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The Use of School-Wide Positive Behavior Support at a Rural High School to Decrease Disruptive Behavior for Both Typical Students and Students Identified with Special Needs.

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The Use of School-Wide Positive Behavior Support at a Rural High School to Decrease

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by

Leia Dowdy Blevins

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ABSTRACT

The Use of School-Wide Positive Behavior Support at a Rural High School to Decrease

Disruptive Behavior for Both Typical Students and Students Identified With Special Needs

by

Leia Dowdy Blevins

There is ever-increasing pressure on school officials to provide a safe school environment that is conducive to learning. There is also a growing concern from teachers and administrators that many students are unrecognized for their continual appropriate behavior(s), in part, because of the attention consumed by both challenging students and students with exceptional talents and abilities. In response, a School-Wide Positive Behavior Support (SWPBS) approach is growing in popularity to address both of these issues. SWPBS is implemented across an entire school population and involves all individuals whether they are challenging, exceptional, or typical. The initial research shows encouraging results and supports the effectiveness of a School-Wide Positive Behavior Support program. This study focused on the development, implementation, and results of a SWPBS program at a rural high school. Data collected included office daily referrals, suspensions, expulsions, attendance, and the number of reinforcers (Mo-Bucks) distributed by staff. Outcome data indicated that compared to the year prior to the SWPBS program's implementation, there was a reduction in office daily referrals, a reduction in expulsions, and an increase in attendance. The results of this 3-year study supported the effectiveness of SWPBS as an intervention for reducing disruptive behaviors at the high school level for typical students as well as for students with special needs.

DEDICATION

This study is dedicated to my family and friends whose support and encouragement has given me the strength and time to achieve my goals. To my husband, Philip, for taking up the slack while I spent time in class studying, completing assignments, and completing this dissertation and for the many hours he spent editing my papers and providing feedback. To my mom and dad, for being wonderful and supportive parents and to my sons, Tyler and Tanner, the lights of my life.

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CHAPTER 1

INTRODUCTION

Discipline… behavior… these words often can elicit feelings of anxiety in the minds of parents, teachers, and administrators. "Teachers increasingly are faced with discipline problems that not only may endanger other students, the teacher, and the student him or herself, but also disrupt the learning of all students" (Anderson & Kincaid, 2005, p. 49). In response, as with all timely issues, a plethora of infomercials have appeared offering quick fixes for "controlling" and "managing" behavior. Books, CDs, and self-help programs have claimed to provide "magical" techniques or remedies for managing difficult behavior. Multitudes of Internet sites promising to "eliminate disruptive behavior in your classroom forever by following five simple steps" are just a mouse-click away; among these are *Dr. Mac's Amazing Behavior Management Advice Site* (McIntyre, 2007*), The Total Transformation Program* (Legacy Parenting Company, 2007*),* and *The Attitude Box* (Performance Marketing Resources, 2007).

Radio stations across the country have advertised claims from well-known behavioral therapists like James Lehman (Legacy Parenting Company, 2007*)* who promise to transform difficult children in just minutes a day. There are also workshops addressing student discipline or related topics that might be found in the professional programs of organizations such as the Council for Exceptional Children (1997-2004), Association for Behavior Analysis (2007), and Association for Positive Behavior Support (2007). Unfortunately, even with this readily available and creatively packaged information, "Problem behaviors such as aggression, defiance, truancy, property destruction, disruption, and self-injury remain a major challenge in schools and a dramatic barrier to academic achievement" (Horner, Sugai, & Vincent, 2005, p. 4). As Akin-Little and Little (2004) stated, "Emotional and behavioral problems of students in the classroom have been rated as a major concern for teachers, administrators, and the public" (p. 323).

Many valuable learning opportunities have been lost because of disruptive behaviors that resulted in a continuum of disciplinary actions. Anderson and Kincaid (2005) found, "Four in 10 teachers reported that they spend more time managing disruptive behavior than they do teaching" (p. 49). Walker, Ramsey, and Gresham (2004) reported, "In a poll of American Federation of Teachers (AFT), 17% said they lost 4 or more hours of teaching time per week due to disruptive student behavior; another 19% said they lost two or three hours" (¶ 2). When time is spent addressing disruptive behavior in the classroom, the result is a reduction in valuable instruction time. Therefore, "Without effective behavior management a positive and productive classroom environment is impossible to achieve" (Akin-Little & Little, 2004, p. 323).

Disruptive behavior is often associated with larger urban school environments, however, disruptive behavior is not characteristic of just large urban school districts but of all schools. Skiba and Peterson (2000) pointed out, "No longer can small rural districts assume that violence is an inner-city issue and that they are immune from problems of school disruption or violence" (p. 355). Increases in aggressive and delinquent behavior have reached critical proportions in schools across the country (Safran & Oswald, 2003). Nersesian, Todd, Lehmann, and Watson (2000) noted, "Dangerous and destructive behaviors are not just a major national concern; they poison the climate of a school and interfere with academic and social development of all children" (p. 244).

Schools face the awesome responsibility of providing a safe environment that is conducive to learning. Lane and Beebe-Frankenberger (2004) stated:

> Principals and other educational leaders are expected to promote growth in all academic areas, maintain a positive school climate, and eliminate school violence. Teachers are expected to create a learning environment that allows all students to achieve the specified district and state standards. (p. 1)

Numerous outside factors affect the ability of schools to provide a safe learning environment. A decade ago, Walker, Irvin, and Sprague (1997) pointed out that the increasing number of families living in poverty and deteriorating neighborhoods, high rates of divorce, and the collapse of the family unit along with drug and alcohol abuse have left many children at risk

for disruptive behaviors. Because of these factors, many teachers and administrators find that they spend increasingly larger amounts of their time managing and responding to students' disruptive or antisocial behaviors (Hofmeister & Lubke, 1990; Walker et al., 2004).

According to Safran and Oswald (2003), "The increase in aggressive and delinquent behaviors in schools throughout the country has reached critical proportions" (p. 1). Lewis and Sugai (1999) stated, "Today's educators must be able to accommodate students with significant learning and behavioral problems, teach in communities that are unable to support the school, and work under conditions that are often counterproductive to teaching and learning" (p. 1). All the while, schools are being asked to do more with fewer resources and achieve more results (Sugai, Horner, et al., 2000). Subsequently, the management and control of problem behavior regardless of whether the student has or does not have a disability has drawn attention from schools, families, and communities (Sugai & Horner, 2002b, p. 25).

Obviously, student discipline is an area of great concern for educators. The authors of the *Individuals with Disabilities Education Act* (IDEA) (1997), now known as the *Individuals with Disabilities Education Improvement Act* (IDEIA) (2004), addressed the impact of student behavior on educational outcomes for students engaging in inappropriate or disruptive behaviors and for those students subjected to disruptive behavior by others. Sugai and Horner (2002a) elaborated, "IDEA directly references the need for and use of positive behavioral interventions and supports in addition to functional behavioral assessment processes for students who display or are at risk of developing problem behavior that impedes their success at school" (p. 130). Furthermore, "IDEA requires that local educational agencies use Positive Behavior Support not only for students identified for special education, but also for those whose problem behavior puts them at risk for special education placement" (Kennedy, Long, Jolivette, & Cox, 2001, p. 161). In order to create a safer learning environment, the use of Positive Behavior Support "expanded to include greater numbers of students in general education settings as mandated in IDEA" (Safran & Oswald, 2003, p. 361).

Teachers and administrators are now faced with the enormous task of creating a learning environment that meets the challenges of individuals with special needs as well as individuals who do not have identified disabilities. Administrators and teachers must now incorporate strategies that will address discipline issues of all students. "The challenge of maintaining discipline is intensified by teachers' concerns about the growing inclusion of students with emotional and behavioral problems in the general education classrooms and the increasing levels of diversity common in American schools" (White, Marr, Ellis, Audette, & Alozzine, 2001, p. 4).

In response to legislation, Positive Behavior Support (PBS) and School-Wide Positive Behavior Support (SWPBS) have grown in popularity as a way for schools to teach, promote, and recognize positive behaviors among all students. Nersesian et al. (2000) stated, "Among the most important and exciting advances for education in the past decade is the emergence of school-wide discipline systems" (p. 244). Over the past 20 years, PBS has emerged from Applied Behavior Analysis (ABA) as a new approach to problems of behavioral adaptation (Dunlap, 2006). PBS offers schools a structured approach to address children's behavior from the individual level to the school-wide level (Minke & Anderson, 2005). Attention is focused on creating and sustaining primary (school-wide), secondary (classroom), and tertiary (individual) systems of support that improve lifestyle results (personal, health, social, family, work, and recreation) for all children and youth by making problem behavior less effective, efficient, and relevant, and desired behavior more functional (Office of Special Education Programs, 2007).

PBS is derived from basic principles of learning that directly stem from research gathered over the past century. PBS's origins can be traced back to a continuum of research beginning in the early 1900s with research conducted by Pavlov: Classical Conditioning (1927/1960); Thorndike: Associationism (as cited in Alberto & Troutman, 1999); Watson: Behaviorism (as cited in Alberto & Troutman); Skinner: Operant Conditioning (1938); and Baer, Wolf, and Risley: Applied Behavior Analysis (1968).

Skinner (1938) is probably the most recognizable name associated with the early behavioral foundations on which PBS is ultimately based. Wheeler and Richey (2005) observed,

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"Skinner furthered the earlier theories of Watson and Pavlov to more complex human behaviors which he termed operants. Operants are behaviors that are controlled by their consequences" (p. 14). Such responses or consequences are also called reinforcement. Reinforcement is the "process in which the occurrence of a behavior is followed by a consequence that results in an increase in the future probability of the behavior" (Miltenberger, 2001, p. 496). Reinforcers such as verbal praise, tickets, rewards, etc., which are used in this study, increase the likelihood that a behavior will re-occur in the future.

ABA was established in the 1960s as a science in which learning principles were systematically applied to produce socially important change in behavior (Dunlap, 2006). ABA is a direct continuation of the principles of behavior developed by Pavlov, Skinner, and others. "The practices of PBS are based on the conceptual logic of behavioral theory and the empirical foundations of ABA, which had its debut in 1968, when Baer, Wolf, and Risley published their paper in the *Journal of Applied Behavior Analysis"* (Sugai & Horner, 2002a, p. 131). Their paper remains the standard description of the discipline and continues to be widely cited (Cooper, Heron, & Heward, 2007). ABA is the science in which tactics derived from the principles of behavior are applied systematically to improve socially significant behavior (Cooper et al.). ABA was defined by Cooper et al. as "a science of studying how we can arrange our environment so they make likely the behaviors we want to be probable enough, and they make unlikely the behaviors we want to be improbable" (p. 15).

According to Safran and Oswald (2003), "PBS was developed in the late 1980s and early 1990s as a general strategy of intervention and support, which employs concepts and methods from ABA and other disciplines" (p. 362). This approach enhances an individual's quality of life and reduces problem behavior (Dunlap, 2006). Carr et al. (2002) described:

> PBS is an applied science that uses educational methods to expand an individual's behavior repertoire and systems change methods to redesign an individual's living environment to first enhance the individual's quality of life and, second, to minimize his or her problem behavior. (p. 4)

Sugai, Horner, et al. (2000) stated, "PBS is a general term that refers to the application of positive behavior interventions and systems to achieve socially important behavior change" (p. 132). As a proactive approach to discipline, "PBS inhibits the development of problem behavior by emphasizing the teaching and encouraging of desired social behaviors, maximizing academic success, and removing the factors that promote and sustain problem behaviors" (Sugai & Horner, 2002b, p. 36). Positive behavior supports traditionally have been targeted toward individuals with challenging and aberrant behaviors. Over the past 15 years, there has been a shift in emphasis toward (a) prevention as well as remediation of problem behavior and (b) investment in school-wide practices as well as individualized preventions (Horner et al., 2004).

School-Wide Positive Behavior Support (SWPBS) includes all students and consists of a broad range of systematic and individualized strategies for achieving important social and learning outcomes while preventing problem behaviors (Turnbull et al., 2002). A school-wide approach addresses the entire school population by teaching, encouraging, and acknowledging appropriate behaviors in the hope that increased recognition of positive behaviors will lead to a reciprocal decrease in inappropriate behaviors.

The initial findings on the effect of school-wide positive support programs have been encouraging. According to the Families and Advocates Partnership for Education (2001), one school in New Hampshire has been using a school-wide program for 4 years. It has worked so well that approximately 8 out of 10 students with significant emotional disabilities were included in the regular classroom for most of the day, and approximately 9 out of 10 were included at least part of the day. Turnbull et al. (2002), in a study at Central Middle School in Kansas City, Kansas, found very positive results during the first 2 years after implementing a SWPBS program. In a similar study, Metzler, Biglan, Rusby, and Sprague (2001) showed an increase in the level of praise, rewards, and recognition given by teachers to students and also showed a decrease in the rate of discipline referrals. McCurdy, Mannella, and Eldridge (2003) examined several urban schools that had adopted a SWPBS program. Data from the schools' pre-SWPBS year compared to data collected after the first 2 years of implementation showed that both school

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disruption (calling out, out of seat, noncompliant, etc.) and fighting decreased by approximately 50%.

As a way to monitor the effects of SWPBS on student behavior, Office Daily Referrals (ODR) are used to track student behavior. An ODR is an event in which a student engages in behavior that violates a rule or social norm in the school. Problem behavior, observed by a member of the school staff, results in a consequence delivered by administrative staff that results in a permanent (written) product defining the event (Irvin, Tobin, Sprague, Sugai, & Vincent, 2004; Sugai, Sprague, Horner, & Walker, 2000).

"ODRs are more than an index of students' behavior; they are an index of the discipline systems within a school" (Sugai, Sprague, et al., 2000, ¶ 11). ODRs are easily accessible because schools are required to collect disciplinary data. ODRs appear to be potentially useful for documenting school-wide behavioral climate and effects of school-wide intervention programs to improve behavioral climate of schools (Irvin et al., 2004).

In response to these challenges, many schools are now shifting toward SWPBS as a proactive strategy for teaching, encouraging, and supporting positive behaviors for all individuals in the school population. School-wide efforts to build effective behavior support are a practical and effective response to the threat from destabilizing disruptive behavior (Nersesian et al., 2000).

Statement of the Problem

Schools are under immense pressure to improve school discipline, make Adequate Yearly Progress (AYP), and provide a safe learning environment for all students. "Calls for instructional excellence, integration of students with diverse needs, and 'doing more with less' make teaching extremely difficult" (Colvin, Kameenui, & Sugai. 1993, p. 361). Achievement of these goals can be hindered by time spent on behavior issues. Valuable learning time is often cut short because of students' disruptive and inappropriate behaviors. Not only do the students engaging in these behaviors lose learning time but other students within the school environment

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also suffer because of the time teachers and administrators spend responding to behavior issues. "It is hard to see how academic achievement can rise significantly in the face of so much lost teaching time, not to mention the anxiety that is produced by the constant disruption, which must also take a toll on learning" (Walker et al., 2004, p. 1). Challenging behaviors disrupt instruction by drawing the teachers' and students' attention away from learning (Peck & Scarpati, 2003). Shore (2003) eloquently stated the subsequent problems that result from discipline issues in the classroom:

> Discipline is a fundamental part of teaching. Education cannot take place and learning cannot flourish in an undisciplined setting. An innovative curriculum will have minimal impact if there is no control in the classroom. Inspired lessons are of little use if students are focused on nonacademic issues. Perhaps most important, teachers who spend much of their time responding to misbehavior have little time left over to teach. (p. 1)

The purpose of this study was to examine the effects of SWPBS on decreasing behavior challenges for both typical students and students identified with special needs. Although several studies have been conducted on the effects of SWPBS on student discipline, few have been published that focused on SWPBS at the rural high school level and none that focused on students with disabilities. The results of this study could provide administrators and teachers with data to help guide programmatic decisions about proactive approaches to help manage disruptive behavior for students with disabilities and students without disabilities while promoting socially appropriate behaviors within the school environment.

Research Questions

1. Is there a relationship between the number of reinforcers distributed and the number of Office Daily Referral (ODR) incidents within the overall student population and within the cohort population?

2. Is there a difference in the number of ODRs between baseline year prior to implementation of SWPBS, 1st year of SWPBS implementation, and 2nd year of SWPBS implementation?

3. Among students with disabilities, is there a difference in the number of ODRs between baseline year prior to implementation of SWPBS, 1st year of SWPBS implementation, and 2nd year of SWPBS implementation?

4. Is there a difference in attendance rate between baseline year prior to implementation of SWPBS, 1st year of SWPBS implementation, and 2nd year of SWPBS implementation?

5. Among students with disabilities, is there a difference in attendance rate between baseline year prior to implementation of SWPBS, 1st year of SWPBS implementation, and 2nd year of SWPBS implementation?

6. Do teachers meet their goal of distributing 10 reward tickets (Mo-Bucks) per quarter to students who demonstrate targeted behavior during the 1st year of SWPBS implementation and during the 2nd year of SWPBS implementation?

7. Is there a difference in suspension rate between baseline year prior to implementation of SWPBS, 1st year of SWPBS implementation, and 2nd year of SWPBS implementation?

8. Is there a difference in expulsion rate between baseline year prior to implementation of SWPBS, 1st year of SWPBS implementation, and 2nd year of SWPBS implementation?

The dependent variables used to evaluate the impact of the SWPBS program were: (a) number of office daily referrals, (b) attendance, (c) suspension rate, (d) expulsion rate, and (e) number of Mo-bucks (tickets given to students for displaying targeted behaviors) given out by each teacher to students. Data were collected over a 3-year period: (a) baseline data collected 1 year prior to the introduction of the SWPBS program at the high school, (b) data collected during the 1st year of the implementation of the SWPBS program, and (c) data collected from the 2nd year of implementation of the SWPBS program. As a way to determine if students' challenging behavior is declining, this study primarily used ODRs as a way to monitor student behavior changes (Sugai, Sprague, et al., 2000).

Significance of the Study

The data examined in this study provide administrators and teachers information as to the effectiveness of a SWPBS approach on reducing inappropriate behavior and promoting socially important behaviors. This study provides administrators insight into the components needed to effectively develop and implement a SWPBS program. Schools that have appropriately implemented a SWPBS program have experienced reductions in discipline referrals. Kerr and Nelson (2006) observed, "Approximately 90% of students respond positively to primary prevention. Significant reductions in discipline referrals will free staff to concentrate on other duties" (p. 8).

Even though this study was conducted in a rural high school setting and results might not be generalizable to other setting, this study adds to the research base regarding the implementation and effectiveness of SWPBS.

Definitions of Terms

In order to ensure better understanding for the reader, this section provides definitions of key terms listed in alphabetical order.

1. *Applied Behavior Analysis (ABA)*: As described by Dunlap (2006), ABA was established in the 1960s as a science in which learning principles are systematically applied to produce socially important change in behavior. While PBS was developed in the late 1980s and early 1990s as a general strategy of intervention and support, employing concepts and methods from ABA and other disciplines, this approach was intended to enhance an individual's quality of life and reduce problem behavior.

2. *Cohort*: The cohorts in this study will be defined as (a) cohort number One, the freshman class from 2004-2005, and (b) cohort number Two, the sophomore class from 2004-2005.

3. *Office Daily Referral (ODR)*: An ODR was defined as an event in which (a) a student engaged in a behavior that violated a rule or social norm in the school, (b) a problem

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behavior was observed by a member of the school staff, and (c) the event resulted in a consequence delivered by administrative staff who produce a permanent (written) product defining the whole event (Sugai, Sprague, et al., 2000).

4. *Positive Behavior Support (PBS)*: Sugai, Horner, et al. (2000) defined positive behavior support as referring to the application of positive behavior interventions and systems to achieve socially important behavior change.

5. *Primary Prevention*: As described by Lane and Beebe-Frankenberger (2004), primary prevention focuses on preventing academic and behavioral problems from occurring by providing all students with a given intervention. Examples of primary intervention programs include school-wide literacy programs, positive behavior support, anger management and conflict resolution programs, social skills programs, discipline and management plans, and violence prevention plans. Students are neither screened for eligibility nor do they have to meet particular criteria to participate in the intervention. By virtue of being enrolled in the school, students are involved. Because every student in the school engages in the primary level of support, the learning and behavioral expectations are clear.

6. *Reinforcers*: Rewards such as tickets (Mo-Bucks as referred in this study) given by teachers to students who are observed displaying desired behaviors.

7. *School-wide Evaluation Tool* (SET): As described by Lassen, Steele, and Sailor (2006), the SET is a survey designed to access and evaluate the features of behavioral support systems within a school over time. The survey contains 28 questions and involves gathering information from multiple sources including a review of permanent products (i.e., school improvement plan and discipline handbook), observations, and staff and student interviews. The seven subscales of the SET represent the seven key features of SWPBS: (a) school-wide behavioral expectations are defined; (b) school-wide behavioral expectations are taught to all students; (c) rewards are provided for adhering to school-wide expectations; (d) a consistently

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implemented continuum of consequences for problem behavior is in place; (e) problem behavior patterns are monitored and the information is used for ongoing decision making; (f) an administrator actively supports and is involved in the school-wide behavior support team effort; and (g) the school district provides support to the school in the form of functional policies, staff training opportunities, and data collection options.

8. *School-Wide Positive Behavior Support (SWPBS)*: Considered a primary level of intervention, Anderson and Kincaid (2005) defined SWPBS as a comprehensive system of support that is in place in all areas of a school (i.e., hallways, classrooms, cafeteria, and school-yard). The goals of SWPBS are (a) to prevent the development of problem behavior, (b) to decrease or eliminate currently occurring discipline problems, and (c) to increase positive social behavior of all students.

9. *Secondary Intervention*: As described by Lane and Beebe-Frankenberger (2004), secondary intervention provides more intensive focused interventions for students who do not respond to primary intervention efforts or who are identified as at-risk learners. Students are typically grouped together by common skills or performance deficits.

10. *Tertiary*: Prevention programs, as described by Lane and Beebe-Frankenberger, are individualized interventions based on a specific student's needs. Students who are either nonresponsive to secondary prevention programs or who are exposed to multiple sources of risk such as low cognitive ability, parents with low-level involvement, and low socioeconomic status are likely to benefit from this level of support. Examples of tertiary interventions include functional assessment-based interventions, intensive, individualized reading instruction, and home-school interventions, such as *First Steps to Success*.

This study was delimited by the use of one rural high school setting with a population of approximately 1,200 students. This study focused on the overall student population and included students identified as having disabilities. This study was limited to data collected only on students' challenging behaviors and not on students' appropriate behavior. ODRs were used to track students' behavior. ODRs are inherently subject to teachers' and administrators' interpretation and consistency in implementation. Sugai, Sprague, et al. (2000) stated, "A limitation of the use of ODR lies in the unique manner in which each school defines and applies referral procedures" (p. 96.) Because this study was conducted in a rural high school setting, the outcomes should not be generalized to other populations.

Overview of the Study

Chapter 1 contained an introduction, a statement of the problem, research questions, the significance of the study, relevant definitions, and delimitations and limitations. Chapter 2 provides a review of research and literature pertaining to positive behavior support, school-wide positive behavior support, and office daily referrals. Chapter 3 outlines the methodologies, the SWBPS approach implemented at the targeted high school, and the procedures that were used to analyze collected data. Chapter 4 contains the descriptive results of the study. Chapter 5 summarizes the results of the study and provides conclusions and recommendations.

CHAPTER 2

LITERATURE REVIEW

This review of literature is designed to provide a better understanding of Positive Behavior Support (PBS) and the levels contained under the PBS umbrella, which includes School-Wide Positive Behavior Support (SWPBS). It also provides a review of previous and current research on the effects of SWPBS on student behavior.

The *Individuals with Disabilities Act* (IDEA) of 1997 directly referenced the need for and use of positive behavioral interventions and supports and functional behavioral assessment processes for students who displayed or were at risk of developing problem behavior that impeded their success at school (Sugai, Horner, et al., 2000; Turnbull et al., 2002). Even though students with disabilities represent a small portion of a school's population, they can account for about half of the behavioral incidences (Sugai, Horner, et al.).

The *Individuals with Disabilities Act* (1997) has left teachers and administrators with the enormous challenge of creating a learning environment that meets the needs of individuals with special needs and individuals who do not have identified disabilities. Many students, with or without disabilities, often have behavioral issues that could cause disruption in the school environment. Lassen et al. (2006) observed, "It is reported that approximately 10% of children and adolescents in the United States suffer from some form of mental illness that significantly impairs their ability to function in the everyday setting" (p. 701).

Teachers and administrators indicated that addressing school discipline issues was one of the greatest demands on their time (Anderson & Kincaid, 2005; Hofmeister & Lubke, 1990). In response to discipline issues, PBS and SWPBS have grown in popularity (Safran & Oswald, 2003) as a way for schools to teach, promote, and recognize positive behaviors among all students. PBS and SWPBS were premised on the assumption that when all school staff members in all school settings actively teach and consistently reinforce appropriate behavior, the number

of students with serious behavior problems could be reduced and the school climate should improve (Irvin et al., 2004).

With a nationwide move to provide safer school environments, reduce inappropriate behaviors, and acknowledge appropriate behavior, a SWPBS approach appeared to be an effective model. During a recent 6-year period, more than 2,900 schools implemented or were in the process of adopting SWPBS (Horner et al., 2005). Administrators and teachers are finding that a SWPBS proactive approach to discipline has been much more effective and has longer lasting benefits than a reactive approach (Aber, Brown, & Jones, 2003). Lassen et al. (2006) reported, "Recent efforts at the federal level to improve school climate and reduce violence have focused on emphasizing a proactive disciplinary approach, establishing clear expectations for students and supporting behavior" (p. 701).

In order to have a better understanding of SWPBS, it is important for the reader to have knowledge of PBS, which encompasses SWPBS. It is also helpful to have an understanding of Office Daily Referrals or Office Discipline Referrals (ODRs) as this was the primary source of data collected in this study. Therefore, this review of literature is organized into three sections: (a) Positive Behavior Support (PBS), (b) Office Daily Referrals (ODRs), and (c) School-Wide Positive Behavior Support (SWPBS).

Positive Behavior Support (PBS)

As denoted by Sugai, Horner, et al. (2000), PBS is a general term that refers to the application of positive behavioral interventions and systems to achieve socially important behavior change. The Office of Special Education Programs (2007) defined PBS as:

> . . . an application of a behaviorally-based systems approach to enhance the capacity of schools, families, and communities to design effective environments that improve the fit or link between research-validated practices and the environments in which teaching and learning occur. (¶ 1)

Attention is focused on creating and sustaining school environments that improve lifestyles for all children and youth by making problem behavior less effective, efficient, and relevant and

making desired behavior more functional (Sugai, Horner, et al., 2000). PBS, in essence, has

been a proactive approach to teaching, reinforcing, and promoting positive behaviors at each

level within a school's environment.

As noted by Sugai, Horner, et al. (2000), PBS is not a new intervention package or new

theory of behavior. PBS was developed in the late 1980s and early 1990s as a general strategy of

intervention and support, employing concepts and methods from Applied Behavior Analysis

(ABA) and other disciplines (Dunlap, 2006). PBS was derived from basic principles of learning

that were the result of research and subsequent information gathered over the past century. PBS

has been traced back to a continuum of research beginning in the early 1900s with research

conducted by Pavlov: Classical Conditioning (1927/1960); Thorndike: Associationism (as cited

in Alberto & Troutman, 1999); Watson: Behaviorism (as cited in Alberto & Troutman); Skinner:

Operant Conditioning (1938); and Baer, Wolf, and Risley: Applied Behavior Analysis (1968).

As pointed out by Wheeler and Richey (2005), "The most prominent force in the

development of behavior modification and the application of these principles to human

conditions was, of course B. F. Skinner" (p. 14). In *The Behavior of Organisms,* Skinner (1938)

described two branches of behavior: respondent-behavior conditioning and operant-behavior

conditioning. Respondent-behavior conditioning, earlier defined and described by Ivan Pavlov

(1927/1960), is a reflexive behavior brought about by stimuli. Operant-behavior conditioning is

a behavior or response that is elicited by a consequence. Operant behaviors are not elicited by

preceding stimuli but instead are influenced by stimuli changes that have followed the behavior

in the past (Cooper et al., 2007). The likelihood of increasing a particular behavior is based on

the probability that the desired behavior will elicit a desired response or consequence. Such

preceding responses or consequences are also called reinforcers. According to Zirpoli (2005),

reinforcement is any stimulus that maintains or increases the behavior exhibited prior to the

presentation of the stimulus.

Reinforcement has been a crucial element of most behavior change programs such as the

one described in this study. Reinforcers, such as verbal praise, tickets, rewards, etc., have been

used to increase the likelihood that a behavior will reoccur in the future. Simply stated, behavior that is followed by pleasant consequence tends to be repeated and learned; likewise, behavior that is followed by unpleasant consequence tends not to be repeated and thus not learned (Alberto & Troutman, 1999).

PBS is based on more recent behavioral foundations that have been traced back to the 1960s. Baer et al. (1968) described ABA or analytical behavioral application as the "process of applying sometimes tentative principles of behavior to the improvement of specific behaviors, and simultaneously evaluating whether or not any changes are noted or indeed attributed to the process of application" (p. 91). Since that time, the applications, practices, and procedures of ABA have been refined, tested, and replicated to form an important disciplinary approach for addressing socially important concerns in education especially improving behavioral outcomes for individual students (Sugai & Horner, 2002a). PBS is an extension of ABA in which the application of positive reinforcement(s) of students' appropriate behaviors is intended to increase the likelihood of re-occurrence of future appropriate behaviors. Dunlap (2006) noted, "In the past 2 decades, PBS has emerged from ABA as a newly fashioned approach to problems of behavioral adaptation" (¶ 1).

PBS has offered schools a structured approach to address children's behavior from the individual level to the school-wide level (Minke & Anderson, 2005). Attention has been focused on creating and sustaining primary (school-wide), secondary (classroom-small group), and tertiary (individual) systems of support that improve lifestyle results (personal, health, social, family, work, recreation) for all children and youth by making problem behavior less effective, efficient, and relevant and desired behavior more functional (Office of Special Education Programs, 2007).

Under a system of PBS, intervention has been focused on proactive prevention at three levels: primary (all students), secondary (small groups), and tertiary (individuals with the most intense problems). Across all three levels, systematic, team-based interventions have been concerned with lifestyle change (Scott & Barnett, 2004). Warren et al. (2003) stated, "Positive

Behavior Support includes a broad range of systematic and individualized strategies for achieving important social and learning outcomes while preventing problem behavior" (p. 80). PBS has encompassed all levels within a school and has included all students no matter into which level they might fall.

The first and most time-consuming level has been tertiary. According to Sugai and Horner (2002a) and Sugai and Horner (2002b), the tertiary level encompasses approximately 5% of students who have chronic or intense problem behaviors. Students included in this level might need individualized and specialized interventions such as functional behavior assessments and individualized behavior intervention plans. As pointed out by Scott and Caron (2005), "Functional behavior assessment (FBA) is complex, time consuming, rigorous, and aimed at students for whom all previous intervention attempts have been unsuccessful" (p. 13). FBA, as required by the *Individuals with Disabilities Act* (1997), "is the cornerstone system that addresses the educational programming of students who display the most significant and challenging problem behavior. These students require behavior support plans that are specialized, individualized, and highly intense" (Sugai, Horner, et al., 2000, p. 137). Students at the tertiary level, those who were either nonresponsive to secondary prevention programs or were exposed to multiple sources of risk such as low cognitive ability, parents with low-level involvement and low socioeconomic status, were more likely to benefit from this level of support (Lane & Beebe-Frankenberger, 2004).

Scott et al. (2002) explained, "Tertiary prevention is implemented when youth exhibit continued failure, despite the use of both primary and secondary systems" (p. 543). Tertiary prevention has focused on seriously involved students, many of whom were frequent offenders (Walker et al., 1997). Tertiary prevention programs are individualized interventions and have been based on specific student's needs (Lane & Beebe-Frankenberger, 2004); these specific needs were determined by conducting functional behavior assessments and creating individualized behavior plans. Teachers frequently have been called upon to address the needs of students on the tertiary level. Peck and Scarpati (2003) maintained, "Patterns of disruptive

behavior are an unfortunate reality that many teachers encounter across all grade levels, particularly in the inclusive classrooms" (p. 7).

Kennedy et al. (2001) demonstrated that PBS proved to be effective in reducing disruptive behavior on an individual level. Their study addressed multiple tertiary interventions, one of which focused on a girl named "Jolanda." Jolanda participated in general education classes throughout her entire day. During baseline, she engaged in problems behaviors up to approximately eight times per day per week. After the implementation of interventions, her problem behaviors decreased to near zero levels.

The next level of PBS was secondary. This level contained approximately 15% of students who were at-risk for problem behaviors (Sugai & Horner, 2002a; Sugai & Horner, 2002b). Included in the secondary level were students at a lower risk than were students at the tertiary level but still required specialized group interventions. Secondary interventions provided more intensive focused interventions for students who did not respond to primary intervention efforts or who were identified as at-risk learners. Students were typically grouped together by common skill or performance deficits for social skill instruction (Lane & Beebe-Frankenberger, 2004). Secondary prevention involved providing support, mentoring, and assistance to at-risk students (Walker et al., 1997). Warren et al. (2003) observed, "These interventions are often conducted in the classroom setting or in other specific settings in the school where a need for improved behavior has been identified (e.g., lunchroom, hallways)" (p. 81).

Heering and Wilder (2006), in a study of secondary PBS intervention, focused on classwide intervention to increase on-task behaviors of general education students in third and fourth grades. The intervention allowed students access to preferred items and activities contingent upon being on-task at randomly selected intervals. They detailed:

> During baseline, third graders mean on-task level was 36% (range, 26% to 55%). On-task behavior decreased slightly towards the end of baseline. When group contingencies were introduced, on-task behavior increased sharply. The effects were replicated by fourth graders' whose on-task behavior rose from baseline levels of 50% (range, 35% to 62%) to an intervention mean of 85% (range, 70% to 92%). On-task behavior was maintained at follow-up with levels over 90%. (p. 465)

The third level was the primary level. The remaining student population, approximately 80%, fell within this level (Sugai & Horner, 2002a; Sugai & Horner, 2002b). These students responded to universal school-wide and class-wide interventions. According to Walker et al. (1997) and Lane and Beebe-Frankenberger (2004), primary prevention focuses upon enhancing protective factors on a school-wide basis so that students in general do not become at-risk and on preventing academic and behavioral problems from occurring by providing all students with a given intervention.

Several studies have shown the effectiveness of PBS at the primary level. Turnbull et al. (2002), in a study conducted at Central Middle School in Kansas City, Kansas, found very positive results during the first 2 years after implementing a SWPBS program. Results indicated that the number of office referrals, in-school conferences with students, timeouts (when students are required to sit in the office for some time), in-school suspensions, and short-term suspensions decreased.

In a similar study conducted at Lincoln Middle School in Oregon, Metzler et al. (2001) found an increase in the level of praise, rewards, and recognition. This information was evaluated by a survey given to students before the school year ended. Data from this survey also indicated an improvement in the number of students who reported they felt safe in the cafeteria, hallways, and classrooms. Results also showed a decrease in the rate of discipline referrals.

McCurdy et al. (2003) examined several urban schools that had adopted SWPBS programs in their schools. Key Elementary School in the Northeastern United States was one of the schools studied. Data from the school's pre-SWPBS year compared to data collected after the first 2 years of implementation showed over 40% reduction in ODRs.

The research related to PBS demonstrated that PBS was effective in reducing inappropriate behaviors. Subsequently, more administrators have been choosing to incorporate positive behavior approaches at all levels (tertiary, secondary, and primary) within their schools

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not only in response to federal mandate (IDEA) but as a proactive response to managing students' behavior.

Office Daily Referrals (ODRs)

Much of the research related to PBS and SWPBS has focused on the use of Office Daily Referrals (ODRs) or Office Discipline Referrals (used interchangeably) as a tool for tracking student discipline. ODRs have been used throughout the nation as a method for managing and monitoring disruptive behavior in schools (Sugai, Sprague, et al., 2000). ODRs have provided a wealth of information regarding student problem behaviors in school (Irvin et al., 2004). Sugai, Horner, et al. (2000) defined ODR as:

> An event in which (a) a student engaged in a behavior that violated a rule/social norm in the school, (b) a problem behavior was observed by a member of the school staff, and (c) the event resulted in a consequence delivered by administrative staff who produced a permanent (written) product defining the whole event. (p. 96)

Sugai, Horner, et al. (2000) also stated, "Office discipline referrals are more than an index of student behavior; they are an index of the discipline systems within a school" (p. 96). ODRs are already collected in most schools and provide an efficient source of information for documenting whether reform efforts result in systems change (Sugai, Horner, et al.).

Nakasato (2000) examined the Hawaii Effective Behavior Support effort that involved the implementation of SWPBS in 51 schools between 1996 and 1998. These schools used ODRs to make data-based decisions to help guide the SW discipline focus. For example, after reviewing ODRs, the leadership team from one elementary school learned that slightly over 80% of its students had never received an office referral. However, the data showed that the number of aggressive-fighting incidences on the playground had increased. Therefore, the team developed a reinforcement plan to provide support and acknowledgement for those students who displayed appropriate behavior on the playground. In addition, the team used the daily student broadcast, parent-teacher poster contests, and school-wide incentives to reinforce school-wide

behavior expectations. The information gathered from ODR helped to guide team decisions and activities.

ODRs have some limitations that must be considered. Teachers and administrators have not always been consistent in their discipline procedures and consistency in adhering to discipline enforcement and behavior tolerance levels. Lassen et al. (2006) stated:

> These data are clearly reflections of multiple influences within schools (i.e., tolerance for certain behaviors, teacher bias, administrator perceptions, and decision making) and changes in these data could reflect changes in school-wide discipline policy, for example, rather than changes in student behavior per se. (p. 704)

Further limitations should be considered when using ODR as a measure of student behavior. Similar student behavior might evoke different responses from teachers in different schools, or relationships between teachers and the school's administration could alter the use of discipline referrals across schools. Therefore, the value of student office discipline referrals as a measurement of school-wide discipline must be embraced with caution (Sugai, Sprague, et al., 2000).

In spite of the obvious limitations inherent with ODRs, they have remained the most frequently used measure of student behavior. ODRs were used in about 75% of intervention studies (Irvin, et al., 2004). The fact that ODRs were so readily available and similar in content (i.e., number of infractions, location of infractions, etc.) has made them the most practical and efficient means of tracking student behavior and the effects of PBS on student behavior (Irvin et al., 2004; Sprague, Sugai, Horner, & Walker, 1999).

School-Wide Positive Behavior Support (SWPBS)

SWPBS was developed at the University of Oregon along with the National Technical Center on Positive Behavioral Interventions and Supports (PBIS). The goal of SWPBS was to facilitate the academic achievement and healthy social development of children and youth in a safe environment conducive to learning (Sprague & Horner, 2006). Furthermore, with the increased emphasis on providing proactive, rather than reactive, support inclusive of early

detection and early intervention, schools are fast becoming an important context for addressing many of students' and society's needs (Lane & Beebe-Frankenberger, 2004). Warren et al. (2003) stated:

> The premise of SWPBS is a change of school culture, moving away from coercion as a means of managing difficult and off-task behavior and toward building positive relationships and teaching appropriate responses to school and classroom expectations. As such, it represents a shift from exclusionary practices to inclusionary practices. (p. 86)

PBS has been recently extended from an approach with individual children to a school-wide intervention for schools (Netzel & Eber, 2003). SWPBS has been considered a primary level of intervention in which all students were included as opposed to tertiary or secondary levels of supports that were more individualized. Instead of using a patchwork of individual behavior management plans, SWPBS has used a continuum of positive behavior supports for all students in a school and in all areas of the school (Office of Special Education Programs, 2007). Anderson and Kincaid (2005) defined SWPBS as a comprehensive system of support that is in place in all areas in a school (i.e., hallways, classrooms, cafeteria, and school-yard).

The goals of SWPBS have been (a) to prevent the development of problem behavior, (b) to decrease or eliminate currently occurring discipline problems, and (c) to increase positive social behavior of all students (Anderson & Kincaid, 2005). According to Lane and Beebe-Frankenberger (2004), all students are included in the SWPBS program simply by virtue of enrollment. Because every student in the school engages in the primary level of support, the learning and behavioral expectations are clear and consistent.

There are several essential components involved when implementing SWPBS. The Beech Center on Disabilities (1998), Kerr and Nelson (2006), Sprague and Horner (2006), and Sugai, Horner, et al. (2000) listed similar components. These components (as combined by this author), covered essential steps that should be incorporated into a SWPBS program:

1. establishment of a school-wide leadership team;
2. a clear definition of expectations and appropriate behaviors along with their consequences;

3. regularly scheduled instruction throughout the year that can enable students to acquire the necessary skills for the desired behavior change;

4. establishment of effective incentives and motivational systems for encouragement;

5. immediate feedback given to students who engage in appropriate behavior and create limits that make challenging behaviors unproductive;

6. commitment of staff to the intervention over the long term and a willingness to monitor, support, coach, debrief, and provide lessons for students as necessary to maintain the achieved gains;

7. provision of staff development; and

8. establishment of systems for measuring and monitoring the intervention's effectiveness.

The process of developing a SWPBS program in a school has varied in specificity; however, the overall theme remained the same. "The establishment of a leadership team to lead and coordinate the SWPBS effort is at the core of the systems approach to SWPBS" (Sugai & Horner, 2006, p. 251). Their research stressed the importance of administrative support, development of a SWPBS leadership team, establishment of behavioral expectations, a process to teach those expectations, a way to promote and acknowledge appropriate behavior expectations (tickets, tokens, etc.), and a way to monitor student discipline and the effects of SWPBS.

Studies included in this review met most, if not all, of the essential components described by Sugai and Horner (2002b) and Sprague and Horner (2006). Lewis and Sugai (1999) detailed a SWPBS implementation at a small suburban elementary school and described the steps taken to develop and implement the SWPBS program. The school formed an effective behavior support team comprised of knowledgeable willing staff and administrators that developed and oversaw staff training and program implementation. The team focused on a consistent school-wide program that included establishing a set of school rules, establishing procedures for teaching rules to students, and initiating a token reinforcement system to increase compliance. When staff

observed students engaging in appropriate behaviors, they were given a "chance ticket" and verbal praise. The students then put their tickets into classroom boxes. Each month, at an awards assembly, tickets were pulled from the box and the selected student could choose an award. In addition, students were given desired privileges (Lewis & Sugai).

Scott and Martinek (2006) examined four elementary schools that developed and implemented SWPBS programs. Each school met the above stated components when developing and implementing their program. In addition to using ODRs as a measure of student discipline, they also incorporated the School-wide Evaluation Tool (SET). The SET is a combination of direct observations and interviews that provide an indication of the fidelity in which SWPBS is being carried out. Nakasato (2000) pointed out, "The SET is a researched-validated instrument that is designed to assess and evaluate the critical features of school-wide positive behavior support across an academic year" (p. 250). The SET was developed in 2001 by Sugai, Lewis-Palmer, Todd, and Horner and can be examined on the PBIS.org website.

Review of Similar Studies

The research studies included in this section had to meet several criteria that were similar to this current study in order for more accurate comparison. The first criterion included a school-wide positive behavior support approach that encompassed all students. The second criterion included specific target behaviors that were defined and taught to all students. The third criterion included student discipline measures such as ODRs, expulsions, and suspensions. The fourth criterion was discipline outcomes from baseline year and at least 1 implementation year. The final criterion was the use of a ticket or token system for acknowledging and rewarding appropriate behaviors.

Fifteen studies were found that met the above criteria. These studies were conducted between 1993 and 2006. Of the 15 studies, 6 were conducted at the middle-school level, 8 were at the elementary level, and 1 took place at the high school level. Of all the studies, none were found that specifically examined the effects of SWPBS on students with disabilities. Three to

four classes of positive target behaviors (i.e., respect, responsibility) were common throughout all the studies. The common measurements of student behavior data reported within the 15 studies were: ODRs, suspensions, expulsions, and/or attendance.

Lassen et al. (2006) conducted a SWPBS study that included 623 participants in a large urban Midwest middle school. The mean age of the students was 12.5 years. The study was conducted over a 3-year period. ODRs and suspensions were used as the primary indicators of problem behavior. In order to examine treatment integrity, the School-wide Evaluation Tool (SET) was administered prior to intervention and at the end of the 3-year period. The SWPBS team selected a list of six behavioral expectations that were taught to students. The six behavioral expectations were: (a) be responsible, (b) be respectful, (c) be ready to learn, (d) be cooperative, (e) be safe, and (f) be honest. As a way to promote positive student behaviors, students were given positive referral tickets by teachers and staff for exhibiting appropriate behaviors. Although teachers and staff were not monitored in terms of how they used the tickets (i.e., using them in the prescribed manner), it was assumed that the number of tickets given to students would be a broad yet reliable indicator of the degree of participation in the school-wide program. Whenever a student was "caught" engaging in an appropriate behavioral expectation, he or she received a blue ticket. The tickets were then turned into the office where they were placed in a box for a drawing held at the end of each week. Winners of the drawing received prizes (key chains, pens, books, etc.). In addition, winners had their pictures taken and displayed in a trophy case near the office.

In order to determine adherence to SWPBS procedures, blue tickets and SET data were examined. Results indicated that the percentage of critical PBS components in the school increased from 24.97% at baseline to 69.64 % at year 3 and increased in all categories except for "system for responding to behavioral violations." The average number of blue tickets given from year 1 to year 3 indicated a statistically significant difference in the number of blue tickets handed out each year (Lassen et al., 2006).

ODRs and suspensions were also examined between baseline and year 3. The results of the first ANOVA indicated a significant difference in the average number of ODRs per student from baseline to year 3 ($F = 1.98$, $p < .01$). Post hoc analyses showed a significant reduction in the mean number of ODRs per student each year from year 1 to year 3. A second ANOVA examining the change in the average number of long-term suspensions per student was also significant ($F = 1.19$, $p < .01$) with a post hoc analysis showing that the long-term suspensions significantly decreased each year from baseline to year 3 (Lassen et al., 2006).

In a longitudinal SWPBS study, Luiselli, Putman, and Sunderland (2002) showed similar results. This quantitative study was conducted in a public middle school (grades 6-8) in a Western Massachusetts community. There was an average of 640 students over a 4-year period who participated in the study. The primary dependent measure was the number of detention slips issued each academic year. The detention slip was given to a student when he or she was observed engaging in a problematic behavior or when behavior difficulties were called to his or her attention. These detention slips generally represented rule violations in one of three categories; disruptive antisocial, vandalism, and substance use. The disruptive antisocial category included (a) disturbances in the school building, (b) disrespect toward staff, (c) suspension from classroom, (d) physical abuse of a student, (e) disobedience, (f) dishonesty, (g) poor attitude, (h) cheating, (i) verbal or physical threats, (j) throwing objects, (k) obscene language or gestures, and (l) elopement from the classroom or school building. Vandalism included (a) destruction of school property, (b) stealing, and (c) misuse of technology. Substance use comprised (a) cigarette smoking, (b) alcohol possession, and (c) drug possession.

Secondary measures used included the number of students who were eligible for the lottery drawing. Students first qualified for the lottery by maintaining a prespecified grade point average and having no more than two homework detentions. Secondly, students had to demonstrate regular school attendance (no more than two absences and two late arrivals). Thirdly, students had to adhere to school discipline policy by receiving no behavior detentions or school expulsions. In addition, a teacher or administrator could recommend entry into the lottery

for a student who received a detention but subsequently demonstrated significant improvement. Lottery drawings were held each quarter and students selected in the drawing received discount coupons honored by several local venders, free admission to school sponsored events, a variety of gift certificates, and privileges (Luiselli et al., 2002).

In addition to the lottery system, students were given "Caught Being Good" (CBG) cards as a consequence for appropriate behavior. Examples of appropriate behavior were: exceptional performance during instructional assignments, cooperative interactions between students and teachers, negotiating conflict situations, and displaying positive social skills. Each time a student received a CBG card, his or her card was deposited in a ballot box. CGB drawings were held each week and 16 cards were selected at each drawing. Students whose names were drawn could exchange their cards for prizes and privileges (Luiselli et al., 2002).

As extra incentives, students who earned the lottery or CBG cards were acknowledged further in the weekly newsletter. Teachers and administrators also provided praise, approval, and other verbal kudos as routine social reinforcement (Luiselli et al., 2002).

Luiselli et al. (2002) reported decreasing frequency in detentions for each year that the program was in effect. Although only showing a modest change, student attendance increased each academic year and similarly, a larger proportion of students receiving lottery-based prizes and privileges increased.

Luiselli, Putnam, Handler, and Feinberg (2005) conducted another SWPBS study in an elementary school in an urban community in a Midwestern region of the United States. The number of students involved initially was 666; however, over the next 2 years, the enrollment decreased to 550. The measures used to track program effects were ODRs, suspensions, and academic performance (Metropolitan Achievement Test, 2007). According to Luiselli et al. (2005), "The MAT is a nationally norm-referenced standardized test administered by public school districts throughout the United States. The test measures critical skills related to reading comprehension and mathematics" (p. 186).

The study spanned 3 consecutive years. The lst year (pre-intervention year), students were given a policy handbook that listed disciplinary practices. Office discipline referral slips were given to students as a consequence of problem behavior. When a student received a referral slip, he or she was required to go to the administrator's office where a course of action was determined (Luiselli et al., 2005).

During the 2nd year (intervention year), a whole-school intervention was developed by teachers and administrators and technical assistance consultation was provided by doctoral-level psychologists from an out-of-state behavioral healthcare organization. During the intervention year, teachers, administrators, and other school personnel formed a behavior support team. The school's data management system for ODRs and suspensions was refined so that information was reported and processed in a timely manner. The policy handbook was revised by adding positive behavior expectations along with teaching and reviewing behavior expectations to students. A token reinforcement system was introduced. Teachers and administrators were taught to identify and reinforce appropriate behaviors by using "Caught in the Act" (CIA) slips. Staff could give CIA slips to students they observed engaging in appropriate behaviors. Each slip included the student's name, grade level, the acknowledged behavior, and the respective location. When students earned CIA slips, they placed them in a container and were eligible for weekly and monthly lottery drawings that included prizes, movie passes, coupons, and other tangible items (Luiselli et al., 2005).

During the intervention year, consultants continued meeting with teachers and administrators to monitor effectiveness of the whole-school intervention. During the follow-up year, consultants no longer conducted site visits but continued contact through telephone and email communications (Luiselli et al., 2005).

Over the 3-year period, results showed that student discipline problems decreased and academic performance improved following the PBS intervention. During the preintervention year, the average ODR per day per 100 students was approximately 1.3. During the intervention

year, ODRs decreased to 0.73; during the follow-up year, ODRs decreased to approximately 0.54. Suspensions showed similar trends. During the preintervention year, the average number of suspensions per day per 100 students was 0.3; suspensions in the intervention year decreased to 0.25 and in the follow-up year decreased to approximately 0.2. The data also showed, according to the MAT-7, that both reading comprehension and mathematics percentile ranks improved from preintervention to intervention test dates, increasing 18 to 25 percentage points respectively (Luiselli et al., 2005). Delivering school-wide, universal behavioral interventions to all students has proved to be an efficient and effective method of providing a base of support for students and reducing overall problem behavior in schools (Lewis & Sugai, 1999).

Turnbull et al. (2002), in a study at Central Middle School in Kansas City, Kansas, found positive results during the first 2 years after implementing a SWPBS program. These researchers found that the number of office referrals decreased by 19%, inschool conferences with students decreased by 23%, timeouts (when students are required to sit in the office for a period of time) decreased by 30%, inschool suspensions decreased by 12%, short-term suspensions decreased by 60%, and out of school placements remained the same.

The Turnbull et al. (2002) study and others described and included in this review have been representative of the overall positive effects of SWPBS on student behavior. SWPBS, considered a primary level under the PBS umbrella, has been proven to be an effective way of increasing appropriate student behaviors. The literature reviewed has been encouraging; however, the research was limited at the high school level and was completely lacking in the area of students with special needs. Of all the studies included in this review, only one study (Bohanon, et al., 2006) was conducted at the high school level and no studies were found that additionally addressed effects of SWPBS on students with special needs.

Another SWPBS study was conducted by Bohanon et al. (2006) at an urban high school in Chicago, Illinois; this currently is the third largest school district in the United States. The

school had a culturally diverse population of 1,800 students. The SWPBS program steps (Sugai & Horner, 2002b) included establishing a school-wide leadership team, providing teacher training, developing a delivery system, and collecting and analyzing data. The quantitative data consisted of ODRs and the SET. The results showed a 20% reduction in average ODRs in intervention year 3. The SET results indicated that implementation during year 3 reached the 80% level across five domains and two scores fell under the 80% implementation level (Bohanon et al.).

Summary

One common thread appeared in the implementation of all successful SWPBS programs reviewed. The first and most critical element, as far as the students are concerned, was not just the delivery system (token, ticket, etc.) that is used to reinforce and acknowledge student's appropriate behavior but also the social acknowledgement. Lewis and Sugai (1999) stated, "The critical element of any incentive system is not the token, or tangible, but rather the social acknowledgement and interaction between the student and the school" (p. 6). This could include providing students with a specific verbal description of the behavior that earned acknowledgement along with a tangible reinforcement (ticket/token). All of the studies reviewed included a reinforcement component that was not only tangible (ticket/token) but was also accompanied by verbal feedback.

The expansion and evolution of PBS has been accelerated by increased national attention on incidents of school violence, the lack of discipline and prosocial behavior in schools, and the use of drugs and alcohol by youth (Sugai & Horner, 2002b). In the past, school-wide discipline has focused mainly on reacting to specific student behavior (Sugai & Horner, 2002b).

Implementation of punishment, especially when used inconsistently and in the absence of other positive strategies, has been ineffective. However, a proactive approach of introducing, modeling, and reinforcing positive social behavior has become an important component of a student's educational experience. Teaching behavioral expectations and rewarding students for

displaying appropriate behavior has been found to be a much more positive approach than waiting for misbehavior to occur before responding (Sugai & Horner, 2002b). The purpose of SWPBS has been to establish a climate in which appropriate behaviors are encouraged, acknowledged, and rewarded.

The research included within this literature review supported the use of SWPBS as a way for administrators and teachers to promote positive behavior among students. However, the research was limited to the high school level and with students with disabilities.

CHAPTER 3

RESEARCH METHODOLOGY

The purpose of this study was to examine the effects of SWPBS on decreasing behavior challenges for both typical students and students identified with special needs. Chapter 3 focuses on the design, participants, setting, procedures, and data analysis of the study. Specifically, this chapter provides a detailed description of the pre- and post-study design of the School-Wide Positive Behavior Support program and a detailed description of the data collected and the data analysis procedures that were used. The study focused on SWPBS and examined the effects of SWPBS on overall student discipline in a rural high school setting. In addition, the data were disaggregated to look at the effects of SWPBS on students who have been identified as having special needs.

Design of the Study

This study was a 3-year repeated measures analysis designed to evaluate the effectiveness of a behavioral intervention. The researcher examined repeated baseline measures and repeated implementation of intervention measures. The researcher analyzed quarterly data collected over a 3-year period (2004-2005, 2005-2006, and 2006-2007 school years). Data were retrieved from Star Student (2006) database disciplinary files. Star Student is a complete web-based K-12 data management system. Data were also retrieved from a database used to track Mo-Buck tickets distributed by teachers to selected students.

Participants

This study took place in a rural high school in the Appalachian mountains of Northeast Tennessee. Approximately 1,200 students were enrolled each year of this 3-year study.

According to the school's 2006 Tennessee report card (http://www.k-12.state.tn.us/rptcrd06/), the school's population consisted of more than 95% White students along with small percentages of African Americans, Hispanics, and Native Americans. In addition, based on the level of the free- and reduced-price meals program, approximately 60% of the student population was economically disadvantaged. The school included students in grades 9 through 12. The percentage of students graduating in 2005 was not quite 75%; this was far below the state's goal of 90%.

<center>*Development of a SWPBS Program*</center>

Organizing SWPBS at Target School

The summer of 2004-2005, prior to the 1st year of intervention (2005-2006), involved SWPBS information gathering on the part of the assistant principal at the target high school. Each year, the special education directors in Northeast Tennessee sponsor a special education conference in which selected individuals and groups are invited to present and disseminate information pertaining to special education issues or educational issues in general. As part of my job requirements and expectations, I presented a workshop on the effects of SWPBS on students' behavior at the high school level. The presentation was based on a SWPBS program that was implemented at a small rural high school in the Appalachian mountains of Northeast Tennessee. The assistant principal from the target school attended the workshop and initial contacts were made. The administrator invited several staff members from the small rural high school that was described during the workshop to come and discuss their SWPBS program so that administrators at the target school could get a better description of the program and issues that were involved in carrying out the SWPBS program.

With a desire to implement a similar program, the administrator at the target school initiated steps necessary to develop, design, and implement a SWPBS program. The assistant principal contacted me for additional support and the process began.

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The model of implementing a SWPBS program as described by Turnbull et al. (2002) and Sugai and Horner (2002b) guided the development of a SWPBS program at the target high school. The model included: (a) establishing a behavior support or leadership team within the school, (b) developing a needs assessment of the school, (c) having school staff members develop hypotheses of student problem behavior, (d) clearly defining three to five universal behavior expectations, (e) explicitly teaching these expectations to all the students, (f) implementing a school-wide positive behavior reinforcement system, and (g) evaluating the data to make adaptations based on the data.

Establishing a SWPBS Leadership Team

A leadership team was recruited by the assistant principal to develop and oversee the implementation of the SWPBS program. Team members were selected based upon the assistant principal's recommendations. Team membership was voluntary. The initial team consisted of eight members representing teachers, counselors, and administrators along with this researcher. The team met on a regular basis to design, develop, implement, and schedule the SWPBS program.

Defining Universal Behavioral Expectations

The SWPBS team, along with input gathered from faculty and staff through informal interviews, identified four behavior categories to be the focal point of the SWPBS program. The behavior categories included attendance, pride in the school's appearance, respect, and responsibility. The behavior categories were defined and circulated among the faculty. Each category had several points that teachers discussed, taught, and explained to their students. Table 1 shows the target behaviors developed by the SWPBS leadership team.

Table 1

Target Behaviors Developed by the SWPBS Leadership Team

Target Behavior	Definitions of Target Behavior
Attendance	Understanding how school affects one's future
	Increasing achievement
	Improving academic skills
	Ensuring consistency in relationships
	Valuing education
	Developing a strong work ethic
Pride in School's Appearance	Being good stewards of the school's campus
	Serving the common good
	Beautifying and improving the school's campus
	Conserving and caring for the school's campus
Respect	Showing high regard for an authority, other people, self, and country
	Treating others as you would want to be treated
	Understanding that all people have value as human beings
Responsibility	Being accountable in word and deed
	Having a sense of duty to fulfill tasks with reliability, dependability, and commitment

The SWPBS leadership team also developed a list of expectations and outcomes they hoped to see as a result of the SWPBS program including an increase in attendance, increase in test scores (Gateway--writing assessment--ACT), a decrease in cohort dropout rate, development of virtues that are good for the student and for society, positive teacher and staff feedback, positive student feedback, and a decrease in suspensions, expulsions, and office referrals.

Teaching Behavioral Expectations to All Students

Teachers and faculty were responsible for teaching and modeling behavioral expectations to all students. No prepackaged lesson plans were used to teach expectations. Each teacher incorporated behavioral expectations into his or her daily instruction. Administrators used

announcement opportunities and student congregation opportunities to teach and promote

behavioral expectations. Posters were displayed throughout the building to serve as reminders of

these expectations.

Implementing a SWPBS Reinforcement System

The SWPBS leadership team used a recognition and reinforcement ticket system for

acknowledging students' displays of targeted behaviors. The tickets were called "Mo-Bucks" in

recognition of the school mascot. The tickets, the size of a standard business card, were printed

with the targeted behaviors, a space for the student's name, a space for the teacher's name, and a

space for the date. A list of Mo-Buck procedures was developed and given to all faculty and

staff. Table 2 shows the list developed by the SWPBS leadership team.

Table 2

Mo-Buck Procedures Designed by the SWPBS Leadership Team

Mo-Buck Procedures
1. Teachers or staff receive 10 Mo-Buck tickets to award every 9 weeks.
2. Teachers or staff award Mo-Buck cards to students for display of desired behavior.
3. Teachers or staff fill out the card, circle appropriate behavior category, and award to students.
4. Card must include teacher/staff signature.
5. Students deposit Mo-Buck cards in "the bank" (special container located on office counter).
6. Mo-Bucks are collected every 2 weeks, sorted by class (freshman, sophomore, etc.), and alphabetized by personal computing class.
7. Mo-Bucks are monitored and recorded by personal computing class.

Table 2 (continued)

Mo-Buck Procedures

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8. Data are entered on Excel program spreadsheet.

9. A drawing is conducted every Thursday, with the winner announced on the intercom.

10. Every 9 weeks the student who has earned Mo-Buck(s) cashes in his or her Mo-Bucks at a grade level concession day (gym lobby or stadium).

11. There are two concessions per day over a 2-day period – one day for freshman and sophomore and one day for juniors and seniors.

12. The personal computing class is responsible for preparing two tickets (raffle tickets with numbers) for each "customer." One ticket has the student's name and number of Mo-Bucks earned; the other ticket is the student's pass to attend the concession. Tickets are given out during lunch the day before the concession event.

13. In addition to the Thursday drawings and the 9-week concession days, there is an end-of-year "Super Concession Day" celebration, with grand prize drawings for all Mo-Buck recipients throughout the year.

Data Collection

Data from the 2004-2005 school year were retrieved from the Star Student database. The data were retrieved quarterly to provide baseline data. The 1st year of intervention (2005-2006) included implementation of the SWPBS program and delivery of reinforcers. Data were collected on a quarterly basis and reviewed by the administrators and the leadership team. The 2nd year of intervention (2006-2007) included continuation of the SWPBS program and delivery of reinforcers. Data were collected and analyzed on a quarterly basis in order to determine the effectiveness of SWPBS on student behavior.

1. Is there a relationship between the number of reinforcers distributed and the number of Office Daily Referral (ODR) incidents within the overall student population and within the cohort population?

2. Is there a difference in the number of ODRs among baseline year prior to implementation of SWPBS, 1st year of SWPBS implementation, and 2nd year of SWPBS implementation?

3. Among students with disabilities, is there a difference in the number of ODRs between baseline year prior to implementation of SWPBS, 1st year of SWPBS implementation, and 2nd year of SWPBS implementation?

4. Is there a difference in attendance rate between baseline year prior to implementation of SWPBS, 1st year of SWPBS implementation, and 2nd year of SWPBS implementation?

5. Among students with disabilities, is there a difference in attendance rate between baseline year prior to implementation of SWPBS, 1st year of SWPBS implementation, and 2nd year of SWPBS implementation?

6. Do teachers meet their goal of distributing 10 reward tickets (Mo-Bucks) per quarter to students who demonstrate targeted behavior during the 1st year of SWPBS implementation and during the 2nd year of SWPBS implementation?

7. Is there a difference in suspension rate between baseline year prior to implementation of SWPBS, 1st year of SWPBS implementation, and 2nd year of SWPBS implementation?

8. Is there a difference in expulsion rate between baseline year prior to implementation of SWPBS, 1st year of SWPBS implementation, and 2nd year of SWPBS implementation?

Data Analysis

The dependent variables used to evaluate the impact of the SWPBS program were:

1. Office Daily Referrals measured as the rate of ODRs given per student in a given quarter;

2. attendance measured as the rate of attendance per student in a given quarter;

3. suspension measured as the rate of suspensions per student in a given quarter;

4. expulsion measured as the rate of expulsions per student in a given quarter; and

5. reinforcement data measured as the number of teachers who met or exceeded the expectation of giving out 10 reinforcers per teacher per quarter.

Research questions #1 through # 8 were analyzed using descriptive analysis because the unit of analysis was small (4 quarters compared to 4 quarters) and the data were derived from the population.

CHAPTER 4

RESULTS

The purpose of this study was to examine the effects of SWPBS on decreasing behavior challenges for both typical students and students identified with special needs. This chapter addresses the descriptive findings of the study. The data analysis targeted the entire student population (grades 9 through 12) along with the freshmen and sophomore cohorts and the senior class from each year. The student population was defined as all students enrolled during each year of the study. The freshmen cohort was defined as students who were freshmen during the baseline year, sophomores during the 1st year of intervention, and juniors during the 2nd year of intervention. The sophomore cohort was defined as students who were sophomores during the baseline year, juniors during the 1st year of intervention, and seniors during the 2nd year of intervention. The senior class was defined as the senior class during baseline year, the senior class during 1st year of intervention, and the senior class during the 2nd year of intervention. The senior class comparison was not a cohort because the same group of students was not followed over successive years. Instead, this was a comparison of the seniors who had no SWPBS intervention, 1 year of SWPBS intervention, and 2 years of SWPBS intervention. Tracking the freshmen and sophomore cohorts provided a more accurate analysis of the effects of SWPBS on students' behavior because only these two cohorts of students experienced both baseline and intervention conditions.

This study also included data on students who had been identified as having a disability and who were currently receiving special education services. The data for these students were not as extensive as for the other students involved in the study and were analyzed accordingly. In addition to student behavior, this analysis included teachers' participation data (i.e., teachers participating in delivering reinforcers to students).

This 3-year study included data retrieved from the target high school's SWPBS program

data and student discipline data over a 3-year period (2004-2005, 2005-2006, and 2006-2007). Each school's annual data were retrieved quarterly; therefore, 12 quarters of data were analyzed. Enrollment numbers for each class declined as students progressed through the school years; therefore, data were also calculated based on student enrollment in order to account for attrition. The data analyses were calculated as the number of ODRs, attendance, expulsions, or suspensions divided by the number of students enrolled in each class to control for changes in yearly enrollment.

Research Questions

Research Question #1

Is there a relationship between the number of reinforcers distributed and the number of Office Daily Referral (ODR) incidents within the overall student population and within the cohort population?

Figure 1 illustrates the number of Mo-Bucks (reinforcers) given to the freshmen cohort compared to the number of ODRs committed by the freshmen cohort.
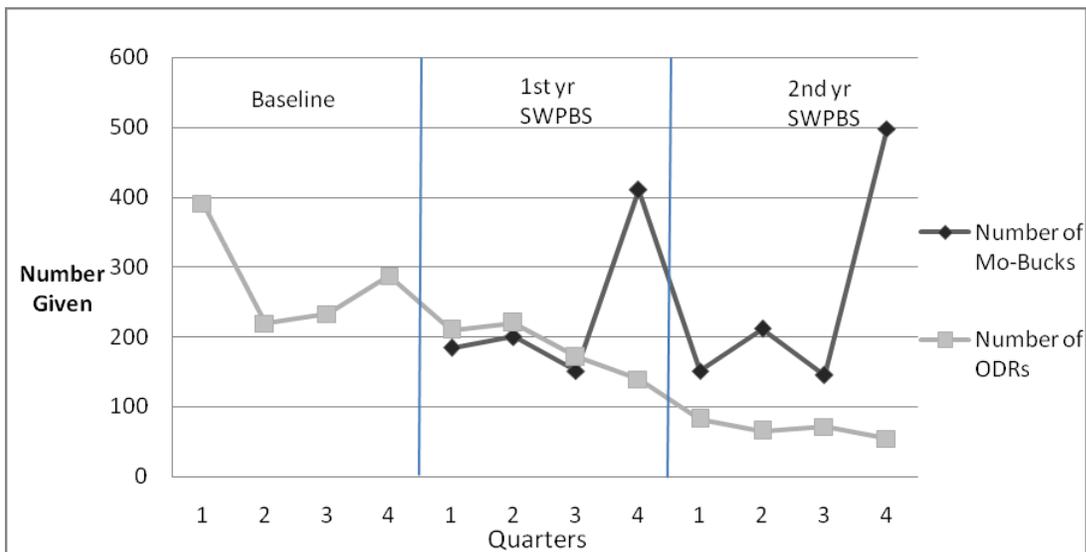

Figure 1. Number of Mo-Bucks Compared to Number of Office Daily Referrals (ODRs) for the Freshmen Cohort

As shown in Figure 1, over the duration of the 3-year study, the freshmen cohort had 1130, 740, and 272 ODRs per year. During the 2 years of intervention, the staff delivered 945 and 1005 Mo-Bucks respectively to the freshmen cohort. Quarter by quarter there is not a close correspondence between the increase in Mo-bucks and the decrease in ODRs except during the last quarter of each intervention year. However, over the 2 years of intervention, there is a steady decrease in the ODR rate. Figure 1 shows that following an initial decrease in ODRs from the 1st to 2nd quarter of the baseline year, there was a gradual increase in ODRs from the 2nd to 3rd and then 3rd to 4th quarters of the baseline year. In contrast, there was a relatively consistent decrease in the number of ODRs across the quarters of the 2 school-wide intervention years. The 1st quarter of the 2nd year of intervention showed fewer ODRs than did the last quarter of the 1st year of intervention. This decreasing trend continued throughout the 2nd year of intervention except for a slight increase in the 3rd quarter that remained below the previous year's ODR rates. Although the rate of intervention showed significant quarterly variations with obvious peaks in the 4th quarter of each intervention year, the decrease in ODR rates remained steady throughout the 2 years of intervention. There were no corresponding valleys in the ODR rates. Over the 2 years of intervention, there was not a consistent corresponding decrease in ODRs to the increase in the number of Mo-Bucks given; nevertheless, there was a steady decrease in the ODR rates overall.

Figure 2 illustrates the number of Mo-Bucks (reinforcers) given to the sophomore cohort compared to the number of ODRs for the sophomore cohort.
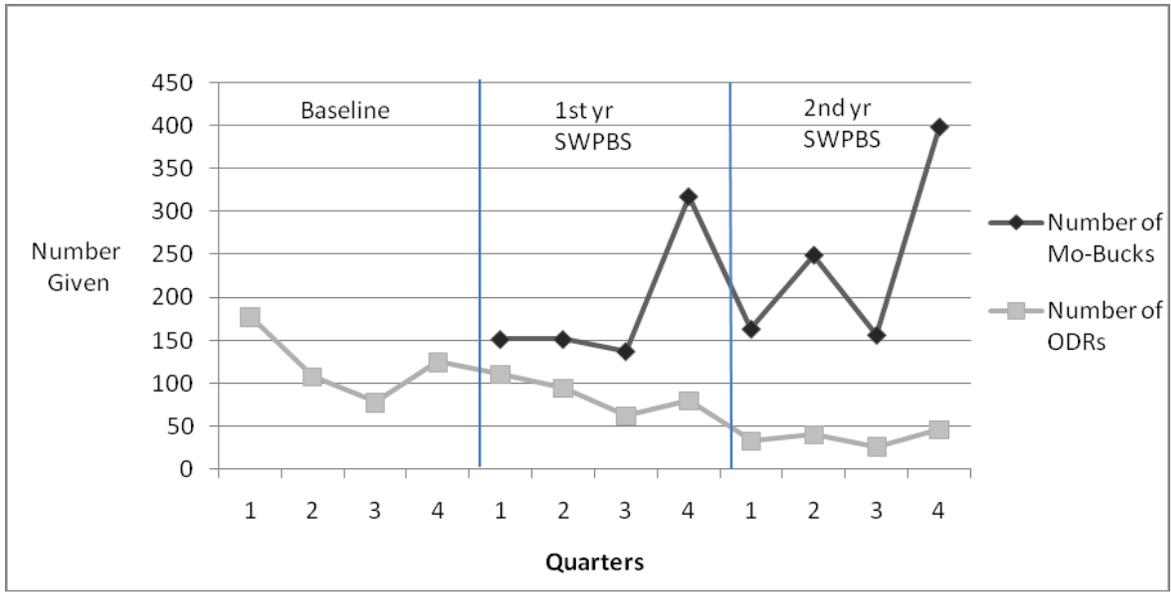
Figure 2. Number of Mo-Bucks Compared to Number of Office Daily Referrals (ODRs) for the Sophomore Cohort

Over the duration of the 3-year study, the sophomore cohort had 489, 348, and 145 infractions per year. During the 2 years of intervention, the staff delivered 756 and 966 reinforcers respectively to the sophomore cohort. Similar to the freshmen cohort's quarter by quarter, there is not a close correspondence between the increase in Mo-bucks and the decrease in ODRs for the sophomore cohort. However, over the 2 years of intervention there was a steady decrease in the ODR rate. As shown in Figure 2, it can be seen that following an initial decrease in ODRs from the 1st through 3rd quarters of the baseline year and then a gradual increase in ODRs from the 3rd to 4th quarter of the baseline year, there was a relatively consistent decrease in the number of ODRs across the 8 quarters of the 2 school-wide intervention years. The 1st quarter of the 2nd year of intervention showed fewer ODRs than did all the quarters of the 1st year of intervention. This decreasing trend continued throughout the 2nd year of intervention except for a slight increase in the 4th quarter that remained below the previous years' ODR rates. Although the rate of intervention showed significant quarterly variations, with obvious peaks in the 4th quarter of each intervention year and during the 2nd quarter of the 2nd year of

intervention, the decrease in ODR rates remained steady throughout the 2 years of intervention. There were no corresponding valleys in the ODR rates; however, there were slight increases in the ODR rate during the 3 peak intervention quarters. Even though over the 2 years of intervention there was not a consistent corresponding decrease in ODRs to the increase in the number of Mo-Bucks given, there was a steady decrease in the ODR rates overall.

Figure 3 illustrates the number of Mo-Bucks given compared to the number of ODRs for the seniors who received no SWPBS, the seniors that received one year of SWPBS and the seniors that received 2 years of SWPBS.
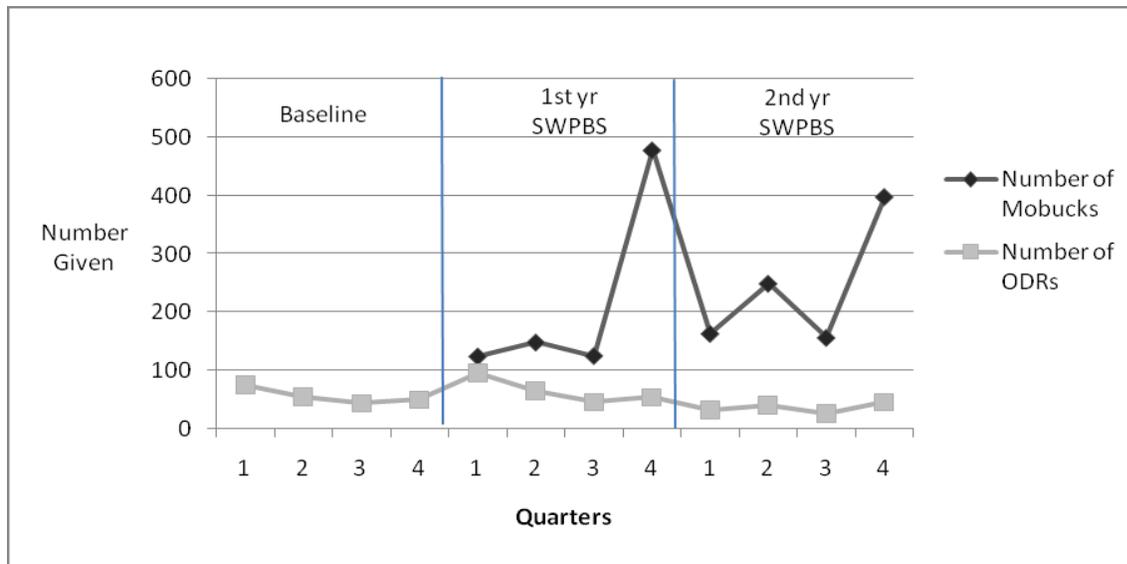

Figure 3. Number of Mo-Bucks Compared to Number of Office Daily Referrals (ODRs) for the Senior Class Comparison

Over the duration of the 3-year study, the senior class receiving no SWPBS had 244 ODRs, the class with 1 year of SWPBS had 261 ODRs, and the senior class with 2 years of SWPBS had 145 ODRs. During the 2 years of intervention, the staff delivered 875 and 966 Mo-Bucks respectively to the senior classes. Quarter by quarter, there is not a close correspondence

between the increase in Mo-bucks and the decrease in ODRs for the senior class. Although the rate of intervention showed significant quarterly variations with obvious peaks in the 4th quarter of each intervention year and during the 2nd quarter of the 2nd year of intervention, the decrease in ODR rates remained steady throughout the 2 years of intervention. There were no corresponding valleys in the ODR rates; however, there were slight increases in the ODR rate during the 3 peak intervention quarters. Even though over the 2 years of intervention there was not a consistent corresponding decrease in ODRs to the increase in the number of Mo-Bucks given, there was a steady decrease in the ODR rates overall.

Figure 4 illustrates the number of Mo-Bucks (reinforcers) given to the total student population compared to the number of ODRs for the total student population.
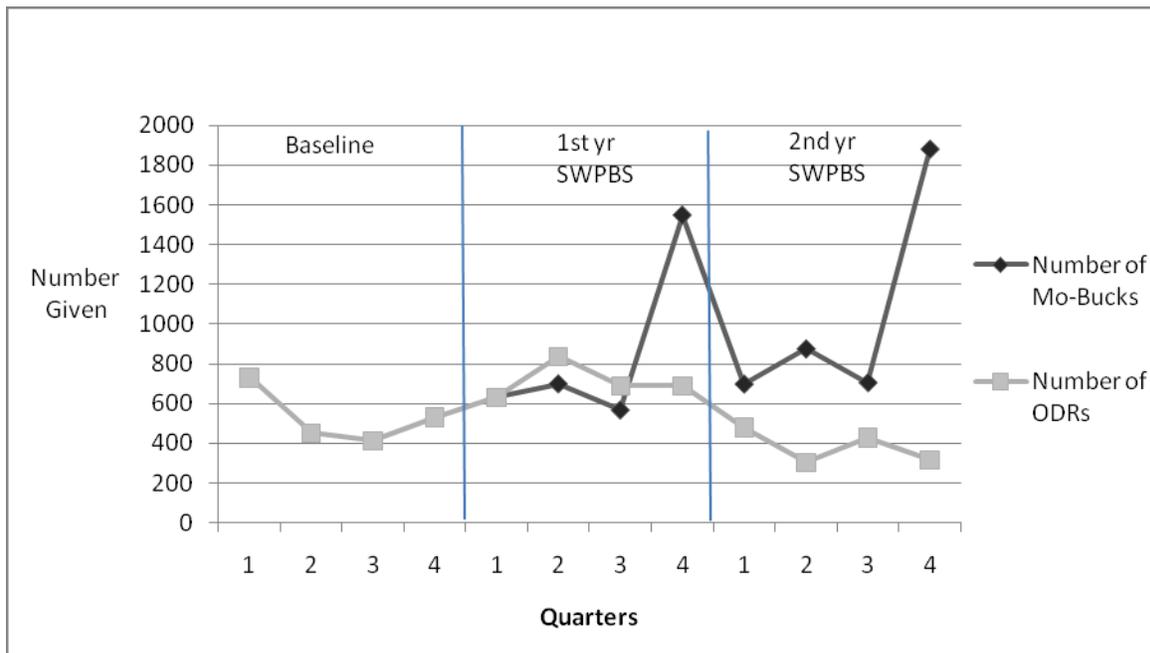

Figure 4. Number of Mo-Bucks Compared to Number of Office Daily Referrals (ODRs) for the Total Student Population

Over the duration of the 3-year study, the total student population committed 2,120, 2,845, and 1,522 ODRs per year. During the 2 years of intervention, the staff delivered 3,446 and 4,160 reinforcers per year respectively to the total student population. Quarter by quarter, there was not a close correspondence between the increase in Mo-bucks and the decrease in ODRs for the total student population. Although the rate of intervention showed significant quarterly variations with obvious peaks in the 4th quarter of each intervention year and during a slight peak during the 2nd quarter of the 2nd year of intervention, the decrease in ODR rates remained steady throughout the 2 years of intervention. There were no corresponding valleys in the ODR rates; however, there were slight decreases in the ODR rate during the 2nd and 4th quarter that corresponded with the peak intervention quarters. Even though over the 2 years of intervention there was not a consistent corresponding decrease in ODRs to the increase in the number of Mo-Bucks given, there was a steady decrease in the ODR rates overall.

Research Question #2

Is there a difference in the number of ODRs between baseline year prior to implementation of SWPBS, 1st year of SWPBS implementation, and 2nd year of SWPBS implementation?

Figure 5 illustrates the rate of ODRs for the freshmen cohort by quarter. The ODR rate was determined by dividing the number of ODRs by student enrollment for that quarter.
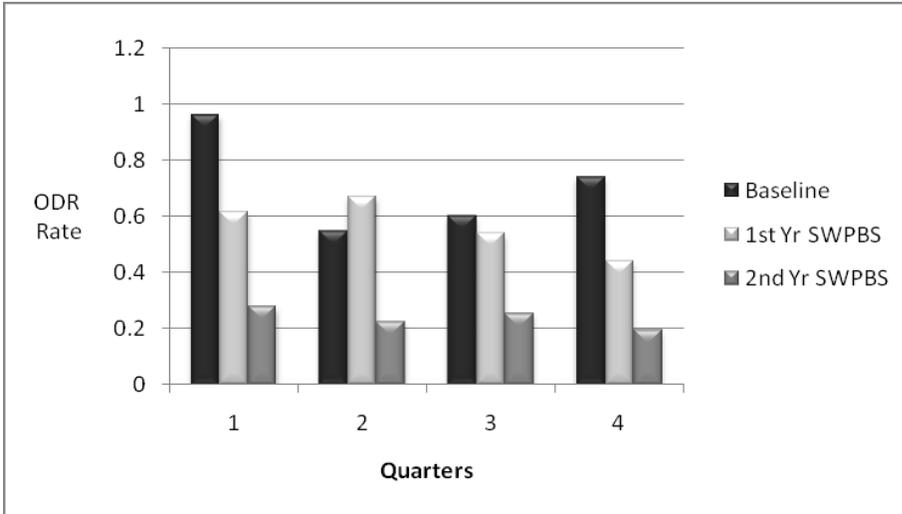
Figure 5. Freshmen Cohort: Office Daily Referral (ODR) Rate

As shown in Figure 5, there was a 21% reduction in ODRs between the baseline year and the 1st year of SWPBS and a 68% reduction in ODRs between the baseline year and the 2nd year of SWPBS. During the 1st year of SWPBS, freshmen cohort ODR rates were reduced for 3 of the 4 quarters compared to baseline for that same quarter; the 2nd quarter was the exception to this trend. During the 2nd year of SWPBS, there were further substantial and consistent reductions in ODR rates for every quarter.

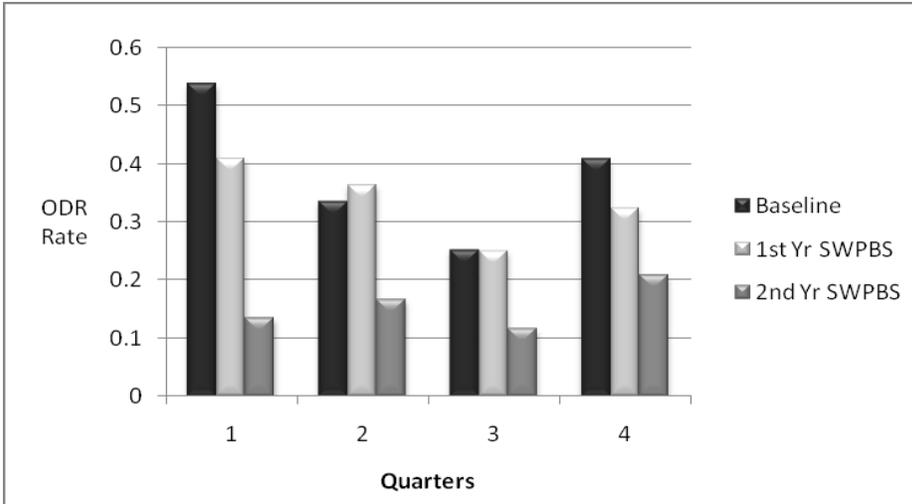Figure 6 illustrates the rate of ODRs for the sophomore cohort each year.

Figure 6. Sophomore Cohort: Office Daily Referrals (ODR) Rate

There was a 14% reduction in ODRs between the baseline year and the 1st year of SWPBS and a 59% reduction in ODRs between the baseline year and the 2nd year of SWPBS. Looking at the quarterly results as shown in Figure 6, there were reductions in ODR rates during the 1st, 2nd, and 3rd quarters of the 1st year of intervention and a slight rise of ODRs during the 4th quarter that mirrored the baseline quarters. During the 2nd year of SWPBS, there were larger overall decreases in ODRs with a slight increase during the 2nd and 4th quarters. Overall, the trend indicates a consistent decrease in ODRs across the 2 years on SWPBS intervention.

Figure 7 represents the rate of ODRs for the senior class comparison for each year, by quarters.
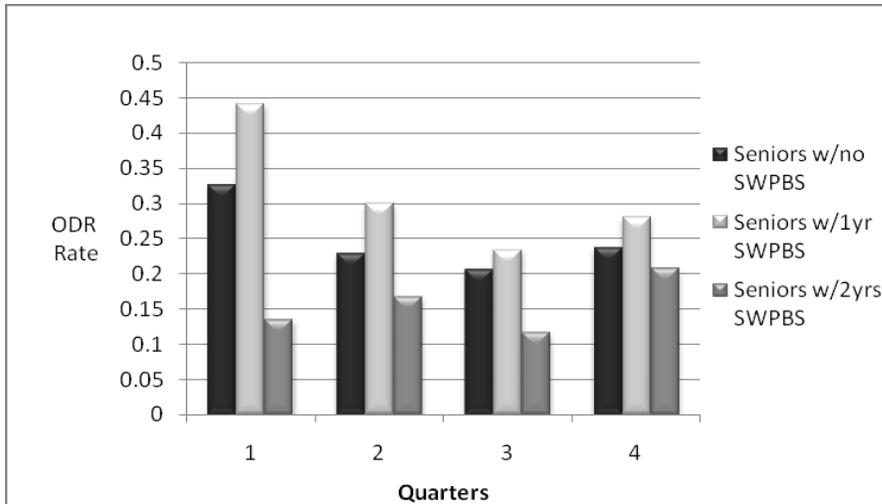
Figure 7. Senior Class Comparison: Office Daily Referrals (ODR) Rate

As shown in Figure 7, there was a 26% increase in ODRs between seniors with 1 year of SWPBS and seniors who had no SWPBS; however, there was a 37% decrease in ODRs between seniors with 2 years of SWPBS and seniors who had no SWPBS. Looking at the quarterly results as shown in Figure 7, there were overall increases in ODRs compared to the baseline year. However, the trend shows that during the 1st year of SWPBS intervention, the ODR rate consistently decreased during the 2nd and 3rd quarters with only a slight increase during the 4th quarter. During the 2nd year of SWPBS, there were larger overall decreases in ODRs compared to the baseline year and 1st year of intervention with a slight increase during the 2nd and 4th quarters that remained much lower than baseline and 1st year. Overall, the trend indicates a consistent decrease in ODRs across the 2 years on SWPBS intervention with the most significant decreases during the 2nd year.

Figure 8 illustrates the rate of ODRs for the total student population for each year by quarters.
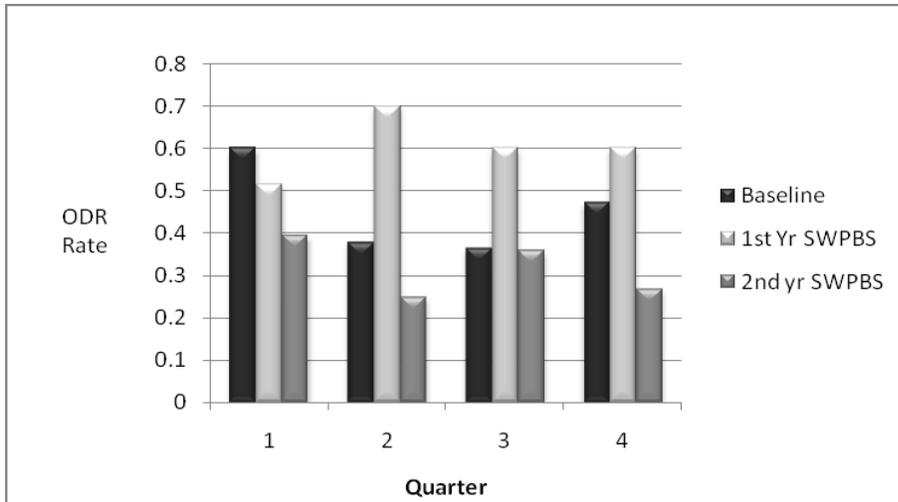
Figure 8. Total Student Population: Office Daily Referrals (ODR) Rate

As shown in Figure 8, for the student population as a whole there was a 33% increase in ODRs between the baseline year and the 1st year of SWPBS followed by a 31% reduction in ODRs between the baseline year and the 2nd year of SWPBS. Looking at the quarterly results as shown in Figure 8, there were overall increases in ODRs during the 2nd, 3rd, and 4th quarters of the 1st year of SWPBS intervention with a large peak in the 2nd quarter compared to the baseline year; however, the trend shows that during the 1st year of SWPBS intervention, the ODR rate consistently decreased during the 2nd and 3rd quarters with only a slight increase during the 4th quarter. During the 2nd year of SWPBS, there were larger overall decreases in ODRs compared to the baseline year and 1st year of intervention with a slight increase during the 2nd and 4th quarters that remained lower than the baseline and 1st year. Overall, the trend for the total school population indicates a consistent decreasing pattern in ODRs across quarters during the 2 years on SWPBS intervention with the most significant decreases during the 2nd year.

Research Question #3

Among students with disabilities, is there a difference in the number of ODRs between baseline year prior to implementation of SWPBS, 1st year of SWPBS implementation, and 2nd year of SWPBS implementation?

Figure 9 illustrates the rate of ODRs for freshmen students with disabilities cohort for each year by quarters.
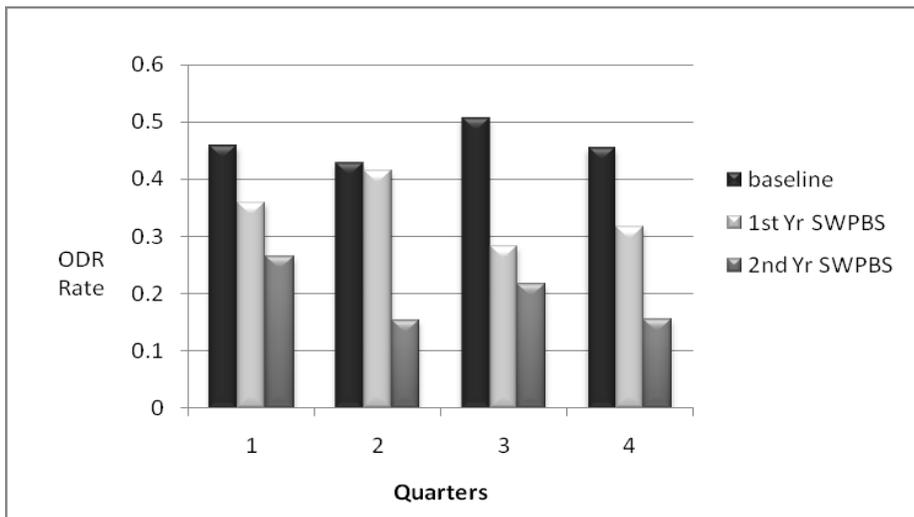

Figure 9. Freshmen Students With Disabilities Cohort: Office Daily Referrals (ODR) Rate

As shown in Figure 9, there was a 27% reduction in ODRs between the baseline year and the 1st year of SWPBS and a 59% reduction in ODRs between the baseline year and the 2nd year of SWPBS. During the 1st year of SWPBS, there was a decrease each quarter compared to the comparable baseline quarter for freshmen students with disabilities. These decreases were even more consistent and larger during each quarter of the 2nd year of SWPBS. Overall, the trend for the freshmen with disabilities cohort indicates a consistent decreasing pattern in ODRs across quarters during the 2 years of SWPBS intervention with the most significant decreases during the 2nd year.

Figure 10 illustrates the rate of ODRs for the sophomore students with disabilities cohort each year by quarters.
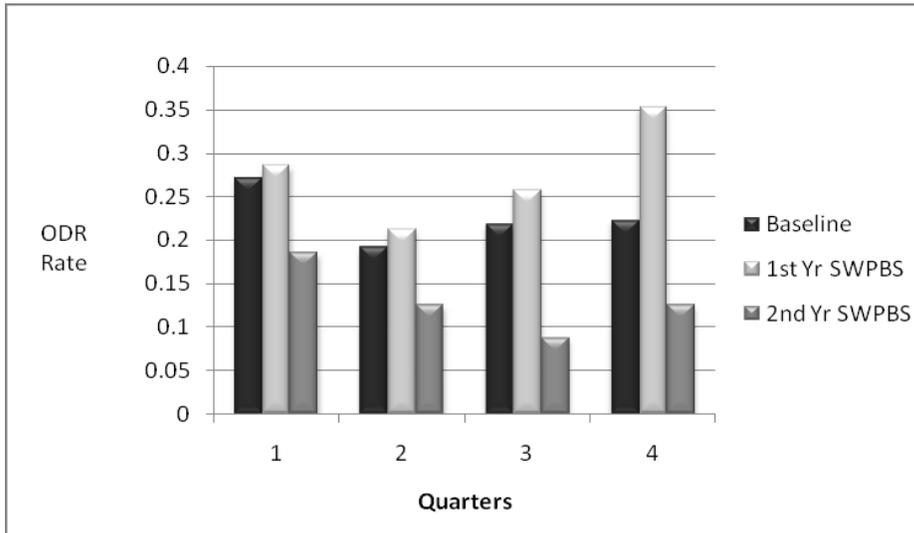

Figure 10. Sophomore Students With Disabilities Cohort: Office Daily Referrals (ODR) Rate

As shown in Figure 10, there was a 16% increase in ODRs between the baseline year and the 1st year of SWPBS and a 44% reduction in ODRs between the baseline year and the 2nd year of SWPBS. There was an increase in ODRs for sophomores with disabilities each quarter of the 1st year of SWPBS but a substantial and consistent decrease in ODRs during the 2nd year of SWPBS with only a slight rise in ODRs during the 4th quarter. Nevertheless, all quarters during the 2nd year of intervention had lower ODR rate than did any quarter during the baseline or 1st year of intervention. The trend for the sophomore students with disabilities cohort indicates a consistent decreasing pattern in ODRs during the 2nd year of SWPBS intervention.

Figure 11 illustrates the rate of ODRs between seniors with disabilities with 1 year of SWPBS and seniors who had no SWPBS.
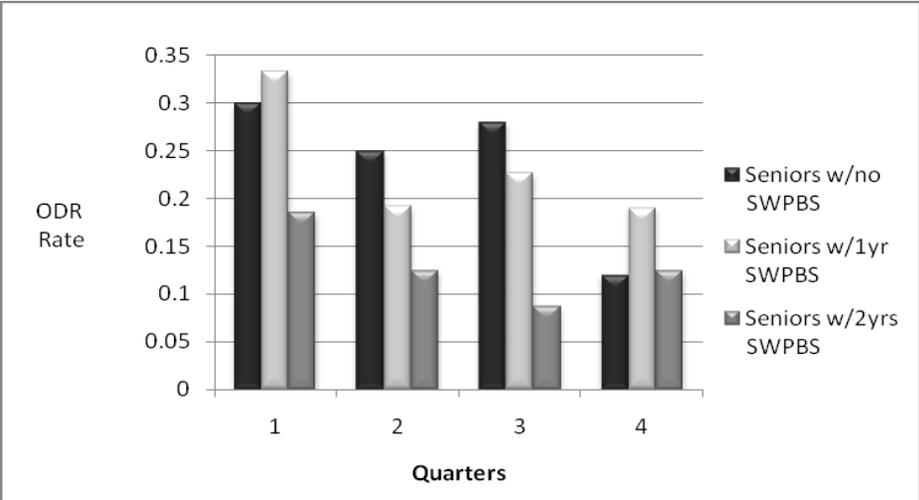
Figure 11. Senior Students With Disabilities Class Comparison: Office Daily Referrals (ODR Rate)

As shown in Figure 11, there was a 45% decrease in ODR between seniors with no SWPBS and seniors who had 2 years of SWPBS. There was an overall decrease in ODRs for students with disabilities during the 1st year of SWPBS with a slight increase during the 1st quarter and the 3rd quarter. There was a consistent decrease in ODRs during the 2nd year of SWPBS with only a slight rise in ODRs during the 4th quarter. Nevertheless, all quarters during the 2nd year of intervention had lower ODR rates than did any quarter during the baseline or 1st year of intervention. The trend for the senior students with disabilities indicated a consistent decreasing pattern in ODRs during the 2nd year of SWPBS intervention with only a slight increase during the 4th quarter.

Figure 12 illustrates the rate of ODRs for the total students with disabilities population each year by quarters.
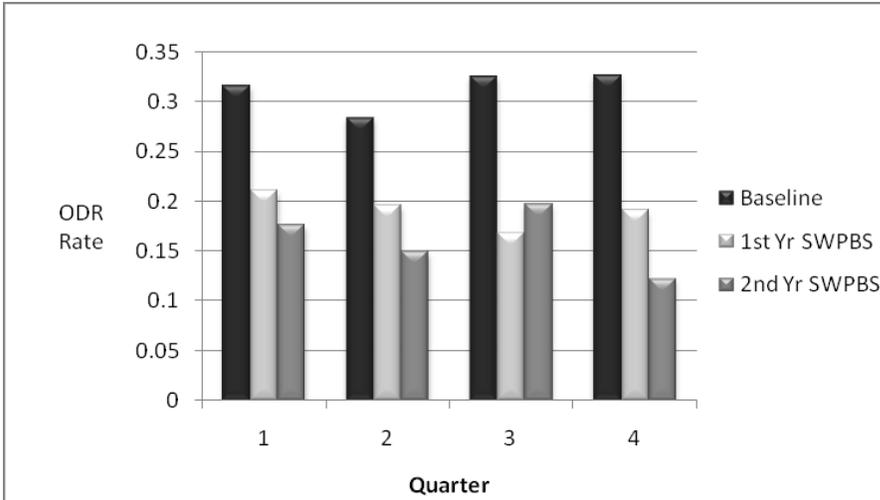
Figure 12. Total Students With Disabilities Population: Office Daily Referrals (ODR) Rate

As shown in Figure 12, there was a 40% reduction in ODRs between the baseline year and the 1st year of SWPBS and a 51% reduction in ODRs between the baseline year and the 2nd year of SWPBS. In the 1st year of SWPBS, students with disabilities showed a substantial decrease in ODRs each quarter except for a slight increase during the 4th quarter. The 2nd year of SWPBS showed further decreases for each quarter with the exception of the 3rd quarter. The trend for the total students with disabilities population indicates a consistent decreasing pattern in ODRs during the 1st and 2nd year of SWPBS intervention.

Research Question #4

Is there a difference in attendance rate between the baseline year prior to implementation of SWPBS, 1st year of SWPBS implementation, and 2nd year of SWPBS implementation?

Figure 13 illustrates the freshmen cohort's attendance rate each year by quarters. Attendance rate was determined by dividing enrollment by the average daily attendance.

Figure 13. Freshmen Cohort: Attendance Rate

As shown in Figure 13, there was a 0.3 % increase in attendance rate (from 91.6% to 91.9%) between the baseline year and the 1st year of SWPBS and a 2.8% increase in attendance rate between the baseline year and the 2nd year of SWPBS (from 91.6% to 94.4 %).

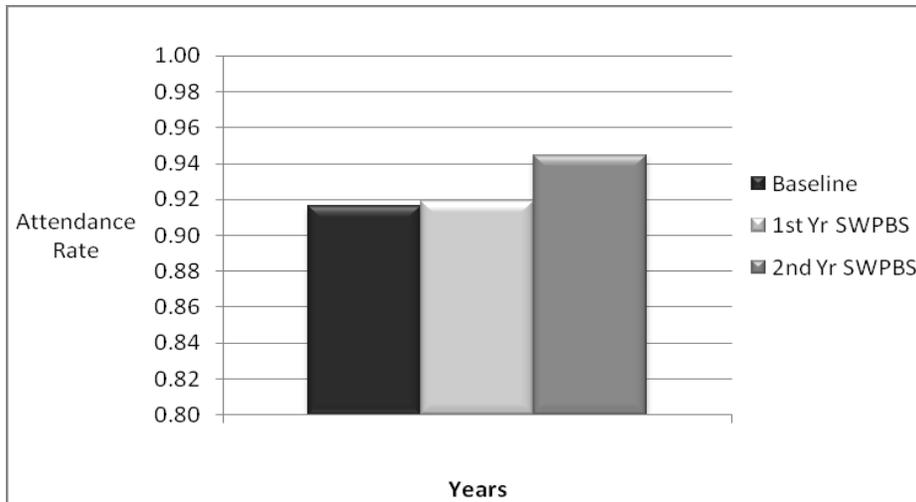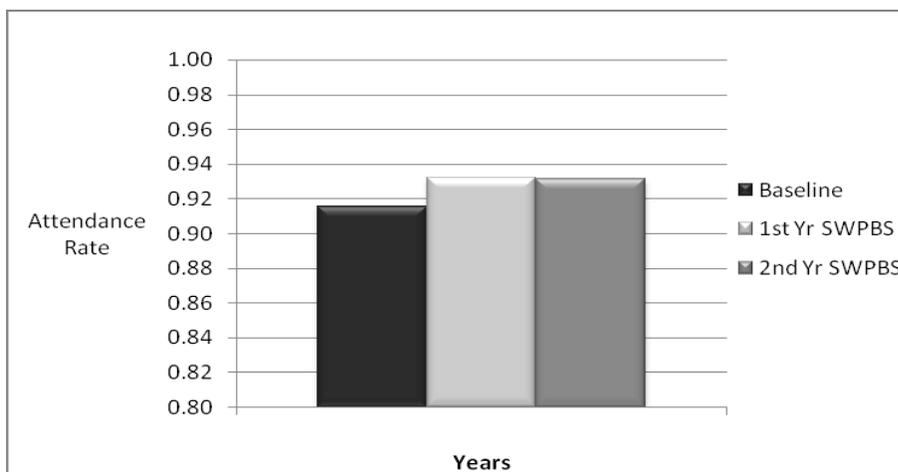Figure 14 illustrates the sophomore cohort's attendance rate for each year by quarters.

Figure 14. Sophomore Cohort: Attendance Rate

As shown in Figure 14, there was a 1.7% increase in attendance rate between the baseline year and the 1st year of SWPBS (from 91.5% to 93.2%) and a 1.6% increase in attendance rate between the baseline year and the 2nd year of SWPBS (from 91.5% to 93.1%).

Figure 15 illustrates the senior class comparison attendance rate each year by quarters.
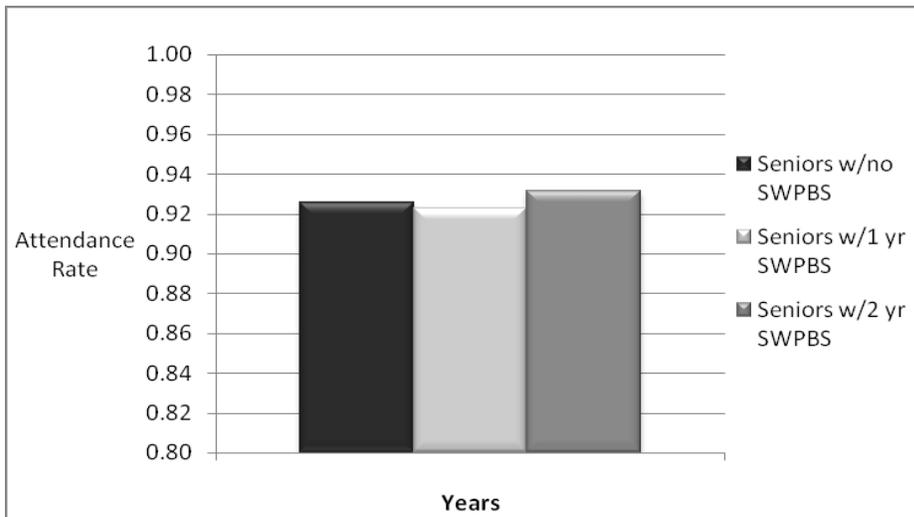
Figure 15. Senior Class Comparison: Attendance Rate

As shown in Figure 15, there was a 0.3 % decrease in attendance rate between seniors with no SWPBS and seniors with 1 year of SWPBS (from 92.6% to 92.3%), whereas there was a 0.5% increase in attendance rate between seniors with no SWPBS and seniors with 2 years of SWPBS (from 92.6% to 93.1%).

Figure 16 illustrates the total student population attendance rate each year broken down into quarters.
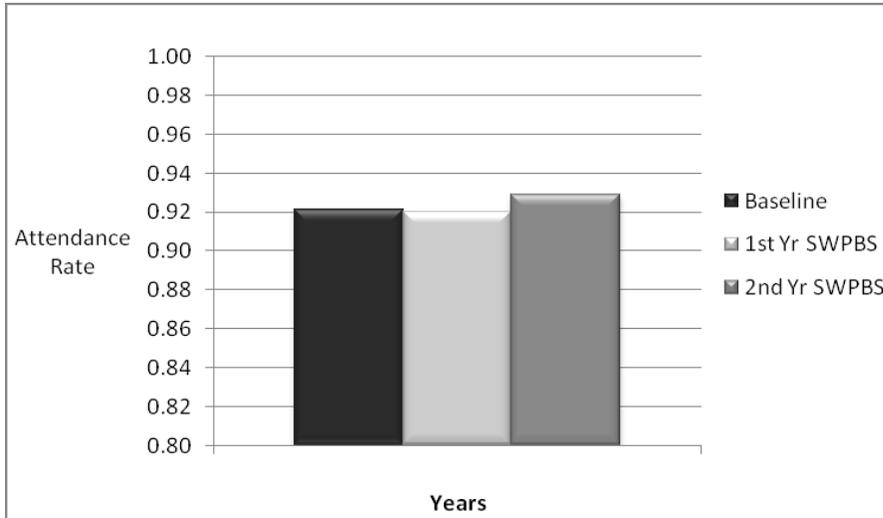
Figure 16. Total Student Population: Attendance Rate

As shown in Figure 16, there was a 0.3 % decrease in attendance rate between the baseline year and the 1st year of SWPBS (from 92.2% to 91.9%) and a 0.7% increase in attendance rate between the baseline year and the 2nd year of SWPBS.(from 92.2% to 92.9%).

Research Question #5

Among students with disabilities, is there a difference in attendance rate between baseline year prior to implementation of SWPBS, 1st year of SWPBS implementation, and 2nd year of SWPBS implementation?

Figure 17 illustrates the attendance rate for the freshmen students with disabilities cohort for each year by quarters.

Figure 17. Freshmen Students With Disabilities Cohort: Attendance Rate

As shown in Figure 17, there was a 1.4% increase in attendance between baseline year and the 1st year of SWPBS (from 88.6% to 90%) and a 4.5% increase in attendance between baseline year and the 2nd year of SWPBS (from 88.6% to 93.1%).

Figure 18 illustrates the attendance rate for the sophomore students with disabilities cohort for each year by quarters.

Figure 18. Sophomore Students With Disabilities Cohort: Attendance Rate
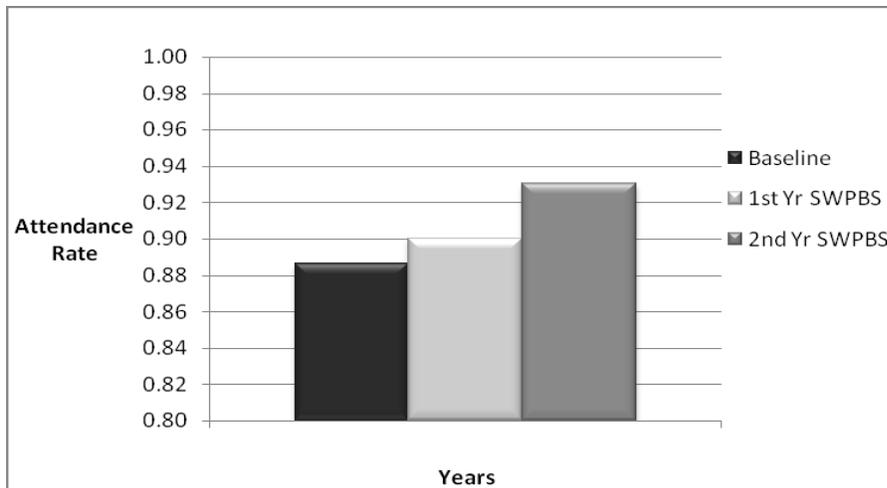
As shown in Figure 18, there was a 5.5% increase in attendance between the baseline year and the 1st year of SWPBS (from 88.7% to 94.2%) and a 4% increase in attendance between the baseline year and the 2nd year of SWPBS (from 88.7% to 92.7%).

Figure 19 illustrates the senior students with disabilities class comparison attendance rate for each year by quarters.
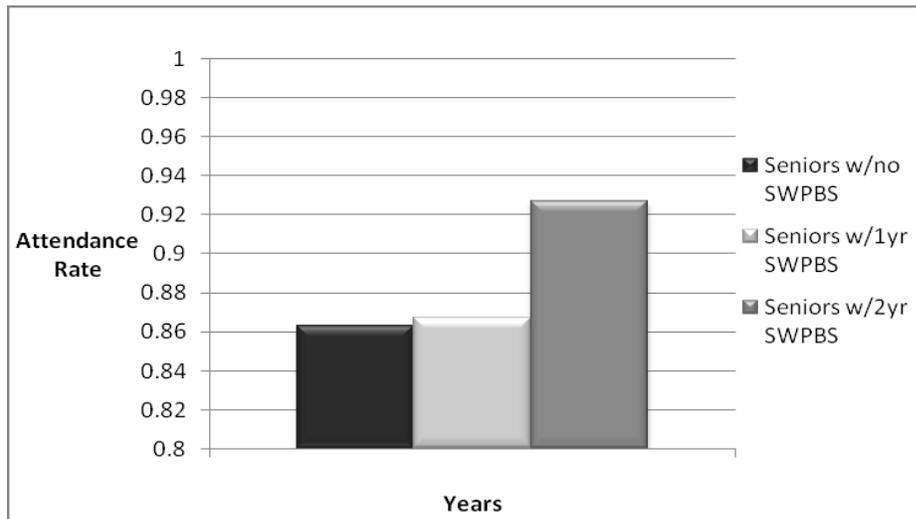
Figure 19. Senior Students With Disabilities Class Comparison: Attendance Rate

As shown in Figure 19, there was a 0.4% increase in attendance rate between seniors with no SWPBS and seniors with 1 year of SWPBS (from 86.3% to 86.7%) and a 6.4% increase in attendance rate between seniors with no SWPBS and seniors with 2 years of SWPBS (from 86.3% to 92.7%).

Figure 20 illustrates the attendance rate for the total student with disabilities population for each year by quarters.
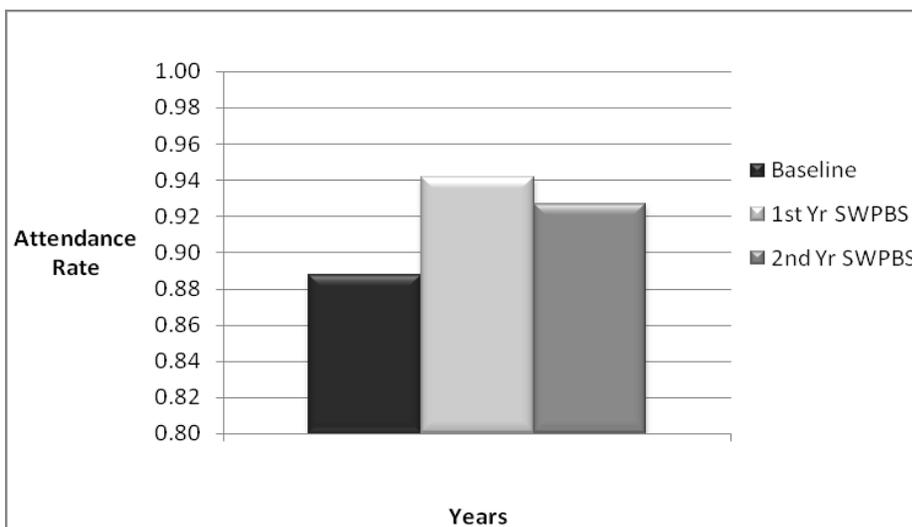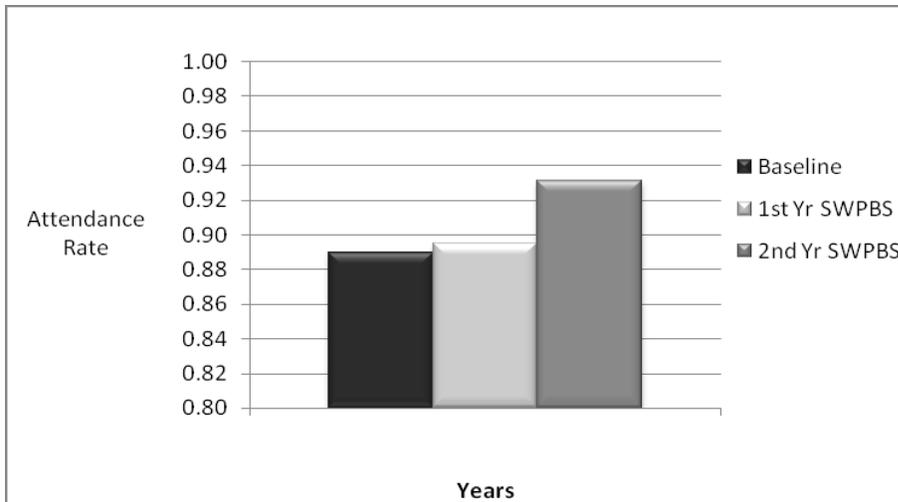
Figure 20. Total Students With Disabilities Population: Attendance Rate

As shown in Figure 20, there is a 0.6% increase in attendance between the baseline year and the 1st year of SWPBS (from 88.9% to 89.5%) and a 4.2% increase in attendance between the baseline year and the 2nd year of SWPBS (from 88.9% to 93.1%).

Research Question #6

Do teachers meet their goal of distributing 10 reward tickets (Mo-Bucks) per quarter to students who demonstrate targeted behavior during the 1st year of SWPBS implementation and during the 2nd year of SWPBS implementation?

Figure 21 illustrates staff members' participation in the SWPBS mobuck program.
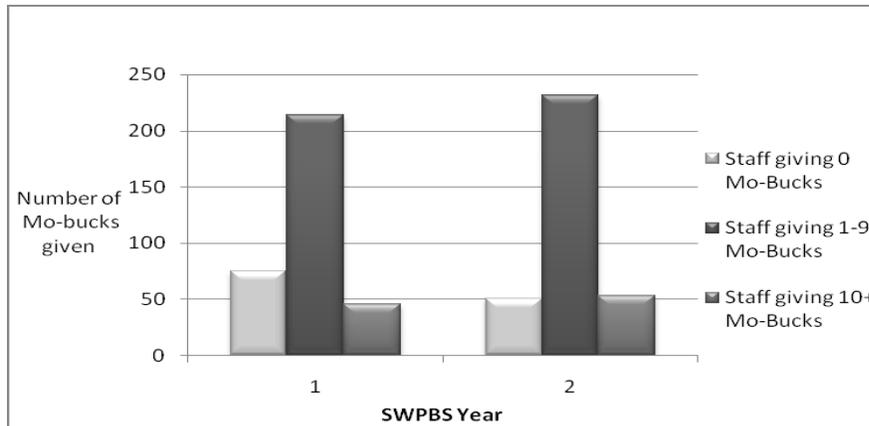
Figure 21. Staff Participation in SWPBS: Mo-Bucks Given

As shown in Figure 21, during the 1st year of SWPBS, 22% of the staff members gave zero Mo-Bucks, 64% gave 1 to 9 Mo-Bucks, and 14% of the staff gave out 10 or more Mo-Bucks. During the 2nd year of SWPBS, 15% of the staff members gave zero Mo-Bucks, 69% gave out 1 to 9 Mo-Bucks, and 16% gave out 10 or more Mo-Bucks.

Research Question #7

Is there a difference in suspension rate between baseline year prior to implementation of SWPBS, 1st year of SWPBS implementation, and 2nd year of SWPBS implementation?

Figure 22 illustrates the freshmen cohort suspension rate for each year by quarters. Suspension rate was determined by dividing the number of suspensions for a quarter by enrollment for that quarter.

Figure 22. Freshmen Cohort: Suspension Rate

As shown in Figure 22, there was a 77% increase in the suspension rate between the baseline year and the 1st year of SWPBS and a 39% decrease in suspension rate between the baseline year and the 2nd year of SWPBS. Looking at the quarterly results as shown in Figure 22, there were overall increases in the suspension rate during the 1st, 2nd, and 3rd quarters of the 1st year of SWPBS intervention with a large peak in the 2nd quarter compared to the baseline year that showed no suspensions during the 2nd quarter. The 2nd year of SWPBS intervention showed a steady decrease in suspensions over all quarters.

Figure 23 illustrates the sophomore cohort suspension rate for each year by quarters.

Figure 23. Sophomore Cohort: Suspension Rate

As shown in Figure 23, there was an 188% increase in the suspension rate between the baseline year and the 1st year of SWPBS and a 4% increase in the suspension rate between the baseline year and the 2nd year of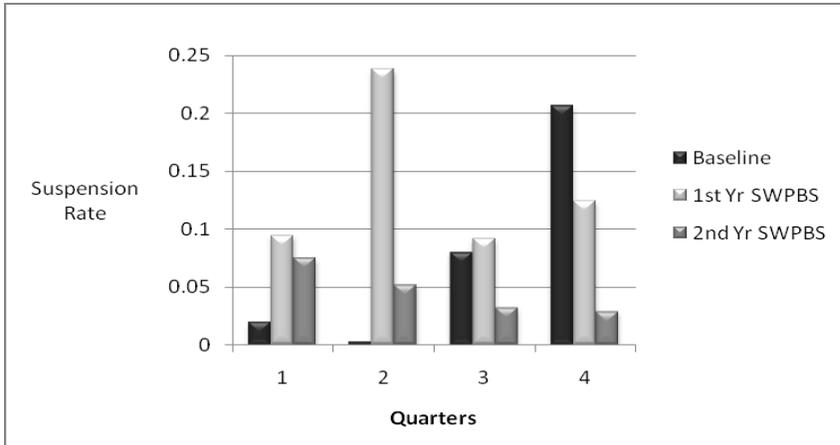 SWPBS. Looking at the quarterly results as shown in Figure 23, there were large increases in the suspension rate during the 1st, 2nd, and 3rd quarters of the 1st year of SWPBS intervention compared to the baseline and 2nd year of intervention. The baseline year showed lower suspension rates beginning with the lowest during the 1st quarter and gradual increases during subsequent quarters. Both the baseline and the 1st year of SWPBS intervention showed similar suspension rates during the 4th quarters. The 2nd year of SWPBS intervention showed a steady increase in suspensions over the 1st, 2nd, and 3rd quarters while 4th quarter leveled off.

Figure 24 illustrates the senior class comparison suspension rate for each year by quarters.
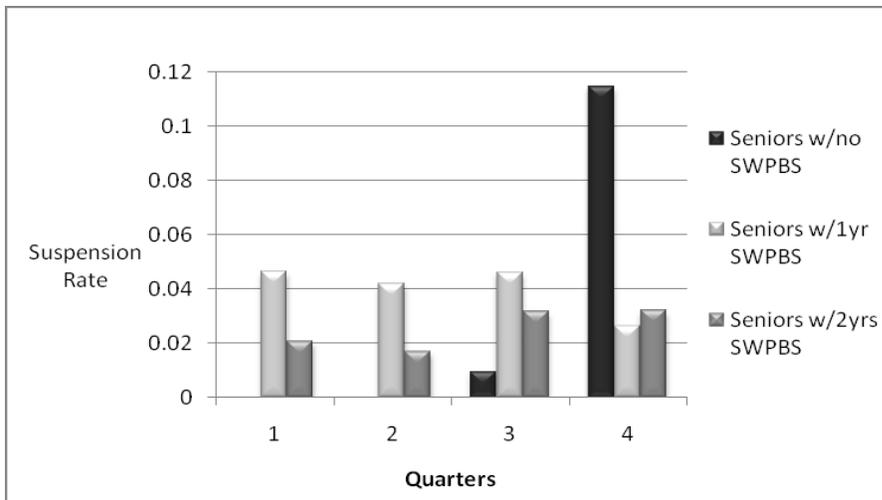
Figure 24. Senior Class Comparison: Suspension Rate

As shown in Figure 24, There is a 29% increase in the suspension rate between seniors with no SWPBS and seniors with 1 year of SWPBS and there is a 19% decrease in suspension rate between seniors with no SWPBS and seniors with 2 years of SWPBS. Looking at the

quarterly results as shown in Figure 24, suspensions only occurred during the 3rd and 4th quarters of the baseline year with most occurring in the 4th quarter. There was a steady rate of suspensions during the 1st year of intervention with a slight decrease during the 4th quarter. During the 2nd year of intervention, suspensions occurred across all quarters with the largest increases equally occurring during the 3rd and 4th quarters. Even though suspension rate were lower during 2nd year of intervention, suspensions did occur in all quarters unlike baseline where suspensions occurred during the last 2 quarters with the bulk of occurrences during the last quarter.

Figure 25 illustrates the total student population suspension rate for each year by quarters.
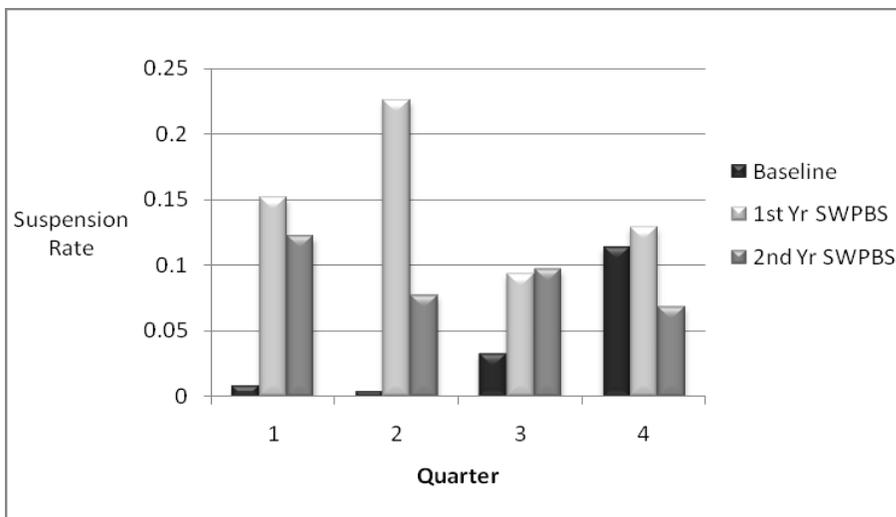
Figure 25. Total Student Population: Suspension Rate
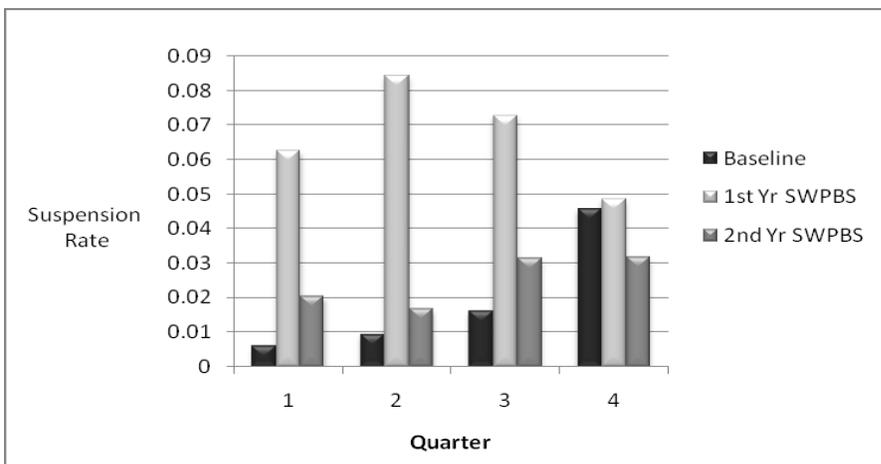
As shown in Figure 25, there was a 277% increase in suspension rate between the baseline year and the 1st year of SWPBS and a 129% increase in suspension rate between the baseline year and the 2nd year of SWPBS. Looking at the quarterly results as shown in Figure 25, suspensions rate were extremely low during the first 2 quarters of the baseline year with a slight increase during the 3rd quarter and a larger increase during the last quarter. The 1st year

of intervention showed a large increase in suspension rate compared to the baseline year with the largest increase during the 2nd quarter. The 2nd year of intervention also had a higher suspension rate compared to the baseline year with the highest rate during the 1st quarter. Overall, suspension rates increased during both years of intervention with the greatest increase during the 1st year.

Research Question #8

Is there a difference in expulsion rate between baseline year prior to implementation of SWPBS, 1st year of SWPBS implementation, and 2nd year of SWPBS implementation?

Figure 26 illustrates the freshmen cohort expulsion rate for each year by quarters. The expulsion rate was determined by dividing the number of expulsions by enrollment.
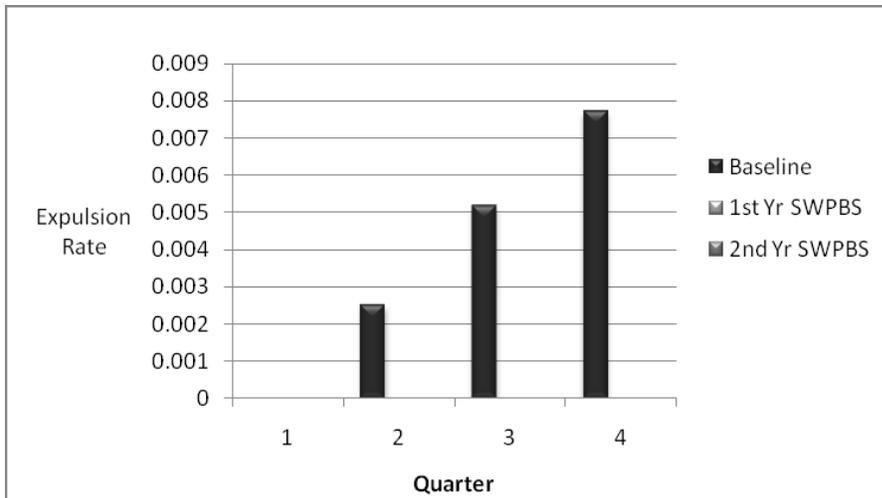
Figure 26. Freshmen Cohort: Expulsion Rate

As shown in Figure 26, expulsions only occurred during the 2nd, 3rd, and 4th quarters of the baseline year. There were no expulsions during either year of SWPBS.

Figure 27 illustrates the sophomore cohort expulsion rate for each year by quarters.
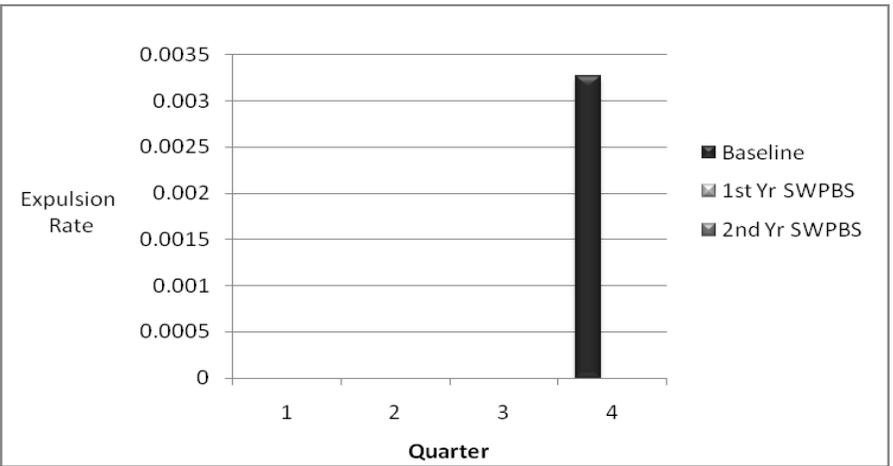
Figure 27. Sophomore Cohort: Expulsion Rate

As shown in Figure 27, expulsions only occurred during the 4th quarter of the baseline year. No expulsions occurred during either the 1st or 2nd year of SWPBS.

The senior class comparison expulsion rate showed that there were no expulsions for the senior class with no SWPBS, the senior class with 1 year of SWPBS, or the senior class with 2 years of SWPBS.

Figure 28 illustrates the total student population expulsion rate for each year by quarters
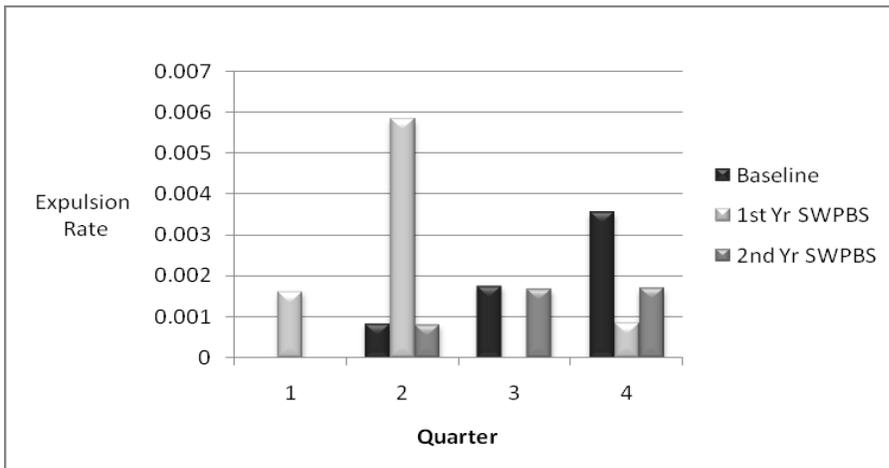
Figure 28. Total Student Population: Expulsion Rate

As shown Figure 28, There was a 35% increase in the expulsion rate between the baseline year and the 1st year of SWPBS and a 31% decrease in the expulsion rate between the baseline year and the 2nd year of SWPBS. Looking at the quarterly results as shown in Figure 28, there were no expulsions during the 1st quarter of the baseline year and a steady increase with the most expulsion occurring during the 4th quarter of the baseline year. During the 1st year of SWPBS intervention, there was a large increase in the expulsion rate during the 2nd quarter and no expulsions during the 3rd quarter. During the 2nd year of intervention, there were no expulsions during the 1st quarter; however, there was a consistent but slight increase from the 2nd quarter to the 4th quarter.

Chapter 5 presents a summary of the findings, conclusions, and recommendations for schools considering implementing SWPBS along with recommendations for further research.

CHAPTER 5

SUMMARY OF FINDINGS, CONCLUSIONS, AND RECOMMENDATIONS

This chapter provides a summary of the findings, conclusions, and recommendations for further research in implementing School-Wide Positive Behavior Support (SWPBS) along with recommendations for further research. The purpose of this study was to examine the effects of SWPBS on decreasing behavior challenges for both typical students and students identified with special needs. The research questions focused on ODRs (referred to as infractions), attendance, expulsion, and suspensions along with treatment fidelity. The methodology used in this study was descriptive. Because of the small number of time intervals over which measures were obtained (8 to 12 quarters), inferential statistical analyses were not considered appropriate; rather, descriptive statistics were used to evaluate the data.

Summary of the Findings

SWPBS has been a primary level of positive behavior support. Approximately 80% of students fell within this level (Sugai & Horner, 2002a; Sugai & Horner, 2002b). These students responded to universal school-wide and class-wide interventions. Primary prevention focuses upon enhancing protective factors on a school-wide basis so that students in general do not become at risk (Walker et al., 1997) and on preventing academic and behavioral problems from occurring by providing all students with a given intervention (Lane & Beebe-Frankenberger, 2004). Instead of using a patchwork of individual behavior management plans, SWPBS uses a continuum of positive behavior supports for all students in a school and in all areas of the school (Office of Special Education Programs, 2007).

Other levels of support have been termed tertiary and secondary. The tertiary level encompassed approximately 5% of students who had chronic or intense problem behaviors (Sugai & Horner, 2002a; Sugai & Horner, 2002b). Students included in this level might need

individualized and specialized interventions. The secondary level contained approximately 15%

of students who were at risk for problem behaviors (Sugai & Horner, 2002a; Sugai & Horner,

2002b). Included in the secondary level were students at a lower risk than were students at the

tertiary level but who still required specialized group interventions.

Between 1993 and 2006, 15 SWPBS studies were found that were similar to the current

study. All studies except for one were conducted at the elementary and middle school level.

Only one study was found at a high school level. The results of all these studies supported

SWPBS as an effective intervention for reducing disruptive behaviors.

The findings of this study further confirm the effects of SWPBS on reducing disruptive

behavior as documented in prior research. This study also addressed the effects of SWPBS for

students with disabilities, a segment of the school population at increased risk for challenging

behavior who, up to this point, had not been included in prior SWPBS research. The results of

this study show that SWPBS is also effective at reducing disruptive behavior for students with

disabilities.

Summary and Discussion of Findings Related to Research Questions

Research Question #1

Is there a relationship between the number of reinforcers distributed and the number of

Office Daily Referral (ODR) incidents within the overall student population and within the

cohort population?

During the course of the 2 years of SWPBS intervention, reward tickets (Mo-Bucks) were

given by staff members to students who displayed appropriate targeted behaviors. The data on

distribution of Mo-Bucks and student ODR data were tallied each quarter for each grade level.

Overall, as reward ticket distributions increased, there was a corresponding decrease in ODRs.

This was especially evident when data were analyzed by cohorts for students who were freshmen

and sophomores when the study began. When compared to their respective baseline years, there

was an overall correspondence between lower ODR rates and increased rates of teacher

distribution of Mo-Bucks for the freshmen and sophomore cohorts. Moreover, when comparisons were made among those seniors who had different levels of exposure to the SWPBS program (no SWPBS, 1 year of SWPBS, and 2 years of SWPBS) there was a similar although somewhat weaker relationship between Mo-Bucks given and the level of ODRs.

One factor that appears to have weakened this apparent relationship was that in both years of the SWPBS program, the teaching staff dramatically increased their distribution of Mo-Bucks in the final quarter. This accelerated rate of Mo-Buck distribution was not matched by an equally dramatic decrease in ODR reduction. Instead, ODRs declined at a relatively steady rate throughout the academic year.

Because teachers were supposed to deliver a verbal reinforce to students in conjunction with a tangible reinforce (Mo-Buck ticket), it is possible that teachers became more cognizant of verbal reinforcement and delivered a verbal reinforcement even when a tangible reinforcement was not given. This could account for the larger decrease in infractions when the tangible reinforcement (Mo-bucks) did not increase at the same rate.

Research Question #2

Is there a difference in the number of ODRs among baseline year prior to implementation of SWPBS, 1st year of SWPBS implementation, and 2nd year of SWPBS implementation?

ODR data were collected for the freshmen and sophomore cohorts, the senior class from each year, and for the total student population. The data were assessed quarterly for baseline year, 1st year of intervention, and 2nd year of intervention. The ODR rate was determined by the total number of ODRs divided by the enrollment.

Generally, ODRs declined with implementation of SWPBS. The freshmen and sophomore cohorts showed clear and substantial decreases with each successive quarter of SWPBS implementation; the increase was comparatively greater in the second year rather than in the first year of SWPBS. Regarding the senior class comparison, those seniors with just 1 year of SWPBS actually showed an increase in ODR rate compared to those with no SWPBS,

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whereas the seniors with 2 years of intervention showed a substantially lower ODR rate than did the other two senior groups. For the total student population, ODR rates were substantially higher between the baseline and 1st year of intervention. These data suggest that intervention was more effective for students exposed at a younger age (i.e., freshmen and sophomore cohorts). Overall, the data clearly indicate that SWPBS does have a positive effect on decreasing disruptive behavior for typical high school students.

The data indicate that intervention was more effective for students exposed at a younger age (i.e., freshmen and sophomore cohorts). Among the freshmen and sophomore cohorts, the freshmen cohort had an overall greater percentage of decrease in ODR rate over the duration of the study than did any other group. The senior class comparison showed a slight increase in ODR rate between seniors with 1 year of intervention and seniors with no intervention; however, seniors with 2 years of intervention had a reduction in the ODR rate compared to seniors with no intervention. The data indicate that SWPBS has a greater effect on students exposed to intervention for longer periods. Overall, the data clearly indicate that SWPBS does have a positive effect on decreasing disruptive behavior for typical high school students.

Research Question #3

Among students with disabilities, is there a difference in the number of ODRs between baseline year prior to implementation of SWPBS, 1st year of SWPBS implementation, and 2nd year of SWPBS implementation?

ODR data were analyzed for the freshmen and sophomore students with disabilities cohorts, the seniors with disabilities from each year, and for the total students with disabilities population. The freshmen with disabilities cohort showed a 27% reduction in ODR rate from baseline year to 1st year of intervention and a 59% reduction in ODR rate from baseline year to 2nd year of intervention. The sophomores with disabilities cohort showed a 16% increase in ODR rate from baseline year to 1st year of intervention and a 44% reduction in ODR rate from baseline year to 2nd year of intervention. The seniors with disabilities class comparison showed

a 0.7% reduction in ODR rate between seniors who had no intervention and seniors who had 1

year of intervention. There was a 45% reduction in ODR rate between seniors who had no

intervention and seniors who had 2 years of intervention. For the total students with disabilities

population, there was a 40% reduction in the ODR rate between baseline year and 1st year of

intervention and a 51% reduction in the ODR rate between the baseline year and the 2nd year of

intervention. Again, these data clearly indicate that SWPBS does have a positive effect on

decreasing disruptive behavior for students with disabilities; in addition, these data suggest that

SWPBS was more effective for students with disabilities who were exposed to intervention at a

younger age.

It is unclear, however, as to what extent students with particular types or levels of

disability might have been affected by SWPBS (i.e., students with emotional or behavioral

disorders). Data on type and level of disability were not available for analysis in terms of

changes in ODRs. It would be important for future researchers to attempt such an analysis

because certain types (emotional-behavioral disorders) and levels (moderate to severe) of

disability are at increased risk for challenging behaviors.

Research Question #4

Is there a difference in attendance rate between the baseline year prior to implementation

of SWPBS, 1st year of SWPBS implementation, and 2nd year of SWPBS implementation?

In the target school, attendance was one of the behaviors focused upon by teachers and

administrators. Attendance data were analyzed in the same fashion as the data on ODRs, i.e., for

the freshmen and sophomore cohorts, the senior classes from each year, and the total student

population by quarters for the baseline year, 1st year of intervention, and 2nd year of

intervention.

There were small but consistent increases in attendance for the freshmen and sophomore

cohorts for each of the 2 years of SWPBS in comparison to their respective baseline years.

When regarding the senior classes, attendance was actually lower for those students with 1 year

of SWPBS compared to those students with no SWPBS; however, attendance was somewhat higher for those students with 2 years of SWPBS. Similarly, when considering the total student population, attendance was lower during SWPBS year 1 than during baseline and higher during the 2nd year of SWPBS. In all cases, any increases in attendance were of small magnitude.

The attendance range over the duration of the study was 92% to 94%. This might be because attendance reinforcers were given mainly by administration to students who achieved perfect attendance. Students who have perfect attendance should be rewarded; however, the population of students who have poor attendance habitually should also be reinforced for any improvement in their attendance. It is unclear from available data if this speculation is true and it remains for future researchers to determine whether SWPBS attendance changes differentially affected those with more severe and chronic attendance problems.

Research Question *#5*

Among students with disabilities, is there a difference in attendance rate between baseline year prior to implementation of SWPBS, 1st year of SWPBS implementation, and 2nd year of SWPBS implementation?

Attendance data were collected for the freshmen and sophomore students with disabilities cohorts, the seniors with disabilities class from each year, and for the total students with disabilities population. The data were assessed quarterly for baseline year, 1st year of intervention, and 2nd year of intervention. The attendance rate was determined by attendance for students with disabilities divided by the enrollment of students with disabilities.

The freshmen with disabilities cohort had a 2% increase in attendance rate from baseline year to 1st year of intervention and a 5% increase in attendance rate from baseline year to 2nd year of intervention. The sophomores with disabilities cohort had a 6% increase in attendance rate from baseline year to 1st year of intervention and a 4% increase in attendance rate from baseline year to 2nd year of intervention. The seniors with disabilities class comparison showed a 0.5% increase in attendance rate between seniors who had no intervention and seniors who had

1 year of intervention. There was 7% increase in attendance rate between seniors who had no intervention and seniors who had 2 years of intervention. For the total students with disabilities population, there was a 0.6% increase in the attendance rate between baseline year and 1st year of intervention and a 7% increase in the attendance rate between baseline year and the 2nd year of intervention.

The data indicate that intervention was effective for students with disabilities. Freshmen students with disabilities cohort attendance rate for the 3 years of the study was 89%, 90%, and 93%. Sophomore students with disabilities cohort attendance rate for the 3 years of the study was 89%, 94%, and 93%. The total students with disabilities population attendance rate for the 3 years of the study was 89%, 90%, and 93%. The seniors with disabilities receiving no SWPBS, 1 year of SWPBS and 2 years of SWPBS showed an attendance rate of 86%, 87%, and 93% respectively.

Overall, students with disabilities showed an increase in attendance rate over the duration of the study with a range of 86% to 93%. As with typical students, attendance reinforcers were given mainly by administration to students who had achieved perfect attendance. Students who have perfect attendance should be rewarded; however, the population of students who habitually have poor attendance should be reinforced for any improvement in their attendance. The data do indicate that SWPBS has a greater impact on students with disabilities than with typical students. One limitation of the study is that it was unknown how many of these students had physical disabilities contributing to their inability to regularly attend school.

Research Question #6

Do teachers meet their goal of distributing 10 reward tickets (Mo-Bucks) per quarter to students who demonstrate targeted behavior during the 1st year of SWPBS implementation and during the 2nd year of SWPBS implementation?

The goal for each year of intervention was for every staff member to deliver at least 10 Mo-Bucks per 9 weeks. During the 1st year of intervention 22% of staff members did not

participate in delivering Mo-Bucks to students displaying target behaviors, 64% of staff members delivered between one and nine Mo-Bucks, and only 14% of staff members met the goals of delivering 10 Mo-Bucks per 9 weeks. During the 2nd year of intervention, 15% of staff members did not participate in delivering Mo-Bucks to students displaying target behaviors, 69% of staff members delivered between one and nine reinforcers, and 16% of staff members met the goal of delivering 10 reinforcers per 9 weeks. Consequently, over the 2 years of intervention, only 14% and then 16% of staff members met the goal of delivering at least 10 Mo-Bucks per a 9-week period.

Colvin et al. (1993) stated, "All staff need to present a united front by being actively involved and committed to developing, implementing, and maintaining the school-wide discipline plan" (p. 370). The data indicate that across the 2 years of intervention, only 78% (during the first year) and 85% (during the second year) of staff members participated in SWPBS implementation.

Research Question #7

Is there a difference in suspension rate between baseline year prior to implementation of SWPBS, 1st year of SWPBS implementation, and 2nd year of SWPBS implementation?

The suspension rate was recorded as total numbers during each quarter over the duration of the study and was not disaggregated for students with disabilities. Therefore, only overall suspension rates were analyzed.

Suspension was collected for the freshmen and sophomore cohorts, the senior classes from each year, and the total student population. The data were broken down into quarters for baseline year, 1st year of intervention, and 2nd year of intervention. The suspension rate was determined by the number of suspensions divided by the actual enrollment number.

The freshmen cohort had a 77% increase in suspension rate from baseline year to 1st year of intervention and a 39% decrease in suspension rate from baseline year to 2nd year of intervention. The freshmen cohort suspensions across the 3 years were, 120, 178, and 54

respectively. The sophomore cohort had a 188% increase in suspension rate from baseline year to 1st year of intervention and a 4% decrease in suspension rate from baseline year to 2nd year of intervention. The sophomore cohort suspensions across the 3 years were, 24, 69, and 23 respectively. The senior class comparison showed a 29% increase in suspension rate between seniors who had 1 year of intervention and seniors who had no intervention. There was a 19% decrease in suspension rate between seniors who had 2 years of intervention and those who had no intervention. The senior class comparison of suspensions across the 3 years was, 26, 33, and 22 respectively. For the total student population each year, there was a 277% increase in the suspension rate between baseline year and 1st year of intervention and a 129% increase in the suspension rate between baseline year and the 2nd year of intervention. The total student population suspensions across the 3 years were, 180, 711, and 439 respectively.

During the 1st year of intervention, suspension rates increased for all groups of students. The increase ranged between 29% and 277%. During the 2nd year of intervention, all groups had a decrease in suspension rates except for the total student population. The decreases ranged from between 19% and 39%.

The data indicate that SWPBS was not effective in decreasing suspension rates during the 1st year of intervention; however, there was an overall small decrease in suspension rate during the 2nd year of intervention. Suspension is a consequence that is reserved for more severe infractions; therefore, students who engage in more severe behaviors may respond better to secondary or primary support and may be nonresponsive to primary interventions.

Research Question #8

Is there a difference in expulsion rate between baseline year prior to implementation of SWPBS, 1st year of SWPBS implementation, and 2nd year of SWPBS implementation?

The expulsion rate was recorded as total numbers during each quarter over the duration of the study and was not disaggregated for students with disabilities. Therefore, only overall expulsion rates were analyzed.

Expulsion data were collected for the freshmen and sophomore cohorts, the senior classes from each year, and the total student population. The data were assessed by quarters for baseline year, 1st year of intervention, and 2nd year of intervention. The expulsion rate was determined by the number of expulsions divided by the actual enrollment number.

The freshmen cohort had a 100% decrease in expulsion rate from baseline year to 1st year of intervention and a 100% decrease in expulsion rate from baseline year to 2nd year of intervention. The sophomore cohort had a 100% decrease in expulsion rate from baseline year to 1st year of intervention and a 100% decrease in expulsion rate from baseline year to 2nd year of intervention. For the total student population, there was a 35% increase in the expulsion rate between baseline year and 1st year of intervention and a 31% decrease in the expulsion rate between baseline year and the 2nd year of intervention. The senior class comparison data showed there were no expulsions over the 3 years. The expulsions that occurred were committed by incoming freshmen and juniors. These data were reflected in the total student population.

Given the scarcity of expulsions, it is unclear about the effects of SWPBS on expulsion rates; however, the data indicate that SWPBS was effective in decreasing expulsion rates during the 1st and 2nd years of intervention. These results might be misleading because the expulsion rates were already low across the duration of the study. The freshmen cohort had 6, 0, and 0 expulsions each year, respectively, across the duration of the study. The sophomore cohort had 1, 0, and 0 expulsions each year, respectively, across the duration of the study. The total student population had 7, 10, and 5 expulsions each year, respectively, across the duration of the study. The seniors with no SWPBS, with 1 year of SWPBS, and with 2 years of SWPBS had zero expulsions across the duration of the study.

Conclusions

The following conclusions are drawn based on the finding of this study:

This study demonstrated that as tangible reinforcement, along with verbal reinforcement, increased: disruptive behaviors decreased. During the 2 years of intervention, overall ODRs decreased at a higher rate in comparison to the increase of reinforcement delivery. It is believed by this researcher that, because staff members were made aware of the importance of promoting, acknowledging, and reinforcing appropriate behavior, they became more cognizant of delivering not only tangible reinforcement along with verbal reinforcement but also of providing more verbal reinforcement.

Furthermore, SWPBS had a positive effect on decreasing disruptive behavior for typical students at a high school level. In addition, SWPBS had a greater effect on students exposed to intervention at a younger age (i.e., freshmen and sophomores). The findings showed that SWPBS had more effect during the 2nd year of intervention than it did during the 1st year.

SWPBS also had a positive effect on decreasing disruptive behavior for students with special needs at a high school level and that SWPBS had a greater effect on disruptive behavior for students with special needs exposed to intervention at a younger age (i.e., freshmen and sophomores). It also demonstrated that SWPBS had more effect during the 2nd year than it did in the 1st year. This study demonstrated that SWPBS had a positive effect on increasing attendance rates for typical students at a high school level; however, the increase in attendance was small. This study also demonstrated that SWPBS had a greater effect on students exposed to SWPBS at a younger age. In addition, this study demonstrated that students with poor attendance needed to be targeted and that reinforcers should be given for any improvement in attendance and not just delivered for perfect attendance. Students should be reinforced for close proximity, for taking small steps toward a goal; this could ultimately lead to the desired goal.

This study demonstrated that SWPBS had a positive effect on increasing attendance rates for students with special needs at a high school level; however, the increase in attendance was small. This study also demonstrated that SWPBS had a greater effect on students with special needs when exposed to SWPBS at a younger age. In addition, this study demonstrated that students with special needs who have poor attendance needed to be targeted and that

reinforcement should be delivered for any improvement in attendance and not just delivered for perfect attendance. Students should be reinforced for close proximity, small steps towards a goal that ultimately lead to the desired goal.

According to data retrieved from the target school, there was only a 78% rate of staff members' involvement in the SWPBS intervention and only 14% of those staff members actually reached the reinforcement delivery goal of 10 reinforcers per quarter during the 1st year of intervention. The data also showed that during the 2nd year of SWPBS intervention, there was only an 85% rate of staff involvement and only 16% of those staff members actually met the goal of 10 reinforcers per year. With the positive results that have been demonstrated by this study, it can only be speculated that, if staff involvement had been higher, the results would have been even more impressive.

Teachers were not consistent in delivering reinforcers over the course of the 2 years of intervention. The delivery of reinforcers was variable throughout each quarter of each year. In addition, teachers would deliver almost twice the number of reinforcers during the last quarter of each year. It appears as if teachers were "dumping" reinforcers, perhaps because of the end-of-year celebration or to unload their unused reinforcers. Examination of the ODR rate during each quarter over the 3-year study also showed variable trends. If teachers were more consistent in reinforcement delivery, then perhaps ODR rates would consistently decrease. In addition, many teachers are resistant to change and are hesitant to participant in new programs. Fullan (2001) stated, "All successful schools experience 'implementation dips' as they move forward" (p. 40). "The implementation dip is literally a dip in performance and confidence as one encounters an innovation that requires new skills and new understandings" (Fullan, p. 40). Perhaps the target school was experiencing an implementation dip and will subsequently become more comfortable in consistently implementing SWPBS.

SWPBS was not effective in decreasing suspension rates during the 1st year of intervention; however, there was a small decrease in suspensions during the 2nd year of intervention. Because suspensions are reserved for more serious infractions, it could be

speculated that the more serious offenders might need to be exposed to intervention for longer periods before improvement is observed. In addition, it is unknown if the students who received a suspension were being provided secondary or tertiary support.

SWPBS was effective in decreasing expulsion rates during the 1st and 2nd year of intervention. These decreases ranged from 31% to 100% and the number of expulsion across the 3-year study ranged from 10 to zero. The only increase was during the 1st year of intervention for the total student population. Expulsions are typically reserved for zero tolerance offences and it is unknown if the expelled students were receiving any secondary or tertiary supports.

Recommendations for Schools Considering Implementing SWPBS

When considered in the context of previous research, this study increases empirical support for SWPBS as an effective program for reducing disruptive behaviors of students at a high school level. This study is a significant contribution to the research literature in several ways. First, it is one of the few studies to follow the effects of SWPBS for more than a single intervention year. It is also notable for its analysis of SWPBS effects on a more intensive basis. Most prior studies have addressed only the summative year-end differences in students' behavior. This study is one of the few formative analyses of SWPBS showing that the effects of SWPBS were typically evident throughout the year and that ODRs typically declined each quarter of intervention. Perhaps the most notable aspect of this study is that it is the first report of the positive effects of SWPBS not only for the school population in general, but for the effects that were apparent for students with disabilities, a population at increased risk for challenging behaviors, restrictive behavior management procedures, and more restrictive placements. Indeed, to some degree, the proportion of ODR change was greater for students with disabilities than for students in the general population. Finally, this present study was only the second study found, with similar procedures as the present study, to report positive SWPBS effects for a high school population and the only study found to report SWPBS effects at a rural high school. Most prior studies have focused on the effects of SWPBS on elementary-school students and middle-

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school students This study clearly supports SWPBS as an effective intervention for reducing disruptive behaviors for both typical students and students with special needs at a high school level. The following recommendations are made for schools considering implementation of SWPBS:

1. It is recommended that schools currently implementing SWPBS or those considering SWPBS to impress upon staff members that consistency in providing reinforcement to students who engage in appropriate behaviors is important. Students, especially, student with disabilities, need consistency across all domains. In addition, staff members need to be aware of the importance of providing verbal reinforcement, even when tangible reinforcers are not given.

2. Because the data indicated that SWPBS is more effective for younger students and for students exposed for longer periods, it is recommended that SWPBS be implemented at the elementary- and middle-school levels and continued at the high-school level within school systems to ensure cohesiveness.

3. It is recommended that schools choosing to implement SWPBS, and selecting attendance as one of their target behaviors, provide reinforcers to students who demonstrate any improvement in attendance and not just for students who have perfect attendance.

4. It is recommended that SWPBS be implemented at the middle- and elementary-school level and students be exposed to intervention as early as possible during their school careers and for extended periods. It is also recommended that SWPBS be implemented at the middle- and elementary-school level for students with disabilities and that this population be exposed to intervention, with prior consideration and approval of the IEP team members, as early as possible during their school careers and over extended periods.

5. It is recommended that the SWPBS leadership team and administration encourage all staff members to participate in implementing intervention. The leadership team

might want to provide encouragement and perhaps incentives for staff involvement and might want to privately address staff members who do not participate.

Recommendations for Further Research

Several areas for continued analysis have emerged from the findings of this study. Longitudinal studies that track students who are exposed to SWPBS over an extended period could demonstrate the long-term effects of SWPBS. This could be accomplished by tracking students enrolled in school districts that have adopted SWPBS system-wide and compare data to students enrolled in similar school systems that have not adopted SWPBS. Another way would be to track students, within the same system, who enroll in high school from different feeder schools within the system--one feeder school(s) that implemented SWPBS and the other school(s) that did not implement SWPBS. These separate groups of students could be "tagged" and tracked over a time. In addition, studies should be conducted that track individuals or groups of students, both typical and students with disabilities (EBD students, LD students, etc.), to determine the individual effects of SWPBS on behavior or specific classes of behavior (physical aggression, verbal aggression, bullying, disrespect, defiance, etc.). Because schools are under pressure to make adequately yearly progress, a study should be conducted that compares the academic achievement of students exposed to SWPBS to those students not exposed to SWPBS.

Another study should be conducted for an analysis of the effects of increased verbal reinforcement, with and without tangible reinforcers, on behavior. Perhaps a study could be conducted in which one school uses only increased verbal reinforcers and another, similar school uses a combination of increased verbal and tangible reinforcers. Observers would be needed to collect data on verbal reinforcers. This type of study would involve large numbers of staff members, 100s of observation hours, and huge financial support.

The most logical recommendation for further research would be to build a science-based intervention database using a single-subject approach or a group design to determine more precisely the effect of SWPBS on ODRs. A study is needed with multiple baselines across three

or more schools that could introduce SWPBS after successively longer baselines and could follow-up with SWPBS over more years and that could closely monitor teachers' participation and treatment fidelity.

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