRIDE* in their academic work by following the behavioral expectation to not plagiarize and to give their best effort during major projects and exams. When students showed their *PRIDE* in academics, they were acknowledged by having their name posted in the main hallway of the school and by earning VIP seating at school assemblies and extra-curricular events. When students struggled in classes, they were assigned after-school tutoring with their teacher. The result is that students' academic performance increased from 2006-07, when 235 students (33%) had a 1.90 GPA or lower, to only 11 students (2.4%) who had a 1.90 GPA or lower in 2009-10. Between 2006-07 and 2009-10, ten more students earned a 2.0 to 2.4 GPA and 17 more students earned a 2.5 to 2.9 GPA. Additionally, 307 students (43%) earned zero to two core credits in 2006-07 while only 56 students (12%) earned zero to two core credits in 2009-10, once PBIS was established.

In total, McIntosh et al. (2008) established that students with more ODRs also experience lower GPAs and academic failure. The PBIS-HS students' behavior and academic outcome trends point to the need for preventative interventions that address students' academic skills as a means to prevent problematic discipline issues.

Grade point average limitation. McIntosh et al., (2008) claimed the consistency of the criteria used to grade students might contribute to measurement error. Teachers who teach core classes (e.g., English) may apply different grading criteria and academic

expectations than teachers who teach elective courses (e.g., Auto Mechanics). Overall PBIS-HS staff changes, as mentioned previously, can also influence inconsistent grading criteria as staff implement their different grading practices and philosophies. Such inconsistent grading applications between school staff calls for consistent school-wide policies that support student academic achievement across multiple subject areas.

Summary of Student Outcomes

The findings from my study, as aligned to PBIS research literature, highlight that proactive, preventative school-wide PBIS practices will help create a secondary school learning climate that decreases behavior discipline issues and improves successful academic and social outcomes. By establishing preventative strategies within the high school setting, educators can address the behavioral and academic needs of students in order to improve school completion rates and prepare students for a competitive future.

Study Limitations

Important observations of the study limitations may be of use to researchers, educators, and professionals who are interested in applying research into practice by implementing school-wide PBIS and examining the impact of PBIS on student outcomes. The first limitation of this case study was that the sample of students came from one urban high school in a metropolitan region of the Pacific Northwest. Because of the unique characteristics of the school's size, diverse student population, staff characteristics and turnover, and implementation of school-wide PBIS, the PBIS-HS does not mirror the majority of other high schools in the region or across Oregon. Additionally, the lack of a control school prevents the ability to draw comparison inferences between student outcomes and the impact of PBIS. The study results are in terms of the PBIS-HS's

implementation of PBIS components and unique application of academic and discipline policies.

It is unknown whether my study results would be similar in other secondary school settings. McIntosh et al. (2008) found that that student and district results may not be generalizable to other students, staff and school communities in North America. Additional researchers (Lassen et al., 2006; Luiselli et al., 2002) claimed particular schools and their school-wide behavior policies were limitations in their studies and must be considered when designing a study of school-wide PBIS interventions. Similarly, the single site is a limitation of my study. The result is a need for future replication of this study in schools with differing characteristics to validate the results of the impact of school-wide PBIS on student outcomes.

A second limitation of my study is that extant data, such as previously existing student records, were used to analyze the impact of PBIS on student outcomes. Questions regarding the adherence to consistent data collection processes may present less reliable data than direct observations of the data collection processes during the data collection efforts. McIntosh et al. (2008) claimed the use of extant data requires a higher level of inference and may be less reliable than direct observation. Similarly, Luiselli et al. (2005) qualified their results by noting possible threats to internal validity when recording, collecting, and assessing pre-existing office referral data. Future studies should address this limitation when identifying the study design and data collection processes.

Third, the logistics of implementing a school-wide PBIS system may present a limitation to studying the impact of the intervention. Initial implementation concerns include: (a) developing school-wide intervention policies and procedures, (b) identifying

financial resources, (c) maintaining efficient intervention practices (e.g., acknowledgement systems), and (d) facilitating consistent communication. Bohanon et al. (2006) identified the concern of dealing with logistics of the intervention process, identifying responsible personnel, and establishing routines in a large high school setting. Additionally, Luiselli et al. (2005) noted the financial costs and limited resources as a limitation when developing and sustaining school-wide PBIS practices. Although implementation concerns are most likely common in school communities, future research should take these issues into consideration and prepare possible solutions prior to implementation.

The fourth limitation is the attrition of the sampling frame as indicated in the declining student enrollment data. As students left the PBIS-HS, they were removed from the student cohort. The attrition potentially influenced the improved student behavior outcomes between the applied *get tough* practices in 2006 to 2008 and the PBIS implementation in 2008 to 2010. For example, an improvement in ODR and suspension/expulsion outcomes may not necessarily be an indicator of appropriate student behaviors (Warren et al., 2006) and PBIS practices. Rather, the improved behavior data may be an indicator of students who left the PBIS-HS and were removed from the study sample (McIntosh et al., 2008). The challenge of this limitation is to conduct future studies that track the students who leave the school setting in order to examine the impact of PBIS in reducing the risk factors that impact enrollment, attendance rates, and drop out rates.

Finally, the fifth limitation relates to the technical adequacy of the various implementation measures (SET and BoQ) and student outcome assessments (ODR and

GPA) previously mentioned in this chapter. When assessing PBIS implementation fidelity, the SET is characterized as being sensitive to implementation changes (Horner et al., 2006). However, Horner et al. (2004) cautioned researchers and educators to address inter-observer reliability concerns by following SET evaluation protocols that decrease potential variance between the coaches, their observations, and their opinions. Additionally, the BoQ is described as self-reflective tool that may reflect raters' personal experiences (Kincaid et al., 2007). Kincaid et al. (2007) advise researchers and educators to address rater biases that potentially limit the BoQ by following BoQ administration protocols that minimize raters' subjectivity. Together, the SET and BoQ are comprised of measurement limitations that must be accounted for in future assessments of PBIS implementation fidelity.

When assessing the impact of PBIS on student outcome measurements, ODR data may not be a true indicator of students' problem behavior. Researchers (Lassen et al., 2006; McIntosh, Campbell, Carter, & Zumbo, 2009; Morrison, Peterson, O'Farrell, & Redding, 2004) have cautioned school communities to address the variety of influences (e.g., staff tolerance, teacher bias, and administrator perceptions) that can affect ODR data by providing professional development opportunities that focus on improving the accuracy of ODRs (McIntosh et al., 2009). Alternative data sources can also supplement ODR data to gain a complete understanding of student problem behavior (Clonan et al., 2007).

Additionally, GPA data may not be a true indicator of students' academic performance. McIntosh et al. (2008) advised researchers and educators to consider the grading variation between core subject and elective subject teachers, who may apply

inconsistent criteria and academic expectations. Collectively, ODR and GPA have the potential to represent inconsistent measurement practices that must be addressed in future analysis of the impact of school-wide PBIS on student outcome data.

Summary of Limitations

Given these limitations and the results from other studies in which school-wide PBIS was examined, a number of important observations and implications may guide educators, researchers, and professionals interested in examining the impact of PBIS on students' behavior and academic performance in a secondary school setting. First, educators must be aware of the limitations of implementing PBIS in a unique urban, secondary school setting. Educators must identify potential strategies to address and resolve these limitations without affecting the implementation process. Second, interested professionals must apply consistent data collection methods to analyze appropriately selected student outcome sources that reflect the impact of PBIS. And third, researchers must be knowledgeable about the challenging logistics of implementing and measuring PBIS applications. Lessons learned from these limitations can help reframe the process used to implement school-wide PBIS and effectively measure its impact on student outcomes in secondary school settings.

Future Research

My study documented descriptions and successful processes of PBIS implementation as well as insight into the impact of PBIS on student outcomes in a secondary school setting. However, a number of issues warrant increased attention for future research proposals. Sugai et al. (2009) claimed the successful contribution of school-wide PBIS included: (a) focusing on the whole school community; (b)

emphasizing multiple tiers of support, which are delivered early and associated to students' needs; (c) tying educational practices to the organizational system of PBIS; and (d) actively using data for decision-making and sustainability of PBIS applications.

Additional school-wide PBIS research must be conducted at the secondary school level. Although PBIS has been implemented in a number of elementary schools, greater attention must be given to the void in the PBIS research literature by addressing effective and efficient implementation practices of PBIS in secondary school settings (Bohanon et al., 2009). As noted in the research literature and the study itself, unique characteristics of high school settings, especially urban settings, must be taken into consideration. Additional research must focus on a variety of strategies to modify PBIS processes and accommodate the unique needs and culture of high school communities (McIntosh et al., 2008). With a better understanding of how PBIS can be applied as a preventative approach, high school communities can enhance and support students' behavioral and academic experiences in preparation for successful postsecondary options and careers.

A second proposal for future research is evaluating the multiple tiers of the continuum of PBIS to address school-wide issues as well as individual, *at-risk* students' issues. This study only focused on the universal, primary tier of prevention, which is the first tier of a comprehensive PBIS framework (see Figure 1). The secondary and tertiary tiers of support incorporate the individualized behavior assessments, person-centered support plans, and a multitude of prevention resources that are necessary for implementing successful, sustainable PBIS components. Future research would be strengthened by analyzing all tiers of a comprehensive PBIS continuum in relation to promoting successful student outcomes for *all* students.

A key issue to future research is the successful implementation of PBIS and measured impact on student outcomes through the active use of data for decision-making and sustainability of PBIS applications. This issue warrants a great amount of attention from researchers, educators, and professionals who are interested in exploring effective procedures for using data to inform education-based decisions. As mentioned in the study and research literature, secondary schools are challenged with a multitude of data collection systems. With more research, data collections systems and methods may be refined and utilized more effectively to inform future decisions, practices, and procedures for including proactive preventative methods.

Future research studies may provide both documentation of a valued effect of PBIS and demonstration of a rigorous and promising foundation of evidence. With an increase in research at the secondary school level, researchers and educators can begin to better prepare students for a competitive future and promote successful academic and behavior outcomes for *all* students. Documented evidence of PBIS as a preventative, research-based approach has the potential to develop, guide, replicate, and extend current PBIS practices to secondary school settings.

Conclusions

Educators are responsible for helping students develop skills in academic and behavior areas and for creating safe environments that promote these outcomes. Achieving these outcomes has become increasingly difficult due to disruptive, anti-social student behavior. Proactive educators have identified Positive Behavioral Interventions and Supports (PBIS) as an evidence-based approach, integrating a continuum of interventions that can provide benefit for students, schools, and educational communities.

Evidence from this study broadens the scope of research by examining the impact of PBIS on school-wide discipline outcomes and student academic performance in a secondary school setting. This study provides a case study example of the implementation of PBIS with fidelity and the preliminary evaluation of the impact of PBIS on students' behavioral and academic outcomes. Documented evidence of students' academic and behavior outcomes has the potential to develop, guide, replicate and extend current PBIS practices to secondary school settings and prepare students for successful postsecondary education and careers within a competitive future.

APPENDIX A

SCHOOLWIDE EVALUATION TOOL

School-wide Evaluation Tool
(SET)

Overview

Purpose of the SET

The School-wide Evaluation Tool (SET) is designed to assess and evaluate the critical features of school-wide effective behavior support across each academic school year**.** The SET results are used to:

1. assess features that are in place,
2. determine annual goals for school-wide effective behavior support,
3. evaluate on-going efforts toward school-wide behavior support,
4. design and revise procedures as needed, and
5. compare efforts toward school-wide effective behavior support from year to year.

Information necessary for this assessment tool is gathered through multiple sources including review of permanent products, observations, and staff (minimum of 10) and student (minimum of 15) interviews or surveys. There are multiple steps for gathering all of the necessary information. The first step is to identify someone at the school as the contact person. This person will be asked to collect each of the available products listed below and to identify a time for the SET data collector to preview the products and set up observations and interview/survey opportunities. Once the process for collecting the necessary data is established, reviewing the data and scoring the SET averages takes two to three hours.

Products to Collect

1. _____	Discipline handbook
2. _____	School improvement plan goals
3. _____	Annual Action Plan for meeting school-wide behavior support goals
4. _____	Social skills instructional materials/ implementation time line
5. _____	Behavioral incident summaries or reports (e.g., office referrals, suspensions, expulsions)
6. _____	Office discipline referral form(s)
7. _____	Other related information

Using SET Results

The results of the SET will provide schools with a measure of the proportion of features that are 1) not targeted or started, 2) in the planning phase, and 3) in the implementation/ maintenance phases of development toward a systems approach to school-wide effective behavior support. The SET is designed to provide trend lines of improvement and sustainability over time.

School-wide Evaluation Tool
(SET)
Implementation Guide

School _____ **Date** _____

District _____ **State** _____

Step 1: Make Initial Contact

A. Identify school contact person & give overview of SET page with the list of products needed.
B. Ask when they may be able to have the products gathered. Approximate date: _____
C. Get names, phone #'s, email address & record below.

Name_____ Phone_____

Email_____

Products to Collect

1. _____ Discipline handbook
2. _____ School improvement plan goals
3. _____ Annual Action Plan for meeting school-wide behavior support goals
4. _____ Social skills instructional materials/ implementation time line
5. _____ Behavioral incident summaries or reports (e.g., office referrals, suspensions, expulsions)
6. _____ Office discipline referral form(s)
7. _____ Other related information

Step 2: Confirm the Date to Conduct the SET

A. Confirm meeting date with the contact person for conducting an administrator interview, taking a tour of the school while conducting student & staff interviews, & for reviewing the products.
Meeting date & time: _____

Step 3: Conduct the SET

A. Conduct administrator interview.
B. Tour school to conduct observations of posted school rules & randomly selected staff (minimum of 10) and student (minimum of 15) interviews.
C. Review products & score SET.

Step 4: Summarize and Report the Results

A. Summarize surveys & complete SET scoring.
B. Update school graph.
C. Meet with team to review results.
Meeting date & time: _____

School-wide Evaluation Tool
(SET)
Scoring Guide

School _____ **Date** _____

District _____ **State** _____

Pre _____ **Post** _____ **SET data collector** _____

Feature	Evaluation Question	Data Source (circle sources used) P= product; I= interview; O= observation	Score: 0-2
A. Expectations Defined	1. Is there documentation that staff has agreed to 5 or fewer positively stated school rules/ behavioral expectations? (0=no; 1= too many/negatively focused; 2 = yes)	Discipline handbook, Instructional materials Other _____ **P**	
	2. Are the agreed upon rules & expectations publicly posted in 8 of 10 locations? (See interview & observation form for selection of locations). (0= 0-4; 1= 5-7; 2= 8-10)	Wall posters Other _____ **O**	
B. Behavioral Expectations Taught	1. Is there a documented system for teaching behavioral expectations to students on an annual basis? (0= no; 1 = states that teaching will occur; 2= yes)	Lesson plan books, Instructional materials Other _____ **P**	
	2. Do 90% of the staff asked state that teaching of behavioral expectations to students has occurred this year? (0= 0-50%; 1= 51-89%; 2=90%-100%)	Interviews Other _____ **I**	
	3. Do 90% of team members asked state that the school-wide program has been taught/reviewed with staff on an annual basis? (0= 0-50%; 1= 51-89%; 2=90%-100%)	Interviews Other _____ **I**	
	4. Can at least 70% of 15 or more students state 67% of the school rules? (0= 0-50%; 1= 51-69%; 2= 70-100%)	Interviews Other _____ **I**	
	5. Can 90% or more of the staff asked list 67% of the school rules? (0= 0-50%; 1= 51-89%; 2=90%-100%)	Interviews Other _____ **I**	
C. On-going System for Rewarding Behavioral Expectations	1. Is there a documented system for rewarding student behavior? (0= no; 1= states to acknowledge, but not how; 2= yes)	Instructional materials, Lesson Plans, Interviews Other _____ **P**	
	2. Do 50% or more students asked indicate they have received a reward (other than verbal praise) for expected behaviors over the past two months? (0= 0-25%; 1= 26-49%; 2= 50-100%)	Interviews Other _____ **I**	
	3. Do 90% of staff asked indicate they have delivered a reward (other than verbal praise) to students for expected behavior over the past two months? (0= 0-50%; 1= 51-89%; 2= 90-100%)	Interviews Other _____ **I**	
D. System for Responding to Behavioral Violations	1. Is there a documented system for dealing with and reporting specific behavioral violations? (0= no; 1= states to document; but not how; 2 = yes)	Discipline handbook, Instructional materials Other _____ **P**	
	2. Do 90% of staff asked agree with administration on what problems are office-managed and what problems are classroom–managed? (0= 0-50%; 1= 51-89%; 2= 90-100%)	Interviews Other _____ **I**	
	3. Is the documented crisis plan for responding to extreme dangerous situations posted in 6 of 7 locations? (0= 0-3; 1= 4-5; 2= 6-7)	Walls Other _____ **O**	
	4. Do 90% of staff asked agree with administration on the procedure for handling extreme emergencies (stranger in building with a weapon)? (0= 0-50%; 1= 51-89%; 2= 90-100%)	Interviews Other _____ **I**	

Feature	Evaluation Question	Data Source (circle sources used) P= product; I= interview; O= observation	Score: 0-2
E. Monitoring & Decision-Making	1. Does the discipline referral form list (a) student/grade, (b) date, (c) time, (d) referring staff, (e) problem behavior, (f) location, (g) persons involved, (h) probable motivation, & (i) administrative decision? (0=0-3 items; 1= 4-6 items; 2= 7-9 items)	Referral form (circle items present on the referral form) **P**	
	2. Can the administrator clearly define a system for collecting & summarizing discipline referrals (computer software, data entry time)? (0=no; 1= referrals are collected; 2= yes)	Interview Other _____ **I**	
	3. Does the administrator report that the team provides discipline data summary reports to the staff at least three times/year? (0= no; 1= 1-2 times/yr.; 2= 3 or more times/yr)	Interview Other _____ **I**	
	4. Do 90% of team members asked report that discipline data is used for making decisions in designing, implementing, and revising school-wide effective behavior support efforts? (0= 0-50%; 1= 51-89%; 2= 90-100%)	Interviews Other _____ **I**	
F. Management	1. Does the school improvement plan list improving behavior support systems as one of the top 3 school improvement plan goals? (0= no; 1= 4th or lower priority; 2 = 1st- 3rd priority)	School Improvement Plan, **P** Interview Other _____ **I**	
	2. Can 90% of staff asked report that there is a school-wide team established to address behavior support systems in the school? (0= 0-50%; 1= 51-89%; 2= 90-100%)	Interviews Other _____ **I**	
	3. Does the administrator report that team membership includes representation of all staff? (0= no; 2= yes)	Interview Other _____ **I**	
	4. Can 90% of team members asked identify the team leader? (0= 0-50%; 1= 51-89%; 2= 90-100%)	Interviews Other _____ **I**	
	5. Is the administrator an active member of the school-wide behavior support team? (0= no; 1= yes, but not consistently; 2 = yes)	Interview Other _____ **I**	
	6. Does the administrator report that team meetings occur at least monthly? (0=no team meeting; 1=less often than monthly; 2= at least monthly)	Interview Other _____ **I**	
	7. Does the administrator report that the team reports progress to the staff at least four times per year? (0=no; 1= less than 4 times per year; 2= yes)	Interview Other _____ **I**	
	8. Does the team have an action plan with specific goals that is less than one year old? (0=no; 2=yes)	Annual Plan, calendar Other _____ **P**	
G. District-Level Support	1. Does the school budget contain an allocated amount of money for building and maintaining school-wide behavioral support? (0= no; 2= yes)	Interview Other _____ **I**	
	2. Can the administrator identify an out-of-school liaison in the district or state? (0= no; 2=yes)	Interview Other _____ **I**	

Summary Scores:					
	A = /4	B = /10	C = /6	D = /8	E = /8
	F = /16	G = /4	Mean = /7		

Administrator Interview Guide

Let's talk about your discipline system

1) Do you collect and summarize office discipline referral information? Yes No If no, skip to #4.
2) What system do you use for collecting and summarizing office discipline referrals? (E2)
   a) What data do you collect? _____
   b) Who collects and enters the data? _____
3) What do you do with the office discipline referral information? (E2)
   a) Who looks at the data? _____
   b) How often do you share it with other staff? _____
4) What type of problems do you expect teachers to refer to the office rather than handling in the classroom/ specific setting? (D2)

5) What is the procedure for handling extreme emergencies in the building (i.e. stranger with a gun)? (D4)

Let's talk about your school rules or motto

6) Do you have school rules or a motto? Yes No If no, skip to # 10.
7) How many are there? _____
8) What are the rules/motto? (B4, B5)

9) What are they called? (B4, B5)

10) Do you acknowledge students for doing well socially? Yes No If no, skip to # 12.

11) What are the social acknowledgements/ activities/ routines called (student of month, positive referral, letter home, stickers, high 5's)? (C2, C3)

Do you have a team that addresses school-wide discipline? If no, skip to # 19

12) Has the team taught/reviewed the school-wide program with staff this year? (B3) Yes No
13) Is your school-wide team representative of your school staff? (F3) Yes No
14) Are you on the team? (F5) Yes No
15) How often does the team meet? (F6) _____
16) Do you attend team meetings consistently? (F5) Yes No
17) Who is your team leader/facilitator? (F4) _____
18) Does the team provide updates to faculty on activities & data summaries? (E3, F7) Yes No
    If yes, how often? _____
19) Do you have an out-of-school liaison in the state or district to support you on positive behavior support systems development? (G2) Yes No
    If yes, who? _____
20) What are your top 3 school improvement goals? (F1)

21) Does the school budget contain an allocated amount of money for building and maintaining school-wide behavioral support? (G1) Yes No

Additional Interviews

In addition to the administrator interview questions there are questions for Behavior Support Team members, staff and students. ***Interviews can be completed during the school tour.*** Randomly select students and staff as you walk through the school. Use this page as a reference for all other interview questions. Use the interview and observation form to record student, staff, and team member responses.

Staff Interview Questions
Interview a minimum of 10 staff

1) What are the _____ (school rules, high 5's, 3 bee's)? (B5)
   (Define what the acronym means)

2) Have you taught the school rules/behavioral expectations this year? (B2)

3) Have you given out any _____ since _____? (C3)
   (rewards for appropriate behavior) (2 months ago)

4) What types of student problems do you or would you refer to the office? (D2)

5) What is the procedure for dealing with a stranger with a gun? (D4)

6) Is there a school-wide team that addresses behavioral support in your building?

7) Are you on the team?

Team Member Interview Questions

1) Does your team use discipline data to make decisions? (E4)

2) Has your team taught/reviewed the school-wide program with staff this year? (B3)

3) Who is the team leader/facilitator? (F4)

Student interview Questions
Interview a minimum of 15 students

1) What are the _____ (school rules, high 5's, 3 bee's)? (B4)
   (Define what the acronym means.)

2) Have you received a _____ since _____? (C2)
   (reward for appropriate behavior) (2 months ago)

Interview and Observation Form

	Staff questions (Interview a minimum of 10 staff members)							Team member questions			Student questions	
	What are the school rules? Record the # of rules known.	*Have you taught the school rules/ behave. exp. to students this year?*	*Have you given out any _____ since _____?* (2 mos.)	*What types of student problems do you or would you refer to the office?*	*What is the procedure for dealing with a stranger with a gun?*	*Is there a team in your school to address school-wide behavior support systems?*	*Are you on the team? If yes, ask team questions*	*Does your team use discipline data to make decisions?*	*Has your team taught/ reviewed SW program w/staff this year?*	*Who is the team leader/ facilitator?*	*What are the (school rules)?* Record the # of rules known	*Have you received a _____ since _____?*
1		Y N	Y N			Y N	Y N	Y N	Y N		1	Y N
2		Y N	Y N			Y N	Y N	Y N	Y N		2	Y N
3		Y N	Y N			Y N	Y N	Y N	Y N		3	Y N
4		Y N	Y N			Y N	Y N	Y N	Y N		4	Y N
5		Y N	Y N			Y N	Y N	Y N	Y N		5	Y N
6		Y N	Y N			Y N	Y N	Y N	Y N		6	Y N
7		Y N	Y N			Y N	Y N	Y N	Y N		7	Y N
8		Y N	Y N			Y N	Y N	Y N	Y N		8	Y N
9		Y N	Y N			Y N	Y N	Y N	Y N		9	Y N
10		Y N	Y N			Y N	Y N	Y N	Y N		10	Y N
11		Y N	Y N			Y N	Y N	Y N	Y N		11	Y N
12		Y N	Y N			Y N	Y N	Y N	Y N		12	Y N
13		Y N	Y N			Y N	Y N	Y N	Y N		13	Y N
14		Y N	Y N			Y N	Y N	Y N	Y N		14	Y N
15		Y N	Y N			Y N	Y N	Y N	Y N		15	Y N
Total							X				Total	

Location	Front hall/ office	Class 1	Class 2	Class 3	Cafeteria	Library	Other setting (gym, lab)	Hall 1	Hall 2	Hall 3
Are rules & expectations posted?	Y N	Y N	Y N	Y N	Y N	Y N	Y N	Y N	Y N	Y N
Is the documented crisis plan posted?	Y N	Y N	Y N	Y N	Y N	Y N	Y N	X	X	X

School-wide Evaluation Tool version 2.0, November 2001

Educational and Community Supports
University of Oregon

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Revised 09-15-03 DP

APPENDIX B

BENCHMARKS OF QUALITY

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

When & Why

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

Procedures for Completing

Step 1 - Coaches Scoring

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

Step 2 - Team Member Rating

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

Step 3 – Team Report

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

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

Step 4 - Reporting Back to Team

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

Step 5 – Reporting

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

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

BENCHMARKS OF QUALITY (Revised) SCORING GUIDE

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

Kincaid, D., Childs, K., & George, H. (March, 2010).
School-wide Benchmarks of Quality (Revised). Unpublished instrument. USF, Tampa, Florida. 2

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

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

Kincaid, D., Childs, K., & George, H. (March, 2010).
School-wide Benchmarks of Quality (Revised). Unpublished instrument. USF, Tampa, Florida. 4

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

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

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

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

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

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

Benchmark	3 points	2 points	1 point	0 points
42. Classroom rules are defined for each of the school-wide expectations and are posted in classrooms		Evident in most classrooms (>75% of classrooms)	Evident in many classrooms (50-75% of classrooms)	Evident in only a few classrooms (less than 50% of classrooms)
43. Classroom routines and procedures are explicitly identified for activities where problems often occur (e.g. entering class, asking questions, sharpening pencil, using restroom, dismissal)		Evident in most classrooms (>75% of classrooms)	Evident in many classrooms (50-75% of classrooms)	Evident in only a few classrooms (less than 50% of classrooms)
44. Expected behavior routines in classroom are taught		Evident in most classrooms (>75% of classrooms)	Evident in many classrooms (50-75% of classrooms)	Evident in only a few classrooms (less than 50% of classrooms)
45. Classroom teachers use immediate and specific praise		Evident in most classrooms (>75% of classrooms)	Evident in many classrooms (50-75% of classrooms)	Evident in only a few classrooms (less than 50% of classrooms)

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

Benchmark	3 points	2 points	1 point	0 points
50. Students and staff can identify expectations and rules		**Almost all** students and staff can identify the school-wide expectations and rules for specific settings. (can be identified through surveys, random interviews, etc…) at least 90%	**Many** students and staff can identify the school-wide expectations and rules for specific settings. at least 50%	**Few** of students and staff can identify the expectations and rules for specific settings OR Evaluations are not conducted less than 50%
51. Staff use referral process (including which behaviors are office managed vs. which are teacher managed) and forms appropriately	Almost all staff know the procedures for responding to inappropriate behavior, use forms as intended and fill them out correctly. (can be identified by reviewing completed forms, staff surveys, etc…) at least 90% know/use	Many of the staff know the procedures for responding to inappropriate behavior, use forms as intended and fill them out correctly. at least 75% know/use	Some of the staff know the procedures for responding to inappropriate behavior, use forms as intended and fill them out correctly. at least 50% know/use	Few staff know the procedures for responding to inappropriate behavior, use forms as intended and fill them out correctly OR Evaluations are not conducted. less than 50% know/use
52. Staff use reward system appropriately	Almost all staff understand identified guidelines for the reward system and are using the reward system appropriately. (can be identified by reviewing reward token distribution, surveys, etc…) at least 90% understand/use	Many of the staff understand identified guidelines for the reward system and are using the reward system appropriately. at least 75% understand/use	Some of the staff understand identified guidelines for the reward system and are using the reward system appropriately. at least 50% understand/use	Few staff understand and use identified guidelines for the reward system OR Evaluations are not conducted at least yearly or do not assess staff knowledge and use of the reward system. less than 50% understand/use
53. Outcomes (behavior problems, attendance, and morale) are documented and used to evaluate PBS plan	There is a plan for collecting data to evaluate PBS outcomes, **most** data are collected as scheduled, and data are used to evaluate PBS plan.	There is a plan for collecting data to evaluate PBS outcomes, **some** of the scheduled data have been collected, and data are used to evaluate PBS plan.	There is a plan for collecting data to evaluate PBS outcomes; however nothing has been collected to date.	There is no plan for collecting data to evaluate PBS outcomes.

Kincaid, D., Childs, K., & George, H. (March, 2010).
School-wide Benchmarks of Quality (Revised). Unpublished instrument. USF, Tampa, Florida. 12

School-wide Benchmarks of Quality (Revised)

TEAM MEMBER RATING FORM

Directions: Place a check in the box that most accurately describes your progress on each benchmark.

Critical Elements	Benchmarks of Quality	Check One: In Place (++)	Needs Improvement (+)	Not In Place (-)
PBS Team	1. Team has administrative support			
	2. Team has regular meetings (at least monthly)			
	3. Team has established a clear mission/purpose			
Faculty Commitment	4. Faculty are aware of behavior problems across campus through regular data sharing			
	5. Faculty involved in establishing and reviewing goals			
	6. Faculty feedback is obtained throughout the year			
Effective Procedures for Dealing with Discipline	7. Discipline process described in narrative format or depicted in graphic format			
	8. Discipline process includes documentation procedures			
	9. Discipline referral form includes information useful in decision making			
	10. Problem behaviors are defined			
	11. Major/minor behaviors are clearly differentiated			
	12. Suggested array of appropriate responses to major (office-managed) problem behaviors			
Data Entry & Analysis Plan Established	13. Data system is used to collect and analyze ODR data			
	14. Additional data are collected (attendance, grades, faculty attendance, surveys) and used by SWPBS team			
	15. Data analyzed by team at least monthly			
	16. Data shared with team and faculty monthly (minimum)			
Expectations & Rules Developed	17. 3-5 positively stated school-wide expectations are posted around school			
	18. Expectations apply to both students and staff			
	19. Rules are developed and posted for specific settings (settings where data suggest rules are needed)			
	20. Rules are linked to expectations			
	21. Staff are involved in development of expectations and rules			
Reward/ Recognition Program Established	22. A system of rewards has elements that are implemented consistently across campus			
	23. A variety of methods are used to reward students			
	24. Rewards are linked to expectations and rules			
	25. Rewards are varied to maintain student interest			
	26. Ratios of acknowledgement to corrections are high			
	27. Students are involved in identifying/developing incentives			
	28. The system includes incentives for staff/faculty			

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

Critical Elements	Benchmarks of Quality (Revised)	In Place (++)	Needs Improvement (+)	Not In Place (-)
Lesson Plans for Teaching Expectations/ Rules	29. A behavioral curriculum includes teaching expectations and rules			
	30. Lessons include examples and non-examples			
	31. Lessons use a variety of teaching strategies			
	32. Lessons are embedded into subject area curriculum			
	33. Faculty/staff and students are involved in development & delivery of behavioral curriculum			
	34. Strategies to share key features of SWPBS program with families/community are developed and implemented			
Implemen-tation Plan	35. A curriculum to teach the components of the discipline system to all staff is developed and used			
	36. Plans for training staff how to teach expectations/rules/rewards are developed, scheduled and delivered			
	37. A plan for teaching students expectations/rules/rewards is developed scheduled and delivered			
	38. Booster sessions for students and staff are planned, scheduled, and delivered			
	39. Schedule for rewards/incentives for the year is planned			
	40. Plans for orienting incoming staff and students are developed and implemented			
	41. Plans for involving families/community are developed & implemented			
Classroom Systems	42. Classroom rules are defined for each of the school-wide expectations and are posted in classrooms.			
	43. Classroom routines and procedures are explicitly identified for activities where problems often occur (e.g. entering class, asking questions, sharpening pencil, using restroom, dismissal)			
	44. Expected behavior routines in classroom are taught			
	45. Classroom teachers use immediate and specific praise			
	46. Acknowledgement of students demonstrating adherence to classroom rules and routines occurs more frequently than acknowledgement of inappropriate behaviors			
	47. Procedures exist for tracking classroom behavior problems			
	48. Classrooms have a range of consequences/interventions for problem behavior that are documented and consistently delivered			
Evaluation	49. Students and staff are surveyed about PBS			
	50. Students and staff can identify expectations and rules			
	51. Staff use referral process (including which behaviors are office managed vs. teacher managed) and forms appropriately			
	52. Staff use reward system appropriately			
	53. Outcomes (behavior problems, attendance, morale) are documented and used to evaluate PBS plan			

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

School Name: _____ District: _____

Coach's Name: _____ Date: _____

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

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

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

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

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

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

Total pts. / 107

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

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

Benchmarks of Quality TEAM SUMMARY

School_____ Date_____ Benchmarks Score_____

Areas of Discrepancy

Item #	Team Response	Coach's Score	Scoring Guide Description

*If a team discussion of an area of discrepancy reveals information that was previously unknown to the coach and would justify a different score on any item (based upon the Scoring Guide), adjust the benchmark item(s) and total scores.

Areas of Strength

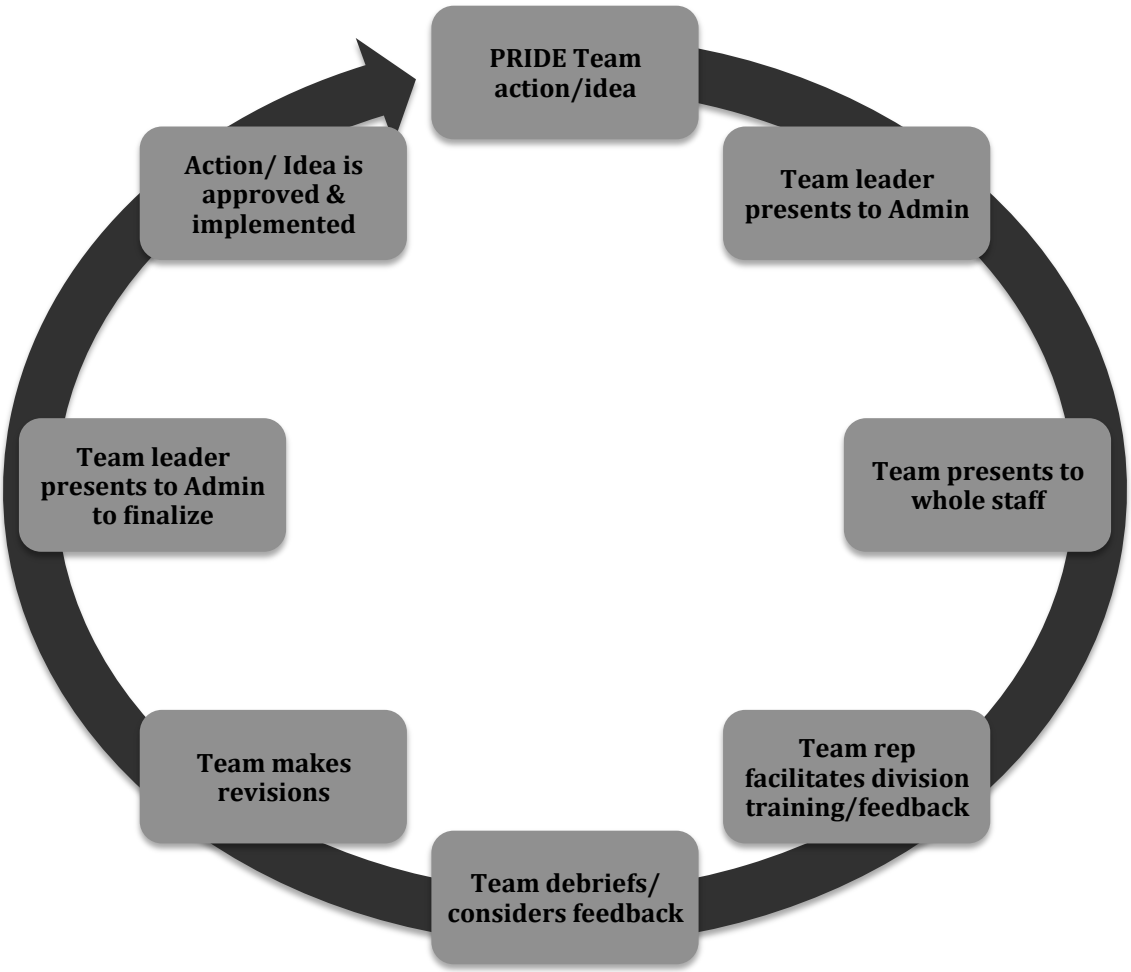
Critical Element	Description of Areas of Strength

Areas in Need of Development

Critical Element	Description of Areas in Need of Development

APPENDIX C

PRIDE COMMUNICATION FLOWCHART


PRIDE Team action/idea
Team leader presents to Admin
Team presents to whole staff
Team rep facilitates division training/feedback
Team debriefs/ considers feedback
Team makes revisions
Team leader presents to Admin to finalize
Action/ Idea is approved & implemented

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