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Positive Behavioral Interventions and Supports and Academic Achievement in Students Receiving Special Education Services

Jennifer L. Keenan
Bethel University

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Jennifer L. Keenan

Bethel University

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Program Director's Name: Katie Bonawitz, Ed.D.

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Abstract

This literature review examines the relationship between PBIS interventions and the effectiveness of implementation on factors that hinder academic success for students receiving special education services. The factors of focus included office referral rates in regards to student behaviors, attendance, on task behaviors, and motivation for students. Research was reviewed of school-age students and trained vs untrained school staff. PBIS was implemented with varying degrees of fidelity based on staff development opportunities as well as the amount of time that was given to implement. The studies reviewed indicated that when PBIS was implemented with high levels of fidelity, there were increases in academic achievement and decreases in problem behaviors for all students. This research has shown that when interventions such as PBIS are implemented school wide, it is directly correlated with positive outcomes for students as well as school staff. Continued staff development opportunities are encouraged to ensure the sustainability of PBIS and that implementation is delivered with fidelity.

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Chapter I: Introduction

Positive Interventions and Supports

School districts around the country are focusing attention on closing the gap in academic achievement between general education students and students receiving special education services. In order to address the many needs and close the gap, school districts are finding that school effectiveness and academic achievement are directly impacted by attendance, behavior, and academic outcomes. “Students with co-occurring needs represent one of our most at-risk student populations” (Reinke, Herman, Petros, & Ialongo, 2008). Many school districts around our country implement interventions such as School-Wide Positive Behavior Interventions and Supports (SWPBIS) to address low academic success, poor attendance, and undesired behaviors that result in office referrals or suspensions among students who receive special education services. SWPBIS is a set of intervention practices and organizational systems for establishing the social culture and intensive individual behavior supports needed to achieve academic and social success for all students (Sugai, Horner, & Lewis, 2009). SWPBIS uses a multi-tiered system to identify students by needs to promote positive functions of student’s behaviors. The studies highlighted in this thesis investigate relationships between the implementation of interventions such as SWPBIS and its impact on students who have low academic success rates, poor attendance, and undesired behaviors.

PBIS, What is it?

Interventions are needed to ensure that all students, including students who receive special education services, experience success. PBIS utilizes interventions that implement strategies and skills that are supportive and meet the needs of all students. The emphasis of SWPBIS is following a set of procedures, such as behavioral expectations, active instruction, consistent positive reinforcement, and minimizing consequences that reinforce problem behaviors. SWPBIS focuses on the whole school with an emphasis on implementing tiered supports where student's needs are examined regularly. The needs of all students are assessed regularly and the level of support provided is directly tied to the student's needs. The three tiers that make up SWPBIS interventions are Primary Intervention, Secondary Intervention, and Tertiary Intervention. At the Primary level, prevention is implemented to all students throughout the school in order to clearly define behavioral expectations. These consistent expectations throughout schools are taught, and students receive various acknowledgments when these behavioral expectations have been met. The Secondary level of intervention is implemented when students are not responding to the primary level of support. These students not only continue to receive support from the Primary intervention level but also receive extra support to aid their success in school. There is a plethora of curriculum that can be implemented at this level such as First Step to Success, Think Time, and setting up social skills small groups. The third level of intervention, Tertiary is the level of support for students whose behaviors continued or did not respond to the first two tiers. At this level, each support that is implemented caters to the specific needs of the student. Educators use Functional Behavioral Assessments to guide interventions for these students as well as intense instruction of new skills

for these students to acquire and gain success. At each level of support, all students have continued access to the Primary level of supports and interventions. The core features of SWPBIS were taken from several decades of research, demonstration, innovations in education, the mental health of students, and behavioral analysis.

SWPBIS Responds to Student Needs

In the 2015-2016 school year, 6.7 million students between the ages of 3 and 21 received special education supports and services. (National Center for Education Statistics, 2018). Special education students represented half of school discipline referrals in our country. Research shows that students who continue to have low grade point averages, low school attendance, and higher rates of office referrals for deviant behaviors are statistically more likely to drop out of school. Researchers around our country saw the intense need to address these issues and meet the needs of our students receiving special education services. The school-wide SWPBIS model utilizes universal positive preventative support strategies that provide systematic training of expected behaviors and reinforcement of those behaviors to all students in the school. Approximately 80% to 90% of students are projected to respond successfully to the school-wide component of SWPBIS (Bradshaw et al., 2008).

Researchers focused on exploring links between implementation of SWPBIS and academic achievement, attendance, and behavioral outcomes. As well as how school staff is trained to implement SWPBIS with integrity. Students receiving special education, specifically students diagnosed with Emotional Behavioral Disorders (EBD) have higher rates of problem behaviors which have an impact on academic achievement across all content areas. The Individuals with Disabilities Education Act (IDEA) requires that school districts have teams of

educators who implement individualized education plans (IEP), conduct functional behavioral assessments (FBA), and implement behavior intervention plans that incorporate aspects of PBIS to create a proactive approach to managing problem behaviors.

Successful Implementation Procedures

Another critical feature to the successful implementation of SWPBIS is staff who are effectively trained and are capable of implementing the interventions with fidelity. Schools that implement SWPBIS with fidelity (accurately and fluently) clearly define, teach, and reinforce school-wide expectations. They make data-based decisions to monitor intervention implementation and student response; differentiate levels of support in response to the need; and establish systems to sustain implementation (Sugai et al., 2010). Staff development training in SWPBIS focus on staff unity and the behavioral expectations of all students in a school. Over 14,000 schools in the United States have received training in SWPBIS (Bradshaw & Pas, 2011). Benefits of SWPBIS are cost-effectiveness for schools since many implementation materials are free and training is flexible. By examining the implementation of quality SWPBIS and students' behavioral and academic outcomes, researchers have found several important components. A study conducted by Bradshaw and Pas (2011) identified a correlation between the number of years staff participated in SWPBIS training and the level of implementation. According to Sugai and Horner (2002, 2009), schoolwide leadership teams, staff development, and data-driven decision making also influence SWPBIS implementation. Studies from 2008 found that schools that implemented SWPBIS with fidelity experienced large decreases in office discipline referrals; while and schools that did not have the proper supports to implement with fidelity saw no change to impact discipline referrals. Researchers emphasize that training, coaching, and

other supports should shape teachers to implement PBIS with high levels of fidelity to have the best overall outcomes for students.

Guiding questions for this thesis are: Does the implementation of PBIS lead to academic success for students receiving special education services? What are the positive effects of PBIS interventions on students? What are the effects of implementing PBIS with high levels of fidelity? How do professional staff development opportunities play a role in implementing PBIS with fidelity?

Chapter II: Literature Review

Literature for this thesis was located using the following searches; CLIC search, Bethel University Digital Library, ERIC, EBSCO Mega FILE, and SAGE Journals. Only empirical studies, professional journals, and publications focusing on students receiving special education services, academic achievement, and school-wide interventions such as PBIS were reviewed. These publications were reviewed from 2006 to 2018. To narrow publications for review, keywords used for searches were, "academic achievement and students in special education," "PBIS and academic outcomes," "PBIS implementation and fidelity," "PBIS and student achievement." The focus of this chapter is to review the literature on PBIS and academic achievement in students receiving special education services highlighting two sections: PBIS and effects on students receiving special education services, and Staff Development and the effects of implementing PBIS with fidelity.

PBIS and Effects on Students receiving Special Education Services

Students receiving special education services are more likely to be removed from the classroom and referred to the office for behavioral concerns. Students diagnosed with Emotional Behavioral Disorders are more likely to drop out of school or pursue postsecondary education opportunities. Appropriate instruction for these students is required to help them replace the undesired behaviors with appropriate behaviors with the goal of remaining in the classroom.

Freeman, Horner, Lombardi, McCoach, and Simonsen (2016) studied links between implementation of PBIS and academic, attendance, and behavior outcome measures. They asked the question, do PBIS interventions that are aimed at reducing behaviors result in improvements in academics? This study included 883 high schools from 37 cities. Only high schools that had a

National Center for Education Statistics with an ID number and reported a fidelity score for one year were allowed to participate in the study. Quantitative data were collected by using structural equation modeling (SEM). The data established relationships between PBIS implementation and outcome variables. Missing data were addressed using full maximum likelihood estimation (FIML). Data were entered into a table with the distribution statistics variable. PBIS implementation fidelity was the independent variable. Variables such as attendance, academics, and behaviors were assessed by looking for the relationship between Tier 1 PBIS fidelity outcomes. The effects of fidelity on each variable and outcome measure were set across an equal amount of time in order to decipher the effects of PBIS on each variable. The researchers calculated the behavioral outcomes and academic achievement to determine if greater behavioral outcomes translated into greater academic achievement. The results of this study were summarized for each area. For academics, findings showed that schools that had not reached fidelity had negative academic scores. The researchers noted that schools with lower beginning academic scores had higher responses in the areas of attendance than schools who had already been established as a higher academic scoring school. In the area of attendance, schools that were implementing PBIS with fidelity showed a significant positive effect on attendance. Looking at behaviors in regards to Office Discipline Referrals (ODR) schools that were approaching instituting PBIS with fidelity and schools at fidelity had much lower ODR referrals than schools that did not implement PBIS. From this study, the authors concluded that the effects of implementing PBIS with fidelity were associated with lower office discipline referrals and increases in attendance rates. For academics, findings showed that schools that had not reached fidelity had negative academic scores.

Very few empirical studies have been conducted to analyze academic outcomes related to PBIS. These researchers also set out to see if reducing challenging behaviors leads to great academic achievement. Amtepee, Chitiyo, Chitiyo, & Park (2011) asked the question to what degree are PBIS interventions that aimed to reduce challenging behaviors related to the overall improved academic achievement for students? The study conducted by Amtepee et al; (2011) focused their research "to examine the impact of PBIS interventions on the academic achievement of students with disabilities" (p.171). This study included a total of 25 participants, seven females and eighteen males from ages ranging from 5-14 years old. Five participants were diagnosed with Attention Deficit Hyperactivity Disorder, four were diagnosed with developmental delays, two participants were diagnosed with Autism, and nine were diagnosed with Emotional Behavioral Disorders (EBD). The criteria for this study were: 1. A PBIS intervention was implemented to reduce behaviors. 2. The study included a measure of academic achievement as a dependent variable. 3. The study used a single-subject design. 4. The results of the study were reported graphically with a baseline and intervention phase. 5. The participants were all children labeled at risk or with a disability. 6. Interventions were either individualized or classroom-wide.

Data were taken by looking at the effect of PBIS interventions on academic achievement by computing the Percentage of Nonoverlapping Data (PND) for each of the five studies. PND scores were separately computed for each area of focus, academic achievement and behavior to determine if the effect of interventions were strong or weak. The data were scored for all participants across all ages and disabilities. Calculations were made between behavioral outcomes and academic achievement. The results of this study showed the variability of PND

scores for both behavioral outcomes and academic achievement for all participants. Results identified a positive relationship between positive behavioral outcomes and improved academic achievement; however, there was not enough sufficient evidence to obtain certainty on this topic. The authors stated that PBIS appears to have a positive effect when aiding students challenged by disabilities and behaviors on their academic successes, but more research needs to be conducted to determine the impacts of PBIS on overall academic achievement.

"The shared characteristics of the approaches of PBIS and the relationship between academic skills and social behaviors serve as a basis for highlighting how best to meet the needs of children experiencing academic and social difficulties at school" (Algozzine, Horner, & Putnam, 2012, p. 28). Researchers Benner, Fisher, Kutash, & Nelson (2013) also see the need to focus on improved behaviors in order to increase academic achievement. Because behaviors of students in the classroom are often the main focus of educators, students with Emotional Behavioral Disorders continue to have severe academic deficits compared to their peers. The researchers investigated how to close the opportunity gap by increasing academic learning time for youth diagnosed with Emotional Behavioral Disorders, thus conducting a literature review focusing on closing the achievement gap using multi-tiered academic supports along with utilizing interventions such as PBIS. The researchers found that 58% of instruction time in the classroom is lost due to problem behaviors and often the result is teachers limit academic demands or end up removing the student from the classroom altogether. To engage students diagnosed with EBD in the classroom, the authors provided an overview of various strategies to use within the PBIS framework. They stated that PBIS holds high promise for students with EBD as PBIS promotes a positive school culture with common expectations that are clear and

consistent. A study was conducted using a randomized controlled trial with students externalizing behaviors. This PBIS intervention combined clear expectations and investigated how educators respond to behaviors in the classroom. Results proved that students in the treatment condition of the study had lower levels of problem behaviors and higher rates of on-task behaviors resulting in more instructional time for students.

Continuing to study links between PBIS implementation and academic success, Cox, Hankins, Jenkins, Lane, Magrae, & Oakes (2012) explored links between implementation of school-wide positive behavior interventions and supports (SWPBIS) and academic, attendance, and behavior outcome measures. The main purpose of this study was to explore character development interventions focused on improving goal setting, decision making, and self-regulation skills to meet the behavioral and instructional needs of students who have behavioral challenges and low literacy skills. The goal of this study was to examine the effectiveness of implementing the Positive Action program within the context of a tiered model. The researchers posed three questions, the first asked to what extent was Tier 2 supports implemented within the school day with integrity? The second, what did teachers and students think about the goals, procedures, as well as outcomes? And third, is there evidence suggesting these interventions resulted in improved motivation and comprehension of the class content? The participants of this study were nine fourth grade students from a rural elementary school identified as underperforming academically and displaying behavior problems.

Descriptive procedures were used to examine treatment integrity and social validity data. The treatment of integrity was measured in three ways, 1. Direct observation from an outside observer and teacher. 2. Self-assessment by teachers of their use of practices and procedures of

the school plan from the first day to mid-Spring semester. 3. The School-wide Evaluation Tool (SET) measured the integrity of the SWPBIS components. Interventions were implemented with 4th-grade students. Positive Action curriculum was used at the Tier 1 level because the school district was piloting this character education program. The Positive Action Curriculum has shown positive effects on personal and social development. A control group of students participated in a book study to account for issues of time in a social group instructional setting. A variety of lessons from Positive Action were chosen for the Tier 2 intervention. These lessons were aligned to the behaviors of interest that focused on improving self-regulation skills to promote academic performance. Nine lessons were pulled from the original 21 lessons to maximize instructional time. Students selected a behavioral goal for the day that was aligned with SWPBIS expectations. Researchers attended a two-day training with the Positive Action developer, Carol Allred. To ensure that the interventions were taught with fidelity, the following techniques were used: teachers were taught how to teach the content of the Positive Action Curriculum, the research team held weekly meetings to discuss the interventions and lessons, teachers completed daily treatment integrity checklists prompting each intervention component to measure compliance, and weekly evaluators observed how lessons were presented to the 4th grade students. Descriptive measures were administered to confirm the accuracy of the inclusion procedures and to describe characteristics of the study participants. Difference scores were calculated for social validity measures and intervention outcomes. Time 1 scores were subtracted from Time 2 scores to see the measure of growth for skills for success and improved engagement and motivation.

The results were summarized for each area of improved skill sets, increased motivation, content knowledge, and engagement. For content knowledge, the students receiving Positive Action interventions had an increased mean score for an understanding of the content. Students in the Positive Action group showed a moderate increase for engagement and ratings for motivation increased, suggesting a strong effect on students. Students in special education specifically those diagnosed with EBD are known to have deficits in their behavioral functioning and social skills. To enhance students' learning, this study focused on interventions using the Positive Action curriculum as part of interventions in SWPBIS. The findings of this small study showed that students who received interventions from trained teachers had a positive increase in motivation and content knowledge. Moderate scores were found in skills for success and engagement. The findings of this study support other research that students with behavioral challenges respond in a positive way to interventions such as PBIS when implemented with integrity and fidelity.

Researchers Beaudoin, Benner, Chen, Davis, & Ralston (2010) asked the research question, will implement the process of PBIS with fidelity have a positive improvement on the responsiveness of students with emotional disturbances and will it also improve their social-emotional outcomes? This study had two purposes. The first was to investigate the impact of PBIS on the behavioral functioning of students diagnosed with Emotional Disturbance (ED) who receive their instruction in self-contained settings. The second was to examine the extent to which teacher fidelity of PBIS implementation influenced student changes in behavioral functioning. The researchers hypothesized that when students requiring intensive and individualized behavioral supports are a part of PBIS that is delivered with fidelity, the

impact on behavioral functioning will be significantly impacted. The study included 37 students receiving special education services for ED in an urban northwestern city. The participant sample contained self-contained classrooms serving students with ED across different schools including one elementary, two middle, one high school, and one separate day school. Also included were eight teachers from all schools that had been implementing PBIS for at least two years and continued implementation over the year of the current study with varying degrees of fidelity.

Data were collected by using the modified version of the Teacher Knowledge and Skills Survey (TKSS) (Cheney, Walker, & Blum, 2009). The TKSS was used to determine the fidelity of implementation to the PBIS. A one-year professional development training project was conducted to increase the capacity of special education teachers to implement PBIS in self-contained programs for students with ED. Training began with positive classroom management and practices including teacher behavioral expectations and replacement behaviors. Topics of training for teachers in this study included assessing functions of behavior, developing positive behavior interventions that link to the functions of the behavior, and implementing research-based practices in the area of PBIS. Data collection procedures were designed to inform instructional decisions. By looking at implementation deficits among teachers of students diagnosed with ED, researchers were able to design training that targeted specific needs of the participating educators. Time was allowed for trainers to guide participants as they adapted session materials to meet the specific needs of their classroom situations. Lastly, to ensure that teachers were implementing PBIS with fidelity, extra wait time was given for planning assistance

from trainers to ensure that teachers with the least amount of background training in PBIS received the necessary assistance for correct implementation.

Three components were used in each training session. The first component was a lecture format with a review of PBIS concepts. The second component was a lecture format on new material. Lastly, mastery of material was measured through TKSS scores. Statistical analysis was used to analyze pre and post TRF scores. The Analysis of Covariance (ANCOVA) scores were then used to show that the overall problem behaviors were determined by the influence of teacher knowledge in PBIS which linked to decreases in student problem behavior. ANCOVA was also used to determine the interaction effects of the five teacher knowledge domain scores and the change of student problem behavior over time. Results revealed statistically significant interaction effects on student problem behavior. The researchers concluded from this study that the implementation of PBIS positively correlated with the behavior of elementary, middle, and high school students with ED in self-contained settings. They also concluded that teacher fidelity in regard to PBIS played a large role in improving the behavioral functioning of students with ED. Other research finds that educators have the assumption that instruction cannot occur when behaviors in the classroom are out of control (Banner et al. 2013, p. 18). It can be hypothesized that academic achievement for students will increase when problem behaviors are curbed and students remain in the classroom.

Mental health is another area of concern for students in our schools across the country. Special education students are more likely to display negative behaviors that result in office referrals that result in suspensions. This leads to a loss of instructional time. Such discipline is a known indicator of academic failure, truancy, and higher dropout rates. Researchers Cook, Frye,

Lyon, Renshaw, & Zhang (2015) conducted a study with the purpose of evaluating the impact, acceptability, and integrity of integrating Social Emotional Learning (SEL) and PBIS on students' mental health outcomes. They asked which prevention approach had the most improvement on overall mental health and reductions in externalizing behaviors? Other research questions were posed in this study. The first question was to what extent were the interventions found to be acceptable and implemented with adequate levels of integrity? The second question asked, to what extent does the integration of PBIS and SEL produce significant reductions in negative mental health outcomes relative to the PBIS and SEL only conditions? Lastly, do the PBIS and SEL only conditions produce significant reductions in negative mental health outcomes compared to the business-as-usual control condition? The researchers hypothesized that the integrated approach would result in the greatest reduction in negative mental health outcomes, whereas PBIS and SEL would have differential reductions in externalizing and internalizing problems. The participants of this study consisted of two large elementary schools in the Southeastern region of the United States. A total of eight 4th-grade and 5th-grade classrooms which consisted of 191 students.

Data were collected using two separate one-way, between-groups analyses of variance (ANOVA) were conducted to determine the differences in pretest-posttest change scores for internalizing, externalizing, and all over mental health problems among the four prevention groups. Mental health issues that interfered with academic success and integrated approaches to preventing mental health problems were identified. To address the identified mental health issues a combination of PBIS and SEL was implemented. Four treatment conditions were used to identify the effects of an isolated approach vs. the combined effects of PBIS and SEL. These

conditions included PBIS only, SEL only, PBIS-SEL combined (COMBO), and business-as-usual control group (BAU). Classrooms were matched into pairs according to pretest data. Each classroom was assigned as a pair to a different condition. Professional development training was given after the baseline data was taken and educators participated in a one day workshop for PBIS and SEL only, and a two-day workshop for the PBIS and SEL combined conditions. Baseline data were collected after four weeks of school had been in session to allow educators to get to know their students as well as institute the professional development activities. Five months after the baseline data, posttest data were collected. This time frame was given to ensure that educators had ample time to implement the PBIS and SEL curriculum. To ensure that PBIS and SEL were being implemented with fidelity, two booster sessions were given to educators to further promote understanding of key concepts, hold discussions, and provide feedback. Two measures were used, the Student Internalizing Behavior Screener (SIBS) and the student externalizing behavior screener (SEBS). Acceptability was measured using a modified version of the Intervention Rating Profile was used to assess educators' acceptability and adaptivity when implementing interventions. Treatment integrity data were collected through self-report checklists and assessing the implementation of the key components of PBIS and SEL.

The mean change scores were placed into a table of statistics for the outcomes for the SEBS and SIBS. These scores indicated that the COMBO condition proved to have the highest change from pre to post, next was the PBIS condition, SEL condition, and lastly the BAU control group. The internalizing behaviors changed the most by the COMBO condition followed by the SEL condition and the PBIS condition. The BAU condition proved an increase

in reported internalizing behaviors. The researchers' findings help to provide additional support for the continued implementation of SEL and PBIS practices in schools. Both approaches demonstrated positive effects on improving students' overall mental health. Researchers proved that the combined approach taken in this study improved mental health outcomes including internalizing and externalizing behaviors rather than implementing only one intervention. The importance of teacher qualifications and training are important areas to focus attention on when implementing PBIS. According to Bradshaw & Pas (2011), "Both the number of years since training and the percent of certified teachers were significantly associated with implementation quality" (p.545).

Staff Development and the Effects of Implementing PBIS with Fidelity

Previous research has shown that interventions such as PBIS are less effective when implemented with low fidelity. Staff who have had access to staff development training along with continued staff development opportunities are key to the success of implementing interventions like PBIS. To ensure that schools are implementing PBIS with fidelity, a system of supports needs to be established that includes resources, training opportunities, and policies. Without continued training, the continuation of previous practices attention or recognition of whether the implementation is accurate and outcomes are sufficient (Horner & Sugai, 2006).

To investigate the process of how the state of Maryland scaled-up a model for PBIS, Bradshaw & Pas (2011) looked to describe this process as well as evaluate factors at school and district levels-associated with training, adoption, and implementation. They asked the question, are school-level indicators of disorder (i.e., special education, rates of suspension, and student achievement) associated with training, adoption, and quality implementation of PBIS? They

hypothesized that schools with greater need were more likely to receive training in PBIS, but would have difficulty adopting or implementing with high fidelity. Data was collected from 810 Maryland elementary schools. 316 of these schools were trained in PBIS. Researchers took analysis from 17 districts that included data from a statewide evaluation of PBIS for two school years. Schools who had been trained in PBIS submitted implementation data. The Implementation Phases Inventor (IPI) was used to assess 44 key elements of PBIS. Baseline data was taken regarding the level of disorder, school size, student-to-teacher, special education rates, and student achievement. The Bernoulli sampling model was used to examine the influence of school and district training on the adoption of PBIS.

Results of this study were broken down into the adoption and training of PBIS. For training at the school level, suspensions, mobility, and student achievement were associated with the odds that a school was trained in PBIS. Findings also showed a 1% increase over the district average of the percent of students who scored as proficient or advanced for Maryland's statewide assessments for trained PBIS schools. For the adoption of PBIS in schools, the IPI analysis tool indicated that school suspensions, mobility, and student achievement were associated with the odds that a school was trained in PBIS. As the researchers hypothesized, schools who were struggling with higher indicators of disorder rates were more likely to receive training on PBIS. The results of this study also support the hypothesis that the number of years since a school was trained in PBIS was positively associated with implementation, suggesting that programs require multiple years of implementation to achieve their goals.

Researchers have concern for the sustainability and the use of intervention practices within schools. The developers of PBIS have theorized that it takes three to five years to

implement the model (Sugai & Horner, 2006). To explore how schools implementing school-wide PBIS with high fidelity are linked with improvements in student and staff behavior, Bevans, Bradshaw, Brown, Leaf, & Reinke (2008) asked what is the impact of training in PBIS on the core features of the model? They hypothesized that training in PBIS leads to changes in the schools' internal discipline practices and systems. Formal training in PBIS would aid in shifting behavior management practices from being traditionally punitive to a positive preventive approach. They also hypothesized that the baseline of both the trained and non-trained schools would display some components of school-wide PBIS and that non-trained schools would implement the components of PBIS with lower fidelity than the trained schools.

The participants of this study were 21 randomly assigned schools that had PBIS training, and 16 schools that were not officially trained in PBIS methods. Data was collected by using a school-wide evaluation tool (SET). The SET data was analyzed from the two groups to determine the impact of training in PBIS on school-wide PBIS implementation fidelity. The SET was used to measure how and which schools were implementing seven key features of PBIS. These seven key features of PBIS were completed annually, expectations defined, behavioral expectations taught, a system in place for responding to behavioral violations, monitoring and evaluation, management, district-level support, and a system for rewarding behavioral expectations. Subscale scores were taken using a Generalized Linear Model (GLM). Scores on the GLM that were higher proved to be a program that had a higher level of fidelity. SET was used to track the implementation fidelity of school-wide PBIS procedures. Data were then collected from 37 elementary schools. The SET data from these two groups were analyzed to determine the impact of training in PBIS on school-wide PBIS implementation with fidelity.

Over this three-year study, documentation was taken of the components of school-wide PBIS that were implemented between the trained schools vs. the non-trained schools. Recommendations were provided for behavioral support coaches and school personnel working to support high fidelity implementation. Analysis of the measures of GLM on the SET scores was taken from this three-year study. The analysis showed a significant intervention effect on the overall SET scores and the SET subscales. This study confirmed that over the three years of study, schools trained in PBIS who implemented with high levels of fidelity outperformed non-trained schools on the seven key features implemented from PBIS. As hypothesized, this study showed that there was a large increase in numbers of trained schools that reached the maximum scores on the seven features of PBIS within a year of receiving training, compared to the non-trained schools. Schools that were not trained showed some increases but were behind the trained schools on all the subscales of PBIS except for responding to violations.

The researchers noted that because of the "familiarity" of PBIS, some school administrators may be tempted to implement school-wide PBIS without formal training leading to the low fidelity of implementation. The recommendation was made that schools should conduct SET evaluations on a regular basis to continually monitor the progress of school-wide components of PBIS. Also recommended was having frequent checks on fidelity along with feedback to school personnel. This would likely decrease the amount of time it takes schools to reach the level for effective implementation of the seven areas of PBIS.

Looking at factors that hinder the effective implementation of PBIS, social validity is one of the primary barriers for school-level implementation. Researchers examined the impact of SWPBIS on teacher perceptions of working conditions and the link to academic success. Chon,

Davis, Houchens, Miller, Niu, & Zhang (2017) hypothesized that when teachers' perceptions of their overall working conditions improved, it would, in turn, have a positive effect on student's learning. They asked the research questions, is there a significant difference between teacher perceptions of teaching conditions between Kentucky schools that participated in SWPBIS and schools that do not? Does the school's fidelity level of SWPBIS implementation (low, medium, high) determine teacher perceptions of the teaching conditions in their schools? Lastly, the researchers asked, Does the school's fidelity level of SWPBIS implementation affect Kentucky student academic outcomes(p.170)?

Participants of this study included 151 Kentucky schools who had participated in SWPBIS for the years 2010-2011. Every school in Kentucky was researched and data were collected from schools not trained in SWPBIS to select a sample for comparison with the 151 schools involved in this study. Data were collected by using the existing data sets which include, PBIS implementation data, Teaching, Empowering, Leading, and Learning (TELL) Kentucky 2011 survey, and school accountability data including student achievement and school demographics. Benchmarks of Quality (BoQ) data was collected by the Kentucky Center for Instructional Discipline (KYCID) program using fidelity scores by each school level. Each of the 151 schools participated in SWPBIS, these schools filled out the BoQ fidelity of implementation self-assessment. All educators in the 151 schools participating in the study completed the TELL survey. A five-point Likert-type scale was used to connect teacher and school demographics with the TELL survey responses and academic outcomes. Propensity score matching was conducted using all school-level data and the five demographic variables (total enrollment, dollars spent,

percentage of White students, percentage of male students, and percentage of students receiving free/reduced lunch). For the first research questions, the multivariate analysis of variance (MANOVA) tests were performed to determine if there were differences in teachers perceptions of working conditions between SWPBIS schools and non- trained SWPBIS schools. Based on the school's BoQ scores, MANOVA tests were conducted to determine schools implementing SWPBIS with high or low fidelity. To address the last research question involving how a school's fidelity level of SWPBIS implementation impacts the academic outcomes for students, an analysis of variance (ANOVA) was conducted. Overall scores were the dependent variable and the implementation status of SWPBIS, whether it was low or high, was used as the independent variable. For this study, each research question was addressed separately. For the first question looking at the difference between teacher perceptions of teaching conditions between schools utilizing SWPBIS and schools who were not trained in SWPBIS, significant differences were found on two variables. The first was managing student conflict and the second was school leadership. Data indicated that teachers who were teaching in a school that implemented PBIS had a higher level of student and staff expectations along with clearer expectations. Data also showed that teachers in schools participating in SWPBIS had more concerns for time management. Question 2 asked does a school's level of fidelity levels affect teachers perceptions of the conditions in their schools? Results of this study showed that fidelity implementation levels that were high to medium had a positive effect on teacher's perceptions of leadership opportunities, parent-teacher communication, parent involvement, and community support. Lastly, the question was asked whether the levels of SWPBIS implementation affected student academics? The data collected from the ANOVAs found measurable differences among

the different levels of SWPBIS implementation and test scores of students. Higher achievement scores on statewide achievement tests were found in schools that implemented SWPBIS at a high or medium level of fidelity vs schools who had low fidelity implementation of SWPBIS. Further results of this study suggest that when schools improve the implementation of SWPBIS, teacher perceptions of behavior management for students will slowly improve as well as lead to greater improvement of student academic achievement. This study supports the need to address how staff perceives the implementation of PBIS. When educators' perceptions are high of their working conditions due to high fidelity implementation of SWPBIS, they are more satisfied with overall conduct in the building and have a stronger sense of staff unity surrounding issues addressed within their schools.

Staff training is essential, but not always an indicator of implementing PBIS successfully. To implement PBIS efficiently and see positive outcomes, it is important to implement evidence-based aspects of PBIS with fidelity. Beaudoin, Benner, Chen, Davis, & Ralston (2010) conducted a study with two purposes:

> "the first was "to investigate the impact of positive behavioral interventions and supports on the behavioral functioning of students with emotional disturbance served in self-contained settings. The second purpose of this study was to, examine the extent to which teacher fidelity of PBIS implementation influenced student changes in behavioral functioning over the course of a school year." (Beaudoin et al; 2010, p. 85)

Researchers hypothesize that it will take fidelity in the structure and the process of PBIS to improve the responsiveness of students with ED and improve their social/emotional outcomes.

Participants of this study included 37 public school students receiving special education services for ED in self-contained classrooms including one elementary, two middle schools, one high school, and one separate day teacher participants included eight teachers. All of the teachers and schools at the beginning of the study had implemented PBIS for at least two years. Data was collected using the TKSS survey to measure fidelity of implementation related to PBIS. The TKSS consisted of 25 items with a 5 point response scale measured on the TKSS.

The five teacher actions critical to strong implementation of PBIS with students with ED are: 1) Specialized Behavior Support Strategies, 2) Behavior Screening Methods, Behavior Support Services, and Evaluation, 3) School-wide Discipline Process, 4) Individualized Curriculum and Modifications Supporting Students, and 5) Positive Classroom Environment. (Beaudoin et al; 2010, p. 90) Ratings were taken on four classroom observations and notes from 20 training sessions with self-contained setting teachers over a one-year timeline. After 40 hours of professional development, the TKSS ratings were conducted. Training topics that followed included, assessing functions of behavior, developing positive behavior intervention plans that were specifically linked to the functions of behavior, identifying and implementing research-based practices of PBIS, and designing data collection procedures to inform instructional decisions. The mastery of material was measured through TKSS scores.

The Child Behavior Checklist: Teacher's Report form (TRF) measured the behavior functioning of participants. Teachers rated each student participant on each of the 113 problem items and indicated the severity of each problem on a Likert-type scale. The TRF provided a total scale score. A two-hour training was given to familiarize staff with the assessment of student behavior along with instructions for completing the measure. Two weeks were given to

complete the TRF. Scores were entered for the TRF, 100% agreement between the protocol and the final data entry was verified for each item. University trainers rated teacher levels of mastery of knowledge from one to five for each item.

Two data analyses were taken to examine the impact of PBIS behavior functioning of students diagnosed with ED in a self-contained setting. First, a non-parametric paired sample statistical analysis was conducted, the Wilcoxon Signed Ranks Test used the pre and post TRF scores of participants. Second, an analysis was taken to examine the percentage of students with ED who met normative criteria for clinically significant individualizing, externalizing, and total behavioral problems at pre and post-test. The checklist completed by teachers was then used to determine which students displayed significant behavioral problems. The students who met this criterion prior to intervention were compared to the percentage of students meeting criteria for internalizing, externalizing, or total behavioral problems after the implementation. Pre and post-test differences were then compared.

Researchers conducted two analyses to determine the impact of teacher fidelity on students' behavioral functioning with PBIS in place. First, an analysis was taken to examine the five teacher knowledge scores. According to Beaudoin et al (2010) "Change scores were calculated for the TRF Externalizing Problems, Internalizing Problems, and Total Problems by subtracting the student pre-test from post-test scores" (p. 93). Second, analysis of covariance (ANCOVAs) was conducted to determine the influence of teacher knowledge on the decreases in student problem behavior.

Results were broken down for both purposes of this study. First, looking at the impact of PBIS on behavioral functioning of students with ED, results showed significant reductions in the

pre and post-test scores of students on the TRF scores of Thought Problems, Attention Problems, and Aggression. This meant there was a significant reduction in the number of students who met the criteria for a significant internalizing behavior problem, externalizing behavior, and total behaviors. This data proves that PBIS plays a significant role in improving the behavioral functioning of students diagnosed with ED. The second part of this study looked at the impact of teacher fidelity when implementing PBIS. Results indicated that all five teacher domains of the TKSS showed significant interaction effects on student problem behavior. This study proved that all five PBIS areas of teacher knowledge and skills are important to improving the behavioral functioning of students in self-contained settings.

According to the data collected, building the capacity for teachers to implement PBIS with fidelity for students with ED could play a large role in improving responsiveness to behavioral interventions. This study also established a correlation between PBIS professional development activities and coaching for teachers of students with ED in self-contained settings and improved student behaviors. Further professional development activities were able to successfully build the capacity of teachers, which in turn resulted in improved behavioral outcomes for students. Researchers noted that educators require support when implementing any new intervention such as PBIS over an extended period of time.

CHAPTER III: CONCLUSION

Summary

Students receiving special education services have been of high interest to researchers due to low academic success, poor attendance, and undesired behaviors. Research has predominantly focused on the reduction of problem behaviors. Current research is now focused on investigating the relationship between the reduction of problem behaviors and academic achievement. These studies have found that when schools implement PBIS with high integrity and fidelity, higher academic achievement scores were found along with decreases in office referrals and suspension rates among all students including those who receive special education services.

Links between teacher fidelity and successful implementation of PBIS methods have been another area of interest. Staff development opportunities are an area of interest for researchers to determine if educators are successful in not only implementing PBIS but staying motivated to accurately practice methods over an extended period of time. These studies also found that teacher fidelity to PBIS played a role in improving behavioral functioning among students.

Freeman, Horner, Lombardi, McCoach, & Simonsen (2016) asked the question, to what extent is SWPBIS with fidelity at the high school level associated with specific academic, behavioral, or attendance outcomes? The results for this question are supported by the studies' findings. When PBIS was implemented with fidelity there were significant positive outcomes in the areas of attendance, behavior, and in some cases academics.

Amtepee, Chitiyo, Chitiyo, & Park (2011) investigated to what degree are PBIS interventions aimed at reducing challenging behaviors related to the students' overall greater academic achievement. They asked to what extent are behavioral outcomes related to academic outcomes? The results of this study indicated a positive relationship between better behavioral outcomes and improved academic achievement. This study supports the IDEA amendments of 2004 which emphasized the need for PBIS to address challenging behaviors since those behaviors interfere with student learning.

Benner, Fisher, Kutash, & Nelson (2013) conducted a literature review that investigated closing the opportunity gap by providing access to multi-tiered systems of academic prevention, maximizing learning time, and providing instruction for students with ED. The authors of this literature review suggested that a key element in improved academic performance for students with ED is the implementation of PBIS. Results of a controlled trial design with students with externalizing behaviors revealed the students in the treatment condition displayed lower levels of problem behaviors and higher rates of on-task behavior. The findings of this review suggest that PBIS holds particular promise for students with ED. Promoting desired behaviors may, in turn, close the gap in academic achievement.

Cox, Hankins, Jenkins, Lane, Magrae, & Oakes (2012) explored the effects of implementing a character development intervention program incorporating methods of PBIS with students who displayed behavioral challenges and limited work completion. The Positive Action curriculum was taught in a 4th-grade classroom to nine students and a control group of students who participated in a book study. The goal of using the Positive Action curriculum was to improve skill sets, increase motivation, exhibit content knowledge, and increase student

engagement. The results of this study showed positive effects on all areas of focus. Content knowledge increased, teachers rated student engagement as higher, and motivation increased. Findings from this study suggest that the development of such interventions that also incorporate PBIS methods have a positive effect on behavior challenges and work completion for students.

Cook, Frye, Lyon, & Tal (2015) investigated the impact, acceptability, and integrity of implementing Social Emotional Learning (SEL) and PBIS on students' mental health. They hypothesized that the integrated approach of implementing SEL and PBIS as a COMBO condition would result in the greatest reduction in negative mental health outcomes. Results of this study confirmed that the integration of SEL and PBIS as a COMBO intervention had positive effects on improving students' overall mental health including improved internalizing and externalizing behaviors. This study supports previous research suggesting that students' negative internalizing and externalizing behaviors can hinder academic success.

Bradshaw, & Pas, (2011) investigated the process that the state of Maryland used to scale-up a model for SWPBIS. They also investigated factors at school and district levels that are associated with training, adoption, and implementation of SWPBIS. The purpose of this study was to examine factors related to the process of SWPBIS since little research was previously conducted on the implementation process. They hypothesized that schools who displayed a greater need were more likely to receive training on SWPBIS, but would have difficulty adopting or implementing it with high fidelity. Results for this study support the hypotheses. Schools with higher rates of need, including suspensions and mobility, were more likely to receive training. Positive effects on suspension rates and mobility were associated with

schools who were trained in PBIS. A 1% increase over the district average in the percent of students who scored proficient or advanced on the Maryland Student Assessment reading test was also associated with the likelihood that schools were trained in SWPBIS. This study suggests that the number of years a school has been trained in PBIS was positively associated with the implementation of higher fidelity. This study supports previous research that high fidelity implementation of PBIS is positively associated with behavior management, student engagement, and staff perceptions.

Bevans, Bradshaw, Brown, Leaf, & Reinke (2008) investigated how schools implementing school-wide PBIS with high fidelity are linked with improvements in student and staff behavior. They hypothesized that formal training in PBIS would aid in shifting behavior management approaches, from being traditionally punitive to a positive preventative approach. They also hypothesized that non-trained schools would implement PBIS components at a lower level of fidelity than the trained schools. Results of this study supported the researchers' hypothesis that over the three-year study, trained schools outperformed non-trained schools in program fidelity on all but one subscale. Results further found the non-trained schools were most likely to implement traditional behavioral discipline approaches. Researchers noted that more frequent checks on fidelity along with feedback to school personnel would likely decrease the amount of time it takes schools to implement PBIS effectively.

Chon, et al. (2017) conducted a study that examined the impact of SWPBIS on teacher perceptions of working conditions and the link to academic success for students. They hypothesized that when improvements are made on teachers' perceptions of their overall working conditions it would have a positive effect on students' learning. They asked the

questions, does the school's fidelity level of SWPBIS implementation affect teacher perceptions of their working conditions? Is there a significant difference between teacher's perceptions of teaching conditions between Kentucky schools that participate in SWPBIS and the schools that do not? Lastly, does the school's fidelity level of SWPBIS affect student academic outcomes? A benchmark of quality self-assessment by teachers was used to determine schools implementing SWPBIS with high or low fidelity and a Likert-type scale was used to for teachers to respond in a survey about teaching conditions and academic outcomes. As hypothesized, the results of this study proved that the level of fidelity in which SWPBIS is implemented has significant impacts on teachers' perceptions of working conditions and a higher level of leadership expectations. Academic success was higher for students and teachers' perceptions of working conditions were more positive in the medium to high fidelity SWPBIS schools. This study suggests that student academic achievements will be more successful when educators have a positive perception of working conditions and implement PBIS with high levels of fidelity.

Further investigating the impact of implementing PBIS with fidelity, Beaudoin, Benner, Chen, Davis, & Ralston (2010) investigated the extent to which teacher fidelity of PBIS implementation influenced student changes in behavioral functioning. They hypothesized that it would take fidelity of structure and process of PBIS to improve the responsiveness of students with ED and improve their social/emotional outcomes. In this study of thirty-seven students in schools who had been implementing PBIS for at least two years with various levels of fidelity, the results supported the researchers' hypothesis. Data from this study indicated that PBIS appeared to play a significant role in improving behavioral functioning of students with ED. Addressing how fidelity of implementation affects PBIS, data taken from this study indicated

that building the capacity of teachers through staff development and training opportunities in PBIS implementation may play a large role in improving the responsiveness of students diagnosed with ED in a self-contained learning environment. Research has shown that when students are engaged and responsive to instruction in the classroom, they have more opportunities for academic success.

Research Questions Answered

Does the implementation of PBIS lead to academic success for students receiving special education services? Studies have shown that PBIS implementation is positively correlated with increases in academic success for students receiving special education services (Amtepee et al, 2011; Bradshaw & Pas, 2011; Cox et al, 2012; Freeman et al, 2016). Academic performance is impacted negatively by low academic achievement, limited motivation, and negative behaviors. Interventions such as PBIS have proven to increase student motivation and engagement, along with decreasing negative behaviors which have an adverse effect on students overall learning experience. Schools using PBIS around the country have shown increases in students either being proficient or exceeding grade-level benchmarks on statewide assessments.

What are the other positive effects of PBIS interventions on students? Students receiving special education services have a higher percentage rate of office referrals, suspensions, and dropout rates. For special education students, interventions such as PBIS have proven to promote positive social behaviors, decrease externalizing and internalizing behaviors, increase overall mental health, reduce office referrals, decrease suspension rates, and increase overall attendance (Chon et al, 2017; Cook et al, 2015; Freeman et al, 2016).

What are the effects of implementing PBIS with high levels of fidelity? Over 25,000 schools in the United States have implemented PBIS as an intervention to support all students. Fidelity implementation is the focus of many studies. Many of the schools attempting to implement interventions such as PBIS do not have positive outcomes because of low fidelity. This is due to lack of training opportunities, lack of staff buy-in and the lack of continued accountability checks on how teachers are implementing PBIS. Research suggests that schools that have had the longest exposure to PBIS had the highest levels of fidelity which resulted in higher prosocial behaviors in students, fewer office referrals, improvements to responsiveness of students, and improvements in staff behavior (Benner et al, 2010; Bevans et al, 2008; Bradshaw et al, 2019).

How do professional staff development opportunities play a role in implementing PBIS with fidelity? Another goal of PBIS is to improve the overall school climate and safety of schools. Although SWPBIS implementation requires significant energy to initiate, without proper maintenance, the impact can be limited, which in turn may limit the impact on student outcomes (Cox, George, Minch, & Sandomierski, 2018). When PBIS is implemented by staff who have had ongoing staff development opportunities, study findings prove that the implementation of PBIS is at a higher level of fidelity. Schools who are implementing PBIS with higher levels of fidelity see a higher percentage of teachers' positive perceptions of working conditions, improved academic test scores, improved student behaviors, and improvements in staff unity on student issues (Beaudoin et al, 2010; Chon et al, 2017; Hatton et al, 2017). So many of our students today have high levels of emotional baggage and look to their teachers for guidance. When the overall school climate is one that promotes positivity, a sense of safety, and

one that sets high expectations, students will be more successful in all aspects of their learning. Not only the teachers in a building, but paraeducators, office staff, and all other staff must adopt this philosophy in order for any school to achieve the positive effects associated with PBIS implementation and a healthy school climate. The need for formal training of PBIS implementation would be beneficial for all school personnel and aid in the goal of implementing PBIS with high levels of fidelity.

Limitations of the Research

Every study has limitations when researching and measuring data. The limitations in the reviewed studies include small sample sizes, measures that were not able to assess the level of fidelity, time constraints on implementing PBIS with high levels of fidelity, a small percentage of studies that included high school students, and a lack of empirical studies that have been done to analyze academic outcomes related to PBIS. When looking for articles on PBIS, most of the articles were focused on the behaviors of elementary students, and not primarily focused on the academic outcomes. Academic success was only measured by looking at the scores of statewide assessments, and not at the individual growth for students.

Implications for Future Research

Further research should focus on the sustainability of PBIS through staff development opportunities and coaching of peers, in order to determine how schools sustain high levels of fidelity when implementing PBIS over time. More research is needed to determine the effects of long term implementation of PBIS with fidelity on student academic success and school-wide responses to behavioral outcomes. Future research needs to focus on overall academic success for students and not solely on the scores of statewide assessments. This is especially true for

students receiving special education services, because many students in this population have learning deficits that hinder academic performance at the level as their same age peers. Another consideration for future research is on curriculum. With a plethora of curriculum that may be used to implement PBIS, further research should focus on which curriculum used school-wide had the highest levels of staff approval and continued implementation, as well as positive effects on students' academic achievement and overall behavioral outcomes. It would be interesting to find a large study that incorporated numerous school districts that reached and sustained a high level of fidelity when implementing PBIS and followed students from pre-K to graduation. The goal would be to examine what effects it had on overall academic growth and behavioral successes for students.

Conclusion

The research surrounding interventions such as PBIS and the effects on academic achievement in students receiving special education services indicate that when PBIS is implemented as an intervention with high levels of fidelity, there are positive outcomes for many factors related to a students' academic success. This research is beneficial for not only students receiving special education services but for all students and staff in our schools today. PBIS has proven to increase teacher perceptions of their working conditions as well as increase positive behavior and academic outcomes for students. This research not only supports the ever-growing need to close the achievement gap between general education students and those receiving special education services but is also an intervention that I hold near and dear to my heart. As a special education teacher who works primarily with students diagnosed with Emotional Behavior Disorders, I see so many of my students as well as other students in our building who live lives

that take away from their childhood. I see my job as not only an educator but as a safe haven for students. I strongly believe that when all school staff create a positive, happy, safe environment, with high expectations that positive results will happen. They say, “It takes a village,” PBIS is an intervention when implemented with high levels of fidelity that proves beneficial to students receiving special education services as well as all students in our schools.

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