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The Effects of Positive Behavioral Interventions and Supports for Students with Emotional or Behavioral Disorders

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Chapter 1: Introduction

Students with emotional or behavioral disorders (EBD) present a significant challenge for educators (Farrell, Smith, & Brownell, 1998). The behavior of students with emotional or behavior disorders (EBD) can be very disrupting to a classroom. These students struggle to maintain positive relationships with their parents, peers, and teachers (Farrell et al., 1998). Typically, adult responses to the behavior that students with EBD exhibit tend to incite more behaviors instead of reduce problem behaviors (Farrell et al., 1998). In addition, as many as 1 in 10 children have a mental, behavioral, or learning problem that affects their ability to be successful at school or in the community (Kutash, Duchnowski, & Green, 2015).

There has been much discussion about the increase of behavior problems in school, both for students with EBD and students at risk for EBD. Traditional behavior management strategies have shown to not be effective with students. These strategies include zero tolerance, strict rules, unreasonable consequences, and public criticism. In addition to not being effective, there is no evidence-based research that these strategies have a positive effect on students. In fact, systems that have not used Positive Behavioral Interventions and Supports, saw an increase in maladaptive behaviors. This has put many schools at a crossroads. Traditional disciplinary actions have been rewarding to students. For example, a student may act out in class to be sent out or gain the negative attention of his or her peers and teacher.

In response, schools have implemented School-Wide Positive Behavioral Interventions and Supports (SW-PBIS), also known as Positive Behavior Supports (PBS), to serve as a strong foundation to improve behavioral outcomes at school, including outcomes for students with EBD.

Research Question

One question guided this literature review:

1. How do Positive Behavioral Interventions and Supports (PBIS) affect academic and social outcomes for students with emotional or behavioral disorders?

Focus of Paper

I identified 11 studies for inclusion in the review of literature in Chapter 2. My research includes studies ranging in dates from 2002-2016. The Academic Search Premier, ERIC, SAGE Journals Online and PsycINFO databases were used as a starting point for my literature review of peer-reviewed studies related to Positive Behavioral Interventions and Supports. I used several keywords and combinations of keywords to locate appropriate studies: *positive behavior, emotional or behavioral disorders, PBIS, positive behavior supports, interventions, elementary, middle, high school, and positive behavior interventions.*

Importance of the Topic

As a special education teacher who works with students with emotional or behavioral disorders (EBD), I see the importance of appropriate behavior management programs every day. Traditional behavior management strategies have shown to be ineffective for students with EBD. These traditional strategies were not research based and lacked positives. Positive Behavioral Interventions and Supports provide a whole school approach to establish a positive school climate while explicitly teaching proper social skills.

Positive Behavioral Interventions and Supports (PBIS) is a framework for enhancing adoption and implementation of a continuum of evidence-based interventions to achieve academically and behaviorally important outcomes for all students (Dunlop, 2013). PBIS helps

to proactively teach students proper social skills and behavioral expectations. By teaching students with EBD proper social skills, they can have the skills to have positive relationships with teachers, peers, and parents.

Glossary

Emotional or behavioral disorders (EBD) means an established pattern of one or more of the following emotional or behavioral responses: (a) withdrawal or anxiety, depression, problems with mood, or feelings of self-worth; (b) disordered thought processes with unusual behavior patterns and atypical communication styles; or (c) aggression, hyperactivity, or impulsivity.

The established pattern of emotional or behavioral responses must adversely affect educational or developmental performance, including intrapersonal, academic, vocational, or social skills; be significantly different from appropriate age, cultural, or ethnic norms; and be more than temporary, expected responses to stressful events in the environment. The emotional or behavioral responses must be consistently exhibited in at least three different settings, two of which must be educational settings, and one other setting in either the home, child care, or community. The responses must not be primarily the result of intellectual, sensory, or acute or chronic physical health conditions (Revisor of Statutes, State of Minnesota, 2007).

Effective Behavior Survey (EBS) is a staff-report measure of implementation fidelity (Walker, Cheney, Stage, & Blum, & Horner, 2005).

Positive Behavioral Interventions and Supports (PBIS) is a framework for enhancing adoption and implementation of a continuum of evidence-based interventions to achieve academically and behaviorally important outcomes for all students (Dunlop, 2013).

Positive Behavior Supports (PBS) is the application of positive behavioral interventions and systems to achieve socially important behavior change (Scott & Barrett, 2004).

School-Wide Evaluation Tool (SET) is used to measure the fidelity of school-wide PBS implementation. The SET is a 28-item research tool completed on-site by an external evaluator. It includes short interviews of students and staff, a walkthrough of the building, and a review of written products related to aspects of PBS (Walker et al., 2005).

School-Wide Information System (SWIS) is an Internet-based system used to collect and manage student referral data by school staff (Bradshaw, Mitchell & Leaf, 2010).

Systematic Screening for Behavior Disorders (SSBD) is a screening process that identifies elementary aged students (Grades 1-6) who may be at risk for emotional or behavior disorders (Walker et al., 2005).

Chapter 2: Literature Review

Scope of Review

The purpose of this literature review was to examine the effectiveness of Positive Behavioral Interventions and Supports (PBIS) for students with emotional or behavioral disorders (EBD). This chapter is organized into two sections: studies that were conducted at an elementary level, and studies that were conducted at a secondary level. The studies in each group are presented in chronological order beginning with the oldest study.

Review of Positive Behavioral Interventions and Supports Studies at the Elementary Level

Table 1

Summary of Elementary Level Studies

Authors	Study Design	Participants	Procedure	Findings
Scott & Barrett (2004)	Quantitative	An elementary school in urban Maryland implemented PBS to study effectiveness for 3 years.	The school implemented a PBS study to see if it had a positive impact on office discipline referrals, suspensions, and if it was cost effective.	Office discipline referrals and suspensions were reduced. Using the school's formula, it was determined that they saved time and money implementing PBS.
Luiselli, Putnam, Handler, & Feinberg (2005)	Quantitative	The study took place in an urban elementary school in the Midwest region of the United States. 666 students participated in the study.	The school implemented whole school positive behavior support and measured progress through office discipline referrals, suspensions, and academic performance	Student discipline problems decreased and student academic performance improved following a PBS intervention.

Table1 (continued)

Authors	Study Design	Participants	Procedure	Findings
Walker, Cheney, Stage, Blum, & Horner (2005)	Quantitative	72 students identified as at risk in three elementary school with established PBS systems	Students were identified through Systematic Screening for Behavior Disorders. Students were then matched to existing supports and monitored twice a month	Identifying at risk students early in the school year, tracking progress, and providing additional PBS may reduce the number of students referred to more intensive interventions later on.
Bradshaw, Mitchell, & Leaf (2010)	Quantitative	5-year longitudinal randomized controlled effectiveness trial with 37 public elementary schools in Maryland.	21 of the schools were randomly assigned to the intervention condition (SW-PBIS) and 16 were assigned to the comparison condition. The study measured the effects of SW-PBIS by measuring treatment fidelity, office discipline referrals, suspensions, and academic achievement	For the schools that implemented SW-PBIS, there were significant reductions in office discipline referrals and suspensions. There was improvement in academic achievement for SW-PBIS schools, but it was statistically significant.
Curtis, Van Horne, Robertson, & Karvonen (2010)	Quantitative	This case study took place in a rural elementary school in North Carolina	4 year case study examining the effects of SW-PBIS examining behavior referrals and suspensions	Significant reductions in behavior referrals, suspensions, and instructional time lost
Cressey, Whitcomb, McGilvray-Rivet, Morrison, & Shander-Reynolds (2014)	Qualitative	This case study took place in a low income, diverse elementary school	After initiating a grade level pilot program, a school counselor looked to expand PBIS to all grades with support from university consultants. A 5-year case study.	This study showed the importance of different teachers and administrators working together. Treatment fidelity improved over the 5 years.

Table 1 (continued)

Authors	Study Design	Participants	Procedure	Findings
Cavanaugh (2016)	Quantitative	This study took a sample of 597 elementary students in three elementary schools implementing PBIS	The school examined minor discipline data to identify behavior trends.	Minor discipline data may help to identify students at risk for behavior problems.

Scott and Barrett (2004) conducted a study that examined the time and cost analysis of school-wide Positive Behavior Supports (PBS). The school that participated in the study is an elementary school located in an urban area of Maryland. The school sent a five-person team to a two-day training to learn how to implement school-wide Positive Behavior Supports (PBS).

The school implemented PBS at the beginning of school in the year 2000. Staff members identified problem behaviors and the times and locations of problem behaviors. The PBS team then developed specific, teachable expectations. These expectations were developed for all areas of school. In addition to expectations, the team also developed clear and consistent routines and physical arrangements to reduce problem behavior (Scott & Barrett, 2004).

Once the expectations, routines, and physical arrangements were established, the team worked with staff members to develop an agreed upon school-wide reinforcement system. Students who displayed appropriate behaviors earned coupons that made them members of a special club. The school held weekly and monthly club celebrations (Scott & Barrett, 2004).

In regard to the study, administrators identified lost time as a barrier to providing necessary supports for students to display positive behaviors. A goal was set to reduce office discipline referrals and student disciplinary suspensions by 25%. There were four measures used to determine the effectiveness of the Positive Behavior Supports (PBS). The System-Wide

Evaluation Tool: School Wide (SET-SW) was used monitor the fidelity of PBS implementation in the fall of 2001 and again in the spring of 2002 (Scott & Barrett, 2004).

Office discipline referrals and disciplinary suspensions were tracked via a school database to determine the effectiveness of positive behavior strategies. Discipline data from the prior year were examined to determine how much time was lost by students and adults. A typical office discipline referral equated to 10 minutes of administrator time and processing a suspension took 45 minutes of administrator time. Time for instruction was also measured. It was found that the average time a student was out of class for a discipline referral was 20 minutes. Time engaged in instruction is highly correlated with student achievement (Scott & Barrett, 2004).

Student behavior problems decreased from the baseline levels and continued to decrease into the second year of PBS implementation. More specifically, over the 3 years of implementation, the number of office discipline referrals decreased from 608 in the baseline year to 108 in Year 1 of implementation, to 46 in the second year of implementation. Student disciplinary suspensions decreased from 77 suspensions during the baseline year to 32 in Year 1 to 22 in Year 2 (Scott & Barrett, 2004).

Processing behavior for discipline referrals takes up a large amount of time for school administrators. Prior to implementing PBS, administrators at the elementary school spent an average of 10 minutes processing an office discipline referral. The school found a decrease in administrator time that was spent processing office discipline referrals. The time decreased from 6,080 minutes during the first implementation year to 460 in the second year. Based upon an 8-hour workday, implementing PBS saved administrators 10.4 days in the first year of PBS and

11.4 days in the second year of PBS. In the same way, time processing suspensions was reduced. Total time processing suspensions decreased from 3,465 minutes in the baseline year to 1,440 minutes in Year 1 to 990 in the second year (Scott & Barrett, 2004).

In addition to saving administrator time, PBS also adds instructional time for students. The average time a student loses due to an office discipline referral is 20 minutes. Total instructional time missed decreased from 12,160 minutes to 2,160 minutes during the first implementation year to 920 in the second implementation year. By using a six-hour school day, the minutes saved represent an increase of 27.7 days in the first year and 31.2 days in the second year. Total hours of instruction missed due to disciplinary suspensions also decreased. Instructional time missed decreased from 462 during the baseline year to 192 in the first implementation year to 132 in the second implementation year (Scott & Barrett, 2004).

Luselli et al. (2005) reported on their study of whole school Positive Behavior Support. The participating school was an elementary school (K-5) in an urban area located in the Midwest region of the United States. This elementary school was self-selected. School administrators requested support in improving students discipline and academic performance in their school.

Student discipline data were collected via office discipline referrals and suspension data. Academic performance was measured by the MAT-7, which is a nationally norm-referenced standardized test administered throughout the United States. In this particular elementary school, the test was given to third-, fourth-, and fifth-grade students. The test measures reading comprehension and mathematics skills (Luselli et al., 2005).

The study spanned 3 years. Three phases were conducted. They included a pre-intervention phase, intervention phase, and post-intervention phase. During the pre-intervention

phase, the school conducted its normal disciplinary practices. At the beginning of the school year, students were presented with the school handbook that described disciplinary procedures. Students received disciplinary slips for behavior problems and processed behavior with the principal (Luselli et al., 2005).

The intervention phase brought about numerous changes. Administrators and teachers were trained on a service delivery known as, Positive Schools. Psychologists from a behavioral healthcare organization consulted with the school via on site meetings, telephone calls, and emails, in addition to the initial training. The school formed a behavior support team to monitor the program implementation. The school's data collection system was revamped, and the policy handbook was reworded to represent positive language associated with PBS. For students who met expectations, the school developed a token reinforcement system to reward them (Luselli et al., 2005).

Initially, office discipline referrals increased during the first 3 months of the intervention phase but decreased during the final 2 months of the intervention phase and during the following school year. Suspension data also decreased. On the MAT-7 test, student scores increased in the intervention phase for both reading comprehension and mathematics (Luselli et al., 2005).

Student discipline problems decreased and student academic achievement increased with the implementation of Positive Behavior Supports. In order instill change with PBS, all school staff must be on the same page. Longitudinal evaluation of the PBS program showed it to be effective. In a follow-up survey, teachers viewed the new school discipline practices as effective. This study was consistent with the data from other studies examining the effectiveness of PBS (Luselli et al., 2005).

Walker et al. (2005) conducted a descriptive study analyzing the social functioning of 72 students identified as at risk for emotional or behavior disorders in three elementary schools with established PBS systems. These schools used tools such as school-wide screenings, rating scales, and office discipline referrals to track student behavior. The study was conducted with three different elementary schools in the state of Washington. The three schools had already been participating in the BEACONS Project with the University of Washington, as model sites for implementation of school-wide PBS for at least 3 years. Each school was located in a different part of Washington State. Two of the schools were located in suburban areas. The third school was located in an urban area with a diverse student body.

Due to participating in the BEACONS Project, each school's PBS system was established. This was confirmed by using the School-Wide Evaluation Tool. The School-Wide Evaluation Tool measures the fidelity of school-wide PBS implementation in each school. In order for students to participate in the study, parent consent needed to be received. In this study, students were identified as at risk for school failure using the SSBD. The SSBD is screening process that identifies elementary aged students (Grades 1-6) who may be at risk for emotional or behavior disorders. Studies have shown that the SSBD is both a reliable and valid tool for effectively identifying students with developing externalizing or internalizing behaviors (Walker et al., 2005).

The SSBD test contains three stages. Stage 1 involves the teachers recommending students. Stage 2 has teachers complete a Critical Events Inventory and fill out an adaptive and maladaptive behavior checklist for each student recommended. If a student scores are above the cut off mark, then they become candidates for Stage 3. This last stage includes a 15-minute

observation in two different settings, the classroom and the playground to determine a child's social and classroom interactions (Walker et al., 2005).

To measure students' levels of problem behaviors and social skills functioning, students were administered the SSRS. The SSRS is a 50-item rating scale that measures social skills, problem behavior, and academic performance. There are three different forms; parent, teacher, and self. Office discipline referrals were also tracked using the School-wide Information System (SWIS). The information from SWIS was used to make decisions about school-wide discipline issues and to help develop individual behavior support plans. With PBS, program fidelity is of utmost importance. To ensure that the program had at least 80% fidelity, the School-Wide Evaluation Tool was administered by conducting interviews with students and staff, a walkthrough of the school, and a review of school documents related to PBS (Walker et al., 2005).

The SSBD screening process was completed in October at each of the participating schools. The screening process and definitions of externalizing and internalizing behaviors, were described to teachers at a staff meeting. At this meeting, the teachers completed Stage 1 of the screening process. Each teacher in Grade 1 through Grade 6, listed the three highest ranked students in their class in the internalizing and externalizing categories. For these students, the teacher completed Stage 2. Staff at each school scored the Stage 2 forms to identify students who passed Stage 1 and Stage 2. Stage 3 was not completed due to this study focusing on early identification (Walker et al., 2005).

Schools participating in the study were encouraged to begin monitoring students who had two or more office discipline referrals by mid-October. The behavior data and academic data

results were used to identify students who required immediate attention. Teams within the school assigned students to programs and supports in each school. These included homework clubs, tutoring, social skills groups, and school counseling (Walker et al., 2005).

Three different school support teams were used to determine further assessment and develop more intensive interventions. The Student Study Team (SST) reviewed each student's existing supports and made suggestions for more structured interventions and additional assessments. The next team was the Functional Behavioral Assessment (FBA) Team. This team conducted Functional Behavioral Assessments for individual students and created individualized behavior support plans. The last support was the Multidisciplinary Team (MDT). This team determined whether assessment for special education services was needed (Walker et al., 2005).

Data from the three schools were analyzed in two different ways. A one-way ANOVA was used to determine differences among students on the SSRS. A frequency analysis was completed to determine the types and numbers of office discipline referrals, as well as the number of students scoring greater than one standard deviation from the mean on the SSRS subscales, and the referrals to the student support teams (Walker et al., 2005).

For the frequency analysis, two groups were set up to examine the grade level of students identified at risk for emotional or behavior disorders who received an office discipline referral (ODR). They were primary (Grades 1-3) and intermediate (Grades 4-6). Fifty-five of the students at risk did not have multiple ODRs. Thirty of these students were in the primary grades and 25 were in intermediate. Eleven of the students at risk had 2-5 ODRs. Seven of these students were in primary grades and four were intermediate. At the 6 or greater ODR level, five

students were in the primary grades and one in the intermediate. All the students at risk with two or more ODRs displayed externalizing behaviors (Walker et al., 2005).

Two levels of ODR were created for comparison with SSRS results of students within the study: zero to one ODR and two or greater ODR. A one-way ANOVA was conducted with office discipline referral data represented as the independent variable and Social Skills and Problem Behavior Scales on the SSRS as the dependent variable. There was not a significant difference between groups on the Social Skills Rating System, but there was significant difference on the Problem Behavior Scale. Students with two or more ODRs had a mean Problem Behavior Scale score that was well above one standard deviation on the SSRS (Walker et al., 2005).

When looking at externalizing behaviors and internalizing behaviors, there was a significant difference in social skills ratings. Students that displayed externalizing behaviors were much more likely to be rated as having a social skills deficit than students displaying internalizing behaviors. As a result, students with internalizing behaviors appear to be more difficult to identify by solely using standard behavior rating scales (Walker et al., 2005).

When identifying students that need support, schools should look at the whole student through multiple lenses. For example, had this study only used ODRs to identify at risk students, only 17 students would have been identified. Schools that use a systematic school-wide screening process, along with ODRs, are able to identify a broader population (external and internal behavior) of at risk students. Also, the majority of students identified by two or more ODRs were in the primary grades (1-3). These results may suggest that the school-wide PBS that had been in place for a minimum of 3 years, were catching students at a younger age. The

goal is that interventions in the primary grades will set up students for a more behaviorally consistent, successful intermediate school experience (Walker et al., 2005).

This study provides initial descriptive data that can help schools implement PBS at the secondary and tertiary levels. By combining the school-wide screening process with the data collection of ODR, schools were able to reach a larger number of students that needed behavioral support. Once identified, the schools were able to provide appropriate supports and interventions to students while in their primary years. This may have helped to decrease the number of students requiring more intensive interventions and possible services in the future (Walker et al., 2005).

The schools in this study had implemented PBS for 3 years before this study took place. Successful implementation is crucial to identifying students with behavioral needs both externally and internally displayed. The work for PBS schools is never complete (Walker et al., 2005).

Bradshaw et al. (2010) conducted a 5-year longitudinal randomized controlled effectiveness trial with 37 public elementary schools in Maryland. The schools were matched in the trial based upon select baseline demographics. Twenty-one schools were randomly assigned to the intervention condition and 16 were assigned to the comparison condition. The School-wide Positive Behavioral Interventions and Supports Training (SW-PBIS) and support system was led by the state of Maryland. The typical state of Maryland SW-PBIS training procedures were adhered to.

Each of the 21 schools assigned to intervention condition formed a SW-PBIS team within their school. The team was made up of six to ten members. These members included school

staff, teachers, and administrators. Of the six to ten members, four to five team members attended a 2-day training in the summer led by Dr. George Sugai, who is one of the developers of SW-PBIS. When the teams returned to their schools for the new school year, they were instructed to hold an additional planning and training days before they implemented SW-PBIS. The sample of participating elementary schools was constructed to be diverse and representative of other elementary schools in those districts. Forty-eight percent of the participating schools were suburban, 41% were urban fringe, and 49% received Title I support (Bradshaw et al., 2010).

To measure the effectiveness of the trial, three data sources were used. Implementation fidelity is crucial to the success of SW-PBIS. This was measured using The School-Wide Evaluation Tool (SET). The SET consists of 29 items organized in to seven subscales that measure key features of SW-PBIS. Prior research by Horner et al. (2004) indicated that the SET has strong psychometric properties with regard to internal consistency. The Effective Behavior Survey (EBS) was also used measure implementation fidelity. This was a staff-report measure. The EBS was completed by all staff in the trial to determine how well the four behavior support systems were considered in place at the school (Bradshaw et al., 2010).

Student outcomes were measured via office discipline referral (ODR) data. This data were only collected from the trained schools in Years 1 through 4 using the School-Wide Information System (SWIS). Major and minor discipline referrals were examined. School suspension data was obtained from the Maryland State Department of Education (MSDE) for the baseline year through Year 4. In addition, student scores on the state's standardized academic

achievement test, the Maryland School Assessment, were obtained for third- and fifth-grade math and reading tests (Bradshaw et al., 2010).

The impact of training in SW-PBIS on implementation fidelity was measured by the SET and EBS, by using repeated measures general linear models (GLM). Data were analyzed from the baseline year to Year 4 by using unadjusted repeated measures GLM and computing the Wilk's Lambda to determine if there were significant intervention condition by time effects on the individual subscales. The effect of SW-PBIS on student outcomes was measured by ODRs, suspension rates, and achievement scores. ODRs were only collected for the SW-PBIS trained schools. As a result, ODR data from the SW-PBIS trained schools was analyzed using repeated measures GLM (Bradshaw et al., 2010).

The results of the trial indicated that the schools trained in SW-PBIS implemented the program with high fidelity, according to both staff selected reports (EBS) and assessments (SET) conducted by outside evaluators who were not familiar of the schools' intervention status. The comparison schools had higher baseline scores on the EBS than the intervention condition, but the intervention condition improved more than the comparison schools on all four subscale scores by the end of the trial (Bradshaw et al., 2010).

The SW-PBIS trained schools experienced an impact on student outcomes. ODRs were significantly reduced for both the percentage of children with a major or minor ODR event, as well as the overall rate of major or minor ODR events. It is important to note that these schools had a relatively low ODR rate to begin with (Bradshaw et al., 2010).

Suspensions also saw a significant decrease in the rate of suspensions when compared to the non-trained schools whose suspension rates remained unchanged. The last student outcome

measure was standardized achievement scores. While none of the four tests were statistically significant, the improvements observed in the SW-PBIS schools were higher than the non-trained schools. SW-PBIS is intended to impact student behavioral outcomes and it may take a longer time to see if academic achievement may improve as a result of SW-PBIS (Bradshaw et al., 2010).

The findings of this study suggest that training can be tied to long-term changes in School-wide Positive Behavioral Interventions and Supports (SW-PBIS). Through SW-PBIS ODRs and suspensions may be reduced (Bradshaw et al., 2010).

Curtis et al. (2010) reviewed results from a 4-year case study examining the effects of SW-PBS program in a public elementary school in North Carolina. Glenn C. Marlow Elementary School is a K-5 elementary school located in a rural county in western North Carolina. The school is predominantly white, but does serve students of Hispanic, African American, Asian, and American Indian/Alaskan native ethnicities. The school has three different special education programs. The programs include a pre-kindergarten program for children with developmental delays, a kindergarten through second grade program for students with disabilities, and a behavioral support program for third- through fifth-graders with emotional or behavioral disorders (Curtis et al., 2010).

The school's leadership team was comprised of the school counselor, a special education teacher, two classroom teachers, the principal, and two parent representatives. The district social worker was also part of the leadership team. After the team was introduced to SW-PBS, representatives from the leadership team attended trainings to learn more about implementing SW-PBS. When the leadership team returned from the trainings they began to develop the

school's program at the end of the 2002-03 school year. The program was implemented beginning in August, 2003, and was completed in March, 2004 (Curtis et al., 2010).

The school agreed upon five behavioral statements: a) be safe, b) be kind, c) be responsible, d) be respectful, and e) be mindful. After the behavioral statements were created, they were defined for each school area. Students who demonstrated positive behaviors were awarded tickets for their good behavior. When students received a ticket, they wrote their name on the ticket and dropped it off in a special box outside the main offices. Names were randomly drawn from the box each week. The students that were selected were able to choose a small prize. After a student received four tickets, they were rewarded with a miniature high five symbol that was placed on a necklace. On Fridays, students could wear their necklace to school to be recognized for their positive behaviors (Curtis et al., 2010).

Following 1 year of SW-PBS implementation, the leadership team began to meet individually with teachers who continued to have problems with certain students in their classes. In these meetings, the leadership would help teachers develop strategies to meet the needs of the student being discussed. Such strategies included observing the student, providing counseling, modifications, family involvement, and possible referral for psychological testing (Curtis et al., 2010).

Data were collected during the years of 2003-2006. Permission was received for the author of the case study to analyze data within the school. The data collected and analyzed included referrals to the principal for behavioral reasons, extended timeouts within the school day, out of school suspensions (OSS), and instructional days lost. Baseline data were collected

during the 2002-2003 school year. The definition of behavior infractions was updated to reflect SW-PBS procedures (Curtis et al., 2010).

During the case study, behavioral referrals decreased 47.8% from the baseline year to Year 4 of the study. Extended timeouts decreased by 1.7%. OSSs decreased by 67% and instructional days lost decreased 56.5%. There was a slight increase in Year 4 for extended timeouts and OSSs, which resulted in the increase in instructional days lost in the same year (Curtis et al., 2010).

Curtis et al. (2010) conducted z tests for differences in proportions between the baseline year and the fourth year for each dependent variable. In order to estimate the proportional differences in the population, 95% confidence intervals were calculated. As found in the study, the difference in extended timeout rates was not statistically significant, but the decreases in the other three variables were statistically significant. It can be estimated that in similar populations, the same type of SW-PBS intervention would be associated with a decrease of between 3 and 8 percentage points in OSS days, 6 and 15 percentage points in instructional days lost, and 3 and 10 percentage points in referrals to the office for behavioral reasons (Curtis et al., 2010).

The 40%-67% decrease in behavioral referrals and OSSs found in this study is consistent with previous SW-PBS research. Since the decreases in problem behaviors were clinically significant, SW-PBS can have a positive impact of school environment. It is important to keep in mind that reward programs should be continually revised. The work of SW-PBS teams is never done and is a constant process. The school counselor credited decreased behavioral problems among the students with emotional or behavioral disabilities to the consistency provided by the SW-PBS program. School-wide Positive Behavior Support programs take time

to develop, but in the long run can provide positive school climates in which all students can be successful (Curtis et al., 2010).

Cressey et al. (2014) reviewed a 5-year case study in which an elementary school counselor and her colleagues introduced Positive Behavioral Interventions and Supports (PBIS) to their school. The case study began with a grade level pilot program and blossomed into school-wide implementation. The team heading the case study within the school include the school counselor, a teacher, an administrator, and two university-based consultants who specialize in PBIS. The study was conducted in a large, Spanish/Bilingual K-5 elementary school in an urban/suburban school district in the Northeast. A majority of the students come from low-income families (58.4%) and significant number of students have limited proficiency speaking English (36.5%).

The study used different measures and surveys. Implementation fidelity was measured using the Self-Assessment Survey (SAS). The SAS is an annual staff survey of implementation fidelity. Similarly, the School-wide Evaluation Tool (SET) was administered to measure implementation fidelity. The SET includes brief interviews with students, staff, and administrators, observations conducted of the physical environment at school, and a review of PBIS documents (Cressey et al., 2014).

During the 2008-2009 school year, the school counselor and other school staff began to notice that the third-grade students struggled to behave in a safe and respectful way. Students in third grade displayed verbal and physical aggression, as well oppositional and defiant responses towards their teachers. Student engagement was also a concern. There was no formal system in place to collect data about these problem behaviors (Cressey et al., 2014).

The school counselor began to develop a pilot PBIS program to be implemented when the group of third grade students began fourth grade. Prior to the next school year, the school counselor attended a conference on school-wide PBIS. Upon her return from the conference, the school counselor composed a team of eight faculty members. The team consisted of the four-fourth-grade teachers, the school social worker, and the school psychologist. They began to develop core values and behavioral expectations for fourth-grade students. These expectations would be taught to students through positive behavior lessons and a system of positive reinforcement and meaningful consequences was established (Cressey et al., 2014). The grade-wide expectations were represented by the acronym CARE. CARE stands for Class, Academics, Respect, and Effort.

All fourth-grade students were introduced to a positive reinforcement system. Teachers handed out sunshine tickets to students for displaying positive behaviors. Biweekly raffles were held where students could trade in their tickets for rewards. Rewards included extra recess with peers or assisting their teacher with an activity. Families were informed about the pilot program at the beginning of the school year. They were also informed about their child's behavior in their homework agenda. This way communication was not just for negative reasons, but also positive reasons (Cressey et al., 2014).

Assemblies were scheduled by the school counselor throughout the school year. Each class would nominate a student who had done an outstanding job at representing the CARE values. The fourth-grade pilot program was assessed informally by the fourth-grade teachers. Each student's behavior was charted on their report card using 6 behavior competencies on a 4-point scale. The ratings were discussed at three points during the school year to determine

which students needed additional behavioral support. The team would look at average scores per classroom and the overall grade level. The mean score increased from 17.97 in September to 19.32 in March for the 67 students in fourth-grade (Cressey et al., 2014). As a result of a small magnitude of change, the team also relied on anecdotal and narrative reports to describe the students' behavior change over the course of the school year. In addition to receiving input from the fourth-grade teachers, other teachers from outside of fourth grade provided narrative reports of behavior change in the fourth-grade classes.

As the fourth-grade students moved to fifth-grade, the school counselor conducted the same training with the fifth-grade teachers. The CARE program was made into a handbook to provide for consistent implementation across grades 4 and 5. At a faculty meeting, teachers decided that a top priority for the school should be to focus on social/emotional and behavioral supports for students in hopes that it would promote academic success (Cressey et al., 2014).

Prior to the second year of implementation, the school counselor developed a SW-PBIS leadership team. The team was co-chaired by a fourth-grade teacher who participated in the pilot intervention the year before. This group was later known as the CARE team. The initial team included a wider variety of staff members. This included general education teachers, special education teachers, and specialists. They developed three SW-PBIS interventions. Other areas the group improved included arrival and dismissal routines, reinforcement for positive behaviors at lunch, and moving student recess time before lunch (Cressey et al., 2014).

University-based consultants were contacted, who could provide support to the school in providing formal implementation in the following year. The school counselor applied for grant funding through the state department of education in response to intervention (RTI) for

social/emotional and behavioral supports. This allowed for 10 school faculty members to be trained and then prepare for the first year of full SW-PBIS implementation (Cressey et al., 2014). The leadership team was able to learn about data management tools that would help them better understand student outcomes.

The new focus on data was an important shift for the leadership team. New forms and consistent procedures for office discipline referrals were established, as well as clear definitions of major and minor problem behaviors. Later the school adopted the School-Wide Information System (SWIS) to electronically store data in a more efficient way. A subset of team members was trained on SWIS by the University consultants. Research has shown that when ODR data is consistently collected and analyzed, it can help better determine where and when problem behaviors are occurring (Cressey et al., 2014).

In Year 3, the members of SW-PBIS leadership worked in the summer to prepare for a school-wide implementation of the care program in September. Once school started, the CARE program was introduced to students in grades K-5. Teachers spent a significant portion of time teaching the CARE values and the expected behaviors in the different areas of school. In the spring of Year 3, the CARE leadership distributed the SAS implementation measure to staff to monitor the school's progress. The school was then able to see improvement from Year 2 to Year 3. Expectations defined improved from 53% to 89%, Expectations Taught improved from 51% to 83%, and Reward System improved from 59% to 87%. In SW-PBIS, each school is looking toward an 80% benchmark in each area. This data were used to continue making improvements to the program for minor and major problem behaviors (Cressey et al, 2014).

In Years 4 and 5, the school focused on improving areas of their SW-PBIS system that were below 80% implementation fidelity. Each year the SAS results showed improvements in SW-PBIS implementation. By Year 5, the overall implementation average was 85%. ODRs increased per day, per month, and from year to year. This may be attributed to the use of the data system by teachers over the years. There was some debate by team members over the validity of the ODR data in Year 3. For Years 4 and 5, the CARE team worked to develop more consistent practices regarding ODR data. In Year 5 the school made improvements on standardized achievement tests (Cressey et al., 2014). Due to their improvement, the school was awarded a Level 2 status the following school year, which was an improvement from Level 3 in the state accountability system.

Cavanuagh (2016) conducted a study that analyzed minor discipline referral data to determine if it may be a predictor of students at risk for behavioral problems later in the school year. Three elementary schools were the subject of this study. The schools were located in the northeast region of the United States. Two of the schools were K-2 schools and the other was a K-5 school. For the purpose of this study, only K-2 data were examined. Each participating school had implemented SW-PBIS with fidelity as measured by the School-wide Evaluation Tool (SET).

Office discipline referral (ODR) data were accessed through the School-wide Information System (SWIS) data system. Each school was trained in using this data system and had used SWIS for 4 years to track minor discipline problems (Cavanuagh, 2016).

The purpose of the study was to determine if discipline patterns in the first 4 weeks of school could predict discipline patterns at the end of the school year. The number of minor and

major ODRs was tracked during the first 4 weeks of school from SWIS. When analyzing the data, three levels of risk were created. Prior research has shown that students with zero to one major ODR by the end of the school year presented little to no risk. Students with two to five major ODRs were considered to be at risk and students with six or more major ODRs are considered to be at high risk. The same risk levels were used for the study during the first 4 weeks of school (Cavanaugh, 2016). In addition, the number of major ODRs obtained at the end of the school year was also analyzed.

When looking at the nature of the data, 58% of the discipline referrals were classified as major ODRs and 42% were classified as minor. The most common major problem behavior was physical aggression, which accounted for 18.9% of all referrals. The most common minor problem behavior was minor defiance, which accounted for 9.6% of all referrals (Cavanuagh, 2016).

Discipline patterns in the beginning of the school year correlated with end of the year major ODRs. Both major and minor discipline referrals were statistically significant when associated with end of year major ODRs. Multiple regression analyses indicated that the number of minor discipline referrals were a statistically significant predictor of end of year major ODRs (Cavanaugh, 2016). This held true when controlling for student gender, student disability status, and a number of major ODRs received in September.

Past research has strongly discouraged only one discipline referral as a predictor of future behavioral problems. As a result, this study examined the use of multiple minor discipline referrals. In this study, of the number of students receiving a minor discipline referral in the first 4 weeks of school, 62.5% of those had received only one minor referral. Due to these numbers,

minor referral variables were combined into a variable, which included all September referrals. The data showed that 83.54% of students with zero to one September referrals remained in the low risk category by the end of the school year. Forty-seven point 62% of students with two to five September referrals remained in the at-risk category by the end of the year and 90% of the students with six or more September referrals remained at high risk category by the end of the school year (Cavanaugh, 2016).

Results of a logistic regression analysis indicate that September referrals were a statistically significant predictor of being at risk for behavior problems at the end of the school year. With this information, multiple discipline referrals in September predicted future behavioral risk. Considering major and minor discipline problems may be a feasible strategy for early identification of students at risk for behavioral problems (Cavanaugh, 2016).

Review of Positive Behavioral Interventions and Supports at the Middle School/ High School Level

Table 2

Summary of Middle School/High School Studies

Authors	Study Design	Participants	Procedure	Findings
Luiselli, Putnam, & Sunderland (2002)	Quantitative	This study took place in a rural middle school in western Massachusetts	4-year case study measuring detention slips handout out	Detentions decreased and student time in class increased
Lassen, Steele, & Sailor (2006)	Quantitative	This study took place with multiple middle schools in a low income, inner city area	4-year case study measuring office discipline referrals, suspensions, and academic achievement	Office discipline referrals decreased. The schools math scores increased.
Bohanon, Fenning, Carney, Minnis-Kim, Anderson-Harriss, Moroz, Hicks, Kasper, Culos, Sailor, & Pigott (2006)	Quantitative	The study took place in an urban high school in Chicago. 1800 students participated in the study.	A 3-year study using Positive Behavior Supports. The process measures were School-Wide Evaluation Tool (SET) and Effective Behavior Support (EBS) Survey. The outcome measures were Office Discipline Referrals and climate survey data.	There was a decrease in monthly discipline referrals to the office and the proportion of students needing secondary and tertiary interventions.
Jeffrey, McCurdy, Ewing, & Polis (2009)	Quantitative	9 teachers of students with EBD. The pilot project focused on Treatment Integrity for classroom PBIS	Teachers participated in a needs assessment for programming and created a list of evidence-based strategies. Teachers were trained and observed three times a year and given feedback.	With training, treatment integrity improved and so did student on-task behaviors. Classroom ecology also improved independent time on-task observations.

Luiselli, Putnam, and Sunderland (2002) conducted a longitudinal 4-year evaluation of a behavior support program designed for the entire school population at a public middle school. The setting for this study was a public middle school (grades 6-8) in western Massachusetts. The community was located in a rural area composed primarily of middle-class to upper middle-class families.

The dependent measure for the study was the number of detention slips issued each school year. School detentions were recorded by teachers and administrative staff when they observed a student displaying problematic behaviors. Detentions typically represented a rule violation in one of three areas. The first category was disruptive-antisocial behavior. This included: (a) disturbances in the school building, (b) disrespect toward staff, (c) suspension from the 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 (Luiselli et al., 2002).

The second category was vandalism. This included: (a) destruction of school property, (b) stealing, and (c) misuse of technology. The last category was substance use. It covered: (a) smoking, (b) alcohol possession, and (c) drug possession. The detention slip was then given to the student, the principal's office, and filed away in a central file. The slip contained the student's name, the type of behavior displayed, the date, and the student's grade level. Last, an administrative assistant would enter the information into a computer database file (Luiselli et al., 2002).

Two other measures were taken into consideration in this whole-school longitudinal evaluation. The percentage of student attendance multiplied by 100% was the ratio of the

number of students present at school on a given day to the number of students officially enrolled. The other measure was the percentage of students who qualified for the lottery drawings through the schools' behavior support program (Luiselli et al., 2002).

The school's behavior support program was in effect during throughout the 4-year longitudinal study. The program was established by teachers and administrators who were concerned about student discipline. They wanted to develop strategies that were positive and could be used throughout their school. All the procedures were put in place by staff at school. The researchers and consultants in the school only assisted in evaluating the behavior data and writing a report of their findings. The assistant principal was responsible for managing the behavior support program (Luiselli et al., 2002).

The program was coordinated by a committee made up of students, teachers, administrators, parents, and community members (Luiselli et al., 2002). This committee worked to identify areas of concern, compose a list of school rules, establish intervention guidelines, and design procedures to be used across grade levels.

The participating school used a lottery as a part of their behavior support program. At the conclusion of each quarter, students could receive a recognition card that was entered into the school lottery. In order to receive a card, students had to maintain a specific grade point average, receive passing grades for all subjects, and have no more than two homework detentions. Also, students could not have more than two absences and no more than one unexcused late arrival (Luiselli et al., 2002).

Students who had their name selected in the lottery received coupons that could be used at local vendors, free-admission passes to school events, and gift certificates. More immediate

incentives were given out to students in the form of "Caught Being Good" (CBG) cards. These cards were given out throughout the school year. Students could receive the CBG cards for demonstrating excellence with academic tasks, cooperating with peers and staff, and for displaying positive social skills. Every time a student received a CBG card, their name was recorded, and the card was place in a "ballot" box in the principal's office. Drawings were held each Friday. Sixteen students were selected. Students could exchange their cards for prizes and gift certificates. The 16 students that had their cards drawn were then entered into monthly and quarterly drawings. Four cards were drawn for these drawings (Luiselli et al., 2002).

As part of the whole-school behavior support program, different resources were available to teachers. A school counselor was available to consult with teachers and held group sessions with students. Special education teachers assisted with accommodations and modifications to academic instruction and assignments. For students who demonstrated a need for more intensive interventions, supports such as peer mediation and individual behavior contracts were available (Luiselli et al., 2002).

Throughout the intervention, researchers and school staff saw detentions decrease. In the disruptive-antisocial category, the number of detentions decreased from 1,326 in Year 1 to 599 in Year 4. There was also a decrease for the other behavior categories. Detentions for vandalism decreased from 11 in Year 1 to 5 in Year 4. Detentions for substance use decreased from nine in Year 1 to one in Year 4. Also, student attendance increased each year and a larger rate of student received lottery prizes (Luiselli et al., 2002).

The outcome data from this longitudinal study suggests that the positive effects displayed in this study can be sustained. These results should urge school staff to continue to implement

and modify the current behavior support practices. This positive behavior support program decreased detentions across three categories and increased attendance. The authors noted that future studies should focus on more specific data and better experimental controls to better understand the effects of positive behavior support programs (Luiselli et al., 2002).

Lassen, Steele, and Sailor (2006) conducted a 3-year longitudinal study, where they investigated the effects of School-Wide Positive Behavior Supports (PBS) in multiple schools in low income, inner-city areas. For means of evaluating the School-Wide PBS program, one school was used as the unit of analysis. The target middle school was located in a large urban area in the Midwest region of the United States. Approximately 80% of the school population faced economic challenges, based on the number of students eligible for free or reduced lunch. Statewide data that was comparable to the target school, showed that other schools had significantly lower numbers of students facing economic challenges, only 32%.

A variety of measures were used to assess student outcomes and the implementation of the PBS program. Office discipline referrals (ODRs) and suspension data were used to measure problem behavior. When a student was given an ODR, they met with the principal or assistant principal. The disciplinary action was decided upon the by the administrator and then entered into the school's student management system. Suspensions were served out of school and lasted anywhere from 1-5 days. There is literature gaining ground that supports the use of incident report data as a valid measure of student behavior and school functioning (Lassen et al., 2006).

The School-Wide Evaluation Tool (SET) was given prior to the intervention convening and at the end of Year 3. The SET is designed to evaluate the features of behavioral support systems in a school over time. As a principle of a School-Wide PBS program, students were

acknowledged for displaying positive and appropriate behaviors. The students were given positive referral tickets by teachers and staff. The number of tickets given out was calculated each quarter. This served as one of the main interventions in the school (Lassen et al., 2006).

The researchers first contacted the school in Year 1 of the study, 2000-2001, before the school year began. During this time, the researchers looked to understand organization of the school and learn more about the school culture. School discipline policies and procedures were examined to ensure that they were clearly organized and would support a school-wide PBS approach. The policies were found to be clearly stated and defined in the school's policy handbook by the researchers. No changes were made to school policies and procedures during the study. Researchers presented the information they had found to school staff and presented the basic principles of PBS. They then compared the school's current behavior management system to a PBS system (Lassen et al., 2006).

Implementation of the School-Wide PBS program focused on: (a) evidence-based practices, (b) systems improvements, and (c) implementation support/facilitation. To begin the transformation to a PBS system, teachers and administrators developed six behavioral expectations for the school. The new expectations were: (a) Be Responsible, (b) Be Respectful, (c) Be Ready to Learn, (d) Be Cooperative, (e) Be Safe, and (f) Be Honest. Next, a training was held for a select group of teachers and administrators who would be pivotal in applying the principles of the School-Wide PBS program. The group developed plans for how to teach the new school-wide expectations and determined how to teach the expectations in non-classroom setting such as the cafeteria, hallways, and assemblies (Lassen et al., 2006).

It was initially planned that the intervention would start in Year 2, but the administration felt the need to begin the intervention sooner due to ongoing student discipline concerns. The researchers decided to move forward with the school's request. By starting earlier than expected, the school designed the PBS program to fit its specific needs (Lassen et al., 2006).

The new school expectations were posted around the school and teachers taught the expectations to students in their classrooms via direct instruction and role-play. In addition to teaching the new expectations explicitly to the students, a school reward system was established to reward students for displaying positive behaviors. When students were caught displaying a positive behavior they received a blue ticket. The tickets were placed in a box in the office and a drawing was held at the end of each week. The winners were called to the office and received prizes. The winners' pictures were taken and displayed in a trophy case near the office (Lassen et al., 2006).

Additional supports were provided as needed. In the classroom, the researchers provided support in reinforcing and increasing direct instruction of the school-wide expectations. Other classroom management strategies were provided as well. In Year 3, group-level support was provided for students that continued to have behavior concerns and who were not responding to the whole school interventions. This intervention focused on weekly group meeting with students who received instruction on displaying appropriate behaviors at school (Lassen et al., 2006).

A major goal for the researchers was to ensure that the PBS program could sustain after the study had concluded. Ongoing training was provided on PBS-related issue to a group of teachers and administrators who were interested in addressing and changing student problem

behavior. A majority of this group of school staff were on the school's Student Improvement Team (SIT). This team monitored the School-Wide PBS efforts. The team evaluated the data from the PBS program and made modifications to the program based on the data (Lassen et al., 2006).

In order to compare different years, the totals for each outcome measure were multiplied by the percentage of change in enrollment between each year. Blue ticket and SET data were examined to determine the effectiveness of the PBS program. Cronbach's alpha's conducted for the SET showed adequate reliability for the SET (.77). The total mean score for the SET was examined in the baseline year and Year 3. The percentage of critical PBS components implemented in the school increased from 24.97% in the Baseline Year to 69.64% in Year 3. Every category increased except for "System for responding to behavioral violations" (Lassen et al., 2006).

The average number of blue tickets handed out to each student from Year 1 to Year 3 was examined using a one-way analysis of variance (ANOVA). The results showed a significant difference in the number of tickets handed out from Year 1 to Year 3. The number of ODRs and suspensions were measured using descriptive statistics and a series of ANOVAs to determine if the differences in ODRs and suspensions were statistically significant. The first ANOVA indicated a significant difference in the average number of ODRs per student from Baseline to Year 3. The second ANOVA measured the change in average number of long-term suspension per student. This finding was also significant with suspension decreasing from Baseline to Year 3 (Lassen et al., 2006).

Concerning test scores, two separate ANOVAs were conducted. The first ANOVA revealed that the increase in standardized test scores for reading from Baseline Year to Year 3 was not significant. With that being said, means plots indicated that reading scores decreased from Baseline to Year 1 and then increased each year from Year 1 to Year 3. The second ANOVA indicated that standardized scores in math increased significantly form Baseline to Year 3 (Lassen et al., 2006).

Researchers used four separate regression analyses to examine the relationship between disciplinary actions and standardized math and reading test scores. It was found that the number of ODRs and/or suspensions a student had was a significant predictor of scores on standardized tests for math and reading. Students with fewer ODRs and/or suspensions had higher test scores (Lassen et al., 2006).

Throughout the study, the number ODRs per student was significantly reduced. With the increased instructional time, administrator time could be used in different proactive ways and students were able to be present for more instructional time. The number of suspensions were also significantly reduced. Implementation improved throughout the course of the study, as did test scores (Lassen et al., 2006).

Bohanon et al. (2006) investigated the use of school-wide positive behavior supports (PBS) is an urban high school. The study focused on implementation of PBS for urban high school settings and determining the impact of a high school PBS program on student discipline outcomes. The location for this study was a public high school in Chicago. The school in which PBS was to be implemented served approximately 1,800 students and a diverse student body. At

the time of the study, there was an 86% average daily attendance, 19% dropout rate, 30% mobility rate, and 20% of the school qualified for and received special education services.

Data were collected in two categories: (a) process and (b) outcomes. The process measures included the School-wide Evaluation Tool (SET) and the Effective Behavior Support (EBS) Survey. Outcome data were collected in the form of office disciplinary referrals (ODRs) climate survey data. The SET measures treatment integrity of school-wide PBS implementation. For this study, the SET was conducted by a trained consultant from the Illinois State Board of Education's Positive Behavior Interventions and Support Network (ISBE-PBIS) (Bohanon et al., 2006). The EBS survey was given to determine the level of implementation and priority for change across four areas of PBS. These included school-wide, classroom, non-classroom, and individual supports. The items in the survey were reviewed by the discipline leadership team at the school. They recommended that modifications be made to represent an urban high school setting (Bohanon et al., 2006).

To collect student outcome data, ODR data was reviewed. ODR data were entered into a computer by school staff. Problem behaviors were coded into five levels of severity. Level 1 behaviors were considered minor infractions and Level 2 and above behaviors were considered major infractions. In addition to noting the level of the behavior, the person writing the referral would also provide a narrative of the behavior for more context (Bohanon et al., 2006).

A mixed method approach was used for the design of this study. The study focused on school-wide supports in urban high schools and evaluating its effectiveness. Qualitative data were collected through participant observation and naturalistic inquiry design. This helped to develop interventions and implement independent variables (Bohanon et al., 2006). A pre-post

(AB) design was used to compare the effects of the intervention between the baseline (Year 2) and the implementation (Year 3). The timeline of the study included the 2001-2002 school year as Phase I: initial inquiry. The year 2002-2003 was Phase II: baseline (Year 2), and 2003-2004 as Phase III: intervention (Year 3).

Phase I of the study involved the principal investigators meeting with the school Principal in November to give an overview of Positive Behavior Supports (PBS). Data collection procedures and a behavior team were set up. The data to be collected included ODRs, attendance, and grade point average. At the end of school year, the data were presented to teachers, support staff, and administration in separate presentations. Members of the university team spent time observing and interviewing different departments in the school. They collected data on school climate and discipline implementation (Bohanon et al., 2006).

At the end of the staff presentations, the university team gave additional information about PBS. The team provided information on how PBS could help current school concerns. After the presentations, the university team received consent to form an initial discipline leadership committee and conduct a formal assessment (Bohanon et al., 2006). Phase II focused on analyzing and prioritizing measurable outcomes. This stage was primarily data collection before the implementation stage.

Phase III was the intervention phase. In February, a high school team of four students, one parent/community agency member, one administrator, two general education teachers, two special education teachers, and one writing laboratory representative met with university faculty to be trained on PBS and develop an action plan. The high school team was given an overview of PBS principles. These principles included reinforcement, punishment, discipline, shaping,

setting events, and purpose of behaviors. Specific intervention strategies at the school level and group level were also discussed (Bohanon et al., 2006).

The four school-wide expectations were: (a) Be Respectful, (b) Be Responsible, (c) Be Academically Engaged, and (d) Be Caring. After the day of training, the school team provided an overview to the teaching and career service staff. This overview included a description of PBS, a summary of the EBS survey, and the draft expectations and teaching grid (Bohanon et al., 2006). The staff were able to vote on the proposed plan to accept it, reject it, or modify. The majority decided to proceed with the plan.

During the initial kickoff session in August, the discipline leadership team provided an overview of PBS. Staff were given information on the PBS process, rationale for how PBS could improve building concerns, how PBS would be implemented, and how to provide feedback to the discipline leadership team (Bohanon et al., 2006).

Teachers were provided with social skills lessons and posters of school-wide expectations. Posters were displayed in classrooms and around the school in an effort to create a positive school climate and make the expectations visible to all students and staff. Students were introduced to PBS during four kickoff sessions, one for each grade (9-12). During the kickoff, students were given an overview of expectations, practiced one of the expectations, and watched a video of a school expectation (Bohanon et al., 2006).

Each staff member was given acknowledgement tickets to hand out to students. A ticket was valued at $0.25. The tickets could be redeemed in the cantina. Two major school-wide celebrations were held by the discipline team. A dance was put on in December and movie theatre tickets were handed out in June. The celebrations were held when there was deduction in

ODRs. Student data were stored in the School-Wide Information System (SWIS). Referral data were reviewed by the discipline leadership team and presented to the entire staff each quarter (Bohanon et al., 2006).

ODR data were used an indicator for behavioral and academic outcomes for students. In Year 2 there were 5,215 ODRs, or 1.93 per day per 100 students. In Year 3 the number decreased to 4,339, or 1.54 per day per 100 students. This was a 20% reduction in average discipline referrals. Dress code violations saw a major reduction. Severe behaviors also decreased. Severe disobedience decreased from 1.64 per day per 100 students in Year 2 to 0.05 per day per 100 students (Bohanon et al., 2006). Reductions in ODRs occurred in 7 of the 10 months between Years 2 and 3.

The proportion of students with problem behaviors changed from Year 2 to Year 3. Forty-six percent of students in Year 2 had zero to one ODRs, compared to 59% in Year 3. Thirty-two percent of students in Year 2 had two to five referrals and only 25% in Year 3 had two to five referrals. Also, 21% of students had six or more ODRs in Year 2 and that number decreased to 16% in Year 3. The two-tailed Pearson's chi square, indicated that these changes in proportion were more than what would be expected by chance alone (Bohanon et al., 2006).

Although, the number of ODRs decreased, full implementation of 80% was not achieved when looking at SET results. This study established some initial data to suggest that school-wide PBS may be beneficial at a high school setting. There are certain issues that pertain specifically to urban high schools. By administering the EBS, it was found that priority for implementing PBS increased (Bohanon et al., 2006).

Jeffrey et al. (2009) led a pilot project that looked to develop a tool to improving the integrity of classroom management practices. This approach could be used similarly to an RTI method. The project took place in a suburban school district in the Mid-Atlantic region of the United States. Eleven percent of the school population received special education services. The district achieved well on the state assessment and had sixth highest test scores.

Nine emotional support services teachers participated in this pilot study. Four of the teachers taught at the elementary level in self-contained emotional support classroom. Five of the teachers taught in middle school resource rooms. Six of the teachers were male and three were female. This was an experienced group of teachers and all the teachers had obtained their Master's degree and certification in special education (Jeffrey et al., 2009).

The elementary classrooms consisted of six to eight students, with one teacher and two paraprofessionals. This setting was self-contained. The periods were 45 minutes and included lunch, recess, and one non-academic subject each day. The middle school classrooms were taught by one teacher and one paraprofessional. Each middle school class consisted of 7 to 12 students and had not more than 10 students in class at a time. The curricula taught in the middle school resource room mirrored the general education curriculum. Most of the students spent one to three class periods in the resource room (Jeffrey et al., 2009).

This project came to be as a collaboration between the school district and a local non-profit organization. A needs assessment of the district's emotional support classrooms was the first course of action of the project. The needs assessment included observations and interviews with staff from across the district's emotional support classroom. The intention of the needs assessment was to define a set of classroom management strategies that could be used across the

emotional support classrooms. After these strategies were in place, the school needed a system to monitor each teacher's implementation of the new strategies (Jeffrey et al., 2009).

Once the needs assessment was completed, the team identified the evidence-based practices that would serve as the model for class-wide behavior management strategies. Four domains were established: materials, classroom, ecology, teaching expectations, and instructional management. After the strategies were developed, a manual was created. Teachers were trained during the in-service days at the beginning of the school year. During this time an integrity tool was established. Data were collected through permanent product review, direct observation of teacher and student behaviors, and interviews with teachers and students (Jeffrey et al., 2009).

Treatment integrity was the primary outcome measure for the project. Teacher classroom management behaviors were measured through direct observations, permanent product review, and interviews. Each integrity assessment took between 45 to 60 minutes to complete. Two of the authors completed the integrity observations. Observations were conducted while the teacher was teaching a group lesson that was preferred to be academic. This allowed for the teacher to be observed for correct academic responses and opportunities to respond. The observer would meet with the teacher upon entering the classroom to understand the expectations for the class period, the recognition system, and the class schedule (Jeffrey et al., 2009).

The integrity checks were completed three times in each classroom. The schedule for observations was similar to the benchmarking schedule for RTI. The integrity checks were intended to mirror similar evaluation practices, provide teachers with ongoing feedback

concerning classroom management, and provide administrators with a framework to determine who and how to provide support to teaching staff (Jeffrey et al., 2009).

Student on-task behavior was also measured as a validation procedure for the tool. On-task behavior was defined as attending to the teacher or the assigned classwork. It included both active and passive forms of on-task behavior. In January, nine concurrent direct observations of student behavior were collected to determine concurrent validity. These were separate observations of student behavior from the integrity tool. In these observations, on-task behavior was measured during a 20-minute direct observation, using time-sampling on a 15 second interval recording schedule (Jeffrey et al., 2009).

Treatment acceptability was assessed for the selected classroom management strategies and the integrity measure/feedback process. The teachers in the study were given the Intervention Rating Profile-15 (IRP-15) to assess the acceptability of the classroom management strategies that were established. The IRP-15 is a 15-item scale that has been found to be a reliable measure of general acceptability of an intervention. Three items were added to the IRP-15 to assess acceptability of integrity measure/feedback process. The added items were: (1) I agree the external observation is important for evaluating my implementation of the behavioral system, (2) I feel the observation tool evaluates important components of the behavioral system, and (3) I found the scoring summary sheet to be useful in identifying my areas of strength (Jeffrey et al., 2009). Three out of nine teachers completed the IRP-15 and found the manualized approach to be acceptable with an average rating of 73 (the possible range was 15-90). On the integrity measure/feedback process, the rating was also acceptable with an average rating of 13.67 (possible range was 3-18).

The first observation showed low teacher implementation of the classroom management strategies after the initial training. At the elementary level, there was a steady improvement seen across observations. The middle school teachers improved implementation after the first integrity measure. However, no growth was seen after the second integrity measure. The range of implementation did narrow by the third session. Across grade levels, as teacher implementation improved so did student on-task behavior (Jeffrey et al., 2009).

The nine concurrent observations were compared to the individual domains and total score on the integrity measure. A Pearson correlation compared the relationship between the total scores, each domain score, and student on-task behavior. The correlation between the total score and student on-task behavior was found be statistically significant. The correlation between the classroom ecology domain and the student on-task behavior was also found to be statistically significant. The correlation between the other three domains and student on-task behavior was found to be non-significant (Jeffrey et al., 2009).

This project provided a starting point for a tool that could be used to provide feedback to teachers of students with Emotional or Behavioral Disorders. This feedback can help to support implementation of evidence-based practices and the maintenance of implementation over time.

Chapter 2 Summary

I reviewed 11 studies in this chapter that examined the effectiveness of Positive Behavioral Interventions and Supports for students with Emotional or Behavioral Disorders. Conclusions and recommendations are discussed in Chapter 3.

Chapter 3: Conclusions and Recommendations

The purpose of this research paper was to investigate if Positive Behavioral Interventions and Supports (PBIS) affect academic and social outcomes for students with Emotional or Behavioral Disorders. Chapter 1 provided background information on PBIS, and Chapter 2 presented a review of the research literature. In this chapter, I discuss the findings of the research, including recommendations and implications from research findings.

Conclusions

I reviewed 11 studies that examined the effectiveness of Positive Behavioral Interventions and Supports for students with Emotional or Behavioral Disorders. Seven of the studies focused on the implementation of PBIS at the elementary level (Bradshaw et al., 2010; Cavanaugh, 2016; Cressey et al., 2014; Curtis et al., 2010; Luiselli et al., 2005; Scott, & Barrett, 2004; Walker et al., 2005). Four of the studies focused on implementation of PBIS at the middle school/high school level (Bohanon et al., 2006; Jeffrey et al., 2009; Lassen et al., 2006; Luiselli et al., 2002).

Elementary studies. Scott and Barrett (2004) found that implementation of PBS decreased office discipline referrals and suspensions. In addition, administrator time was saved and student instructional time increased. The Luiselli et al. (2005) study concluded that PBS implemented at an urban school with ongoing discipline problems, decreased office discipline referrals and suspensions. Student test scores on the third grade MAT-7 state test improved in reading comprehension and mathematics. Walker et al. (2005) asserted that identifying students at risk for behavior problems early in the school year, tracking progress, and providing additional

positive behavior supports may reduce the number of students referred to more intensive interventions later on.

Bradshaw et al. (2010) conducted a 5-year longitudinal randomized controlled effectiveness trial examining the use of School-Wide Positive Behavioral Interventions & Supports. Of the 37 schools in the trial, 21 were assigned to be trained in SW-PBIS. The schools trained in SW-PBIS had significant decreases in office discipline referrals and suspensions when compared to the control condition. The Curtis et al. (2010) study focused on the effects of SW-PBIS. During the case study, behavioral referrals, extended timeouts, out of school suspensions, and instructional days lost decreased. School climate was found to improve following SW-PBIS implementation.

Cressey et al. (2014) concluded that a system of PBIS that began as a grade-level pilot and expanded to school-wide implementation, was able to improve implementation fidelity across a 5-year span. In that time office discipline referrals decreased, and student test scores increased. The Cavanuagh (2016) study indicated that September minor discipline referrals were a statistically significant predictor of a student being at risk for behavior problems at the end of the school year.

Middle school/high school studies. Luiselli et al. (2002) conducted a 4-year longitudinal study examining a middle school implementing Positive Behavior Supports due to a concern over student discipline. Through the implementation of positive behavior strategies, student detentions decreased across four behavior categories and student attendance increased. The Lassen et al. (2006) study concluded that the implementation of School-Wide Positive Behavior Supports decreased office discipline referrals, suspensions, and student test scores

improved. Monthly discipline referrals to the office and the proportion of students needing secondary and tertiary interventions decreased in an urban high school in Chicago after the implementation of PBIS in the Bohanon et al. (2006) study. The Jeffrey et al. (2009) study focused on treatment integrity for PBIS in elementary/middle school EBD classrooms. Through creating a systematic list of classroom management strategies and evidence-based practices, teachers were provided with feedback three times a year. Treatment integrity and student on-task behavior improved.

Recommendations for Future Research

Small sample sizes were listed as a limitation in five of the studies I reviewed. A small sample size makes it difficult to make conclusions about how PBIS would affect a larger population. Further research with larger populations would be beneficial to make more accurate conclusions about the effect of PBIS. In addition to small sample sizes, school demographics were listed as a limitation. Urban school districts face different challenges than suburban school districts and rural school districts. These challenges include lack of resources, socioeconomic status, and serving a diverse population.

Three of the studies lacked baseline data. The lack of baseline data makes it difficult to attribute student behavior improvements to PBIS. In the Lassen et al. (2014) study, no baseline data was gathered, because the school felt a pressing need to begin the intervention in Year 1. Only one of the studies I reviewed had a control school to compare the effects of PBIS to. The lack of a control school does not allow for researchers to assert a causal impact of the implementation of PBIS to improved student behavior.

In two of the studies I reviewed, PBIS were previously established. The findings from these studies would be difficult to generalize to schools that are not currently implementing PBIS. Data from before the schools implemented PBIS and the years following implementing PBIS would help to generalize the findings of these studies.

Perhaps the biggest limitation of the studies I reviewed is the subjectivity of recording office discipline referrals and suspensions. Pre and post intervention definitions of behavior violations greatly differ. In addition, each school has different ways of interpreting behavior and how they record and respond to violations.

Implications for Current Practice

As a special education teacher of students with Emotional or Behavioral Disorders (EBD), teaching appropriate behaviors is my first priority. The majority of my students come to school lacking important social skills. I am constantly teaching, re-teaching, and reinforcing positive behaviors. PBIS provides a framework to support all students in their behavioral and emotional development, particularly students with EBD.

In the studies I reviewed, School-Wide PBIS reduced office discipline referrals and suspensions. In addition to supporting students with EBD, PBIS provides a framework to identify and provide supports to students who may be at risk for EBD. By identifying students at risk for EBD, schools can catch students before they fall through the cracks.

When students are able to display appropriate behaviors, they remain in class and their academic performance may improve. Teachers can spend more time delivering instruction and less time redirecting students. Administrators can devote their time to other tasks other than office discipline referrals and work on continuing to promote and revise the PBIS program.

The success of a PBIS program is not by chance. There is a large amount of time that needed in planning the program and training students and staff. Schools must remain diligent and stick to the program. With proper leadership and treatment integrity, PBIS programs can be sustained over time and improve social and academic outcomes for all students.

Summary

The findings of these studies showed a decrease in the amount of office discipline referrals and suspensions. In some cases, academic performance also improved. The need for change in school discipline policies has many schools looking for an alternative to traditional discipline practices. Positive Behavioral Interventions and Supports is a proactive approach in which school staff teach appropriate behaviors and reinforce them on a daily basis. With the opportunity to improve school climate, specifically social and academic outcomes for students, more schools may consider implementing Positive Behavioral Interventions and Supports.

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