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A COMPARATIVE STUDY OF POSITIVE BEHAVIOR INTERVENTIONS AND SUPPORTS IN MIDDLE SCHOOLS IN SOUTH TEXAS

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ABSTRACT

This quantitative study examined the relationship between implementation of a Positive Behavior Interventions and Supports (PBIS) program and academic achievement, attendance, and discipline. The data was collected from schools from South Texas Educational Regions One, Two, and Twenty. The public middle school campuses for this study were chosen based on demographics, size, and PBIS implementation. Campuses were similar in demographics and size and were also be PBIS implementing campuses as well and non PBIS campuses. Data was obtained through the 2017-2018 Texas Academic Performance Report (TAPR) published by Texas Education Agency (TEA) for each campus to assess attendance, academic achievement in Reading and Math on The State of Texas Assessments of Academic Readiness (STAAR), and discipline. The design used for this study was a non-experimental study that examined the statistical relation between PBIS, academic achievement, attendance, and discipline. The study investigated two schools from each of the educational regions listed, one school being a PBIS implementing school and the other implementing no form of PBIS. The two groups from each region were compared by attendance, academic achievement in Reading and Math as determined by STAAR, and discipline, through TAPR data released by TEA.

KEY WORDS: Positive Behavior Interventions and Supports, Attendance, Academic Success on STAAR, Disciplinary Placements

INTRODUCTION

Discipline problems have repeatedly interfered with instructional time (Sugai, Horner, & Lewis, 2009). These problems have included disrespect, time off task, disruption, and aggression which interfered with classroom learning time and resulted in low student academic achievement (Walker, Ramsey, & Gresham, 2005). Rather than continuing instruction, teachers spent instructional time correcting negative behaviors that students were exhibiting in the classroom. The amount of time taken away from instruction was resulting in low student academic achievement. With the responsibility of student achievement weighing so heavily on teachers and administrators, many schools turned toward implementation of a multi-tiered framework for systemic change (Horner, Sugai, Todd, & Lewis-Palmer, 2005). Implementation of Positive Behavior Intervention and Supports (PBIS) influenced campus climate, culture, and behavior issues, which all have had a major impact on academic achievement and student success (Bradshaw, Pas, Debnam, & Johnson, 2015). The campus climate and expectations have been affected by such programs (Goodman-Scott, 2015).

Positive Behavior Interventions and Supports (PBIS) has been used as a proactive approach to managing student behaviors (Goodman-Scott, 2015). Having offered proven strategies recommended by experts, PBIS assisted in creating a positive school climate and emphasized negative behavior prevention (Bruhn, Gorsh, Hannan, & Hirsch, 2014). PBIS utilized a framework including response-to-intervention (RtI). RtI was explained as an intervention that included many levels which functions collaboratively with multiple team members (Sugai & Simonsen, 2012). A team was created that worked in constant collaboration with each other as well as other stakeholders, towards improving and enhancing the culture and climate of the school (Carr, Dunlap, Horner, Koegel, Turnball, Sailor, Anderson, Albin, & Fox, 2002). Teachers and staff were tasked with explicitly teaching expectations created for campus wide implementation. These expectations were created for each different location of the school where students would have access. A lesson plan for each expectation was created and practiced. Students were given the opportunity to learn about examples and non-examples of the appropriate behavior expectation. PBIS used an instructional approach of teaching and practicing while providing feedback and allowing room for improvement and correction (Bruhn, Gorsh, Hannan, & Hirsch, 2014). Students' appropriate, positive behavior was reinforced by providing them a number of positive comments to for each negative behavior displayed. The ratio of four to one was used to provide feedback to students. For each negative behavior displayed by a student, four positive comments would be offered to that student.

PBIS implementation with fidelity was associated with improvements in school climate, reduction in discipline incidents, increased attendance and academic outcome (Bradshaw et al, 2015). When schools implemented a proactive systematic approach of support with fidelity, their knowledge to be able to clearly identify individual student needs increased. This allowed staff to address targeted needs of individual students (Sugai & Simonsen, 2013). When strategies were used consistently by all faculty and staff on campus, the PBIS model worked based off of behavioral, social learning, organizational, and positive youth development theories (Bradshaw et al., 2015). PBIS allowed staff and students to work together to create their own school-wide program that was driven by the desire to obtain or keep a positive culture. Positive behavior expectations were clearly articulated (Ratcliff, Carroll, & Hunt, 2014). The model included incentives for being successful with the standards that were set and required staff to make decisions based on data (Mathur & Nelson, 2013).

Schools turned to systems such as PBIS to address attendance issues. Through PBIS, expectations for attendance were set and students were offered rewards and incentives for meeting those expectations. It was a goal of PBIS that the school environment was one that students wanted to attend (Cressey, Whitcomb, McGilvray-Rivet, Morrison, Shander-Reynolds, 2015). Because PBIS was informed by data, schools could use attendance data to drive implementation of plans to address attendance issues.

Behavior management systems were put into place to foster and create a safe environment (Lane-Garon et al., 2012). The goal of these systems was to instill a proactive and systematic process through consistency. If the goal was met, a culture of learning that woul lead to academic success was created. Schools that implemented systems such as PBIS, experienced a decline in suspensions. (Warren, Bohanon-Edmondson, Turnball, Sailor, Wickham, Griggs, & Beech, 2006). The decreased amount of time spent away from classroom instruction led to increased achievement scores in content areas such as math and reading. Implementing a proactive behavior management system created processes that minimized the time student were out of the classroom, and ultimately lead to instructional gains (Johnson et al., 2013). Originally created to establish a positive school environment, PBIS was charged with enhancing student achievement (Swain-Bradway et al., 2013).

Assigning a student to a school district's disciplinary alternative education program was viewed as the highest level of consequence that a school administrator could issue. Although school districts used disciplinary alternative education programs to address negative student behaviors for many years, the increase of alternative placements came as a result of Texas Senate Bill 107 that called for schools to assign student to alternative setting for certain offenses (Allman & Slate, 2011).

The modeling and teaching of expectation lead to positive approaches to addressing youth behavior as well as staff interactions (Kimball, Jolivette, & Sprague, 2017). In an effort to create this change in behavior, strategies were created to modify an environment in a way that allowed people to be successful (Rusby, Crowley, Sprague, & Biglan, 2011). In these environments, behavioral skills were actively taught. The hope was that the potential for success in everyday settings such as school, work, and home, would increase (Swain-Bradway, Swoszowski, Boden, & Sprague, 2013). Clinicians collected and assessed data from the implementation as well as intervention and strategy outcomes. Trying to determine if the work they had done was successful, they began to focus on appropriate behaviors rather than inappropriate behaviors (Swain-Bradway et al., 2013).

Positive Behavior Interventions and Supports (PBIS) promoted a school environment that was happy and joyous by systematically working to be preventative rather than reactive to unwanted student behavior (Bradshaw, Pas, Debnam, & Johnson, 2015). Critical features of PBIS included school-wide expectations, explicitly teaching, reinforcing, and clearly defining, data-based decision making to guide and monitor implementation, make adjustments, and respond to students at differentiated levels of need of support, sustainability (Freeman et al, 2016). PBIS encouraged pro-social behavior that resulted in positive reinforcement and acknowledgement (Xin & Johnson, 2015). The framework for behavior expectations and reactions created a predictable environment within the school (Gage, Scott, Hirn, & MacSuga-Gage, 2018). This allowed for consistent reinforcement for all students and staff, interventions to be need based, specific and organized, while support was individualized and immediate (Sugai & Simonsen, 2012).

PURPOSE OF THE STUDY

The purpose of this quantitative study was to examine the effects of the implementation of school-wide Positive Behavior Intervention and Supports (PBIS) in relation to reduction of negative student behaviors and influence on attendance, academic achievement in Reading and Math on the State Assessments of Academic Readiness (STAAR), and disciplinary placement, controlled for schools that implemented PBIS to schools that did not implement PBIS. The independent variables were, in general, defined as implementation of a PBIS plan or procedures. The dependent variables were, in general, defined as academic success on STAAR in Reading and Math, attendance rate, and disciplinary placements.

RESEARCH QUESTIONS

The following research questions were investigated in this study:

RQ1. What are the differences in schools that were exposed to implementation of school-wide PBIS versus schools that did not implement school-wide PBIS regarding disciplinary placements?

RQ2. What are the differences in student academic success on STAAR in Reading and Math among students who were exposed to implementation of school-wide PBIS versus students in schools that did not implement school-wide PBIS?

RQ3. What are the differences in attendance rates among students who were exposed to implementation of school-wide PBIS versus schools that did not implement school-wide PBIS?

Null Hypotheses

H_0: There will be no significant difference between implementation of school-wide PBIS and Disciplinary placements.

H_1: There will be a significant difference between implementation of school-wide PBIS and Disciplinary placements.

H_0: There will be no significant difference between positive student behavior and student Performance on STAAR in Reading and Math.

H_2 There will be a significant difference between positive student behavior and student Performance on STAAR in Reading and Math.

H_0 There will be no significant difference between implementation of school-wide PBIS and attendance.

H_3 There will be a significant difference between implementation of school-wide PBIS and attendance.

CONCEPTUAL FRAMEWORK

With discipline being an issue for many administrators, schools were on the lookout for ways to promote a positive culture, boost morale, and make the atmosphere that of a place where people wanted to be. Schools struggled to create nurturing, safe, and positive environments and benefited from the support of a multi-tiered framework (Goodman-Scott, 2015). For many schools the answer was implementation of Positive Behavior Interventions and Supports (PBIS).

When practiced with fidelity and integrated as a way of conducting business, PBIS produced positive results. As PBIS was constantly and consistently implemented the academic success rate and behavioral needs of students were more often met. This was done through explicitly teaching behavior expectations. Providing positive interactions among students and staff proved to reinforce expectations. The use of date to drive support strategies offered more opportunities for success (Bruhn et al., 2015).

Positive Behavior Interventions and Supports (PBIS) can also be referred to as School-wide Positive Behavior Supports (SWPBS). The language of the names came about by way of the reauthorization of the Individuals with Disabilities Act (IDEA). The focus of PBIS was founded on the principals of preventative approaches. These principles include applied behavior analysis. PBIS was not implemented as a packed curriculum but rather as an approach to ensuring that staff was guided by research-based best practices for interventions. In an effort to support the success of all students, PBIS was implemented with several purpose. One purpose for PBIS implementation was that it provided an organized way for school personnel to implement evidence-based practices. By practicing with fidelity, over time, staff improved these practices. The implementation of PBIS also allowed for staff to make the most out of student outcomes in the areas of academic and social behavior.

Many schools started with a committee and worked to implement PBIS in stages over a period of time. With teacher buy-in, over time, the committee built a framework that included both behavior and academics. (Arzamarski, 2017). For many school staff, PBIS goals were realized after implementing the PBIS way with fidelity. School staff were more likely to feel confident with PBIS training and planning that they were equipped and ready to tackle issues that might present themselves during the school day (Goodman-Scott, 2015). Students who attended schools that implemented PBIS were both less aggressive and disruptive. This less aggressive and disruptive behavior led to fewer student absences. Students became nicer and kinder in social setting and acted more emotionally stable. It was also found that students were 33% less likely to be sent out of the classroom due to displaying behavior that would earn them a disciplinary referral (Goodman-Scott, 2015).

The structure of PBIS provided the necessary components for establishing a sound practice. PBIS offered a continuous sequence of practices in which best practices were used. These practices were used in a variety of settings which not only include general and special education classrooms in a public schools. These settings also included a lockdown correctional facility, or alternative placement settings (Sugai & Simonson, 2013).

RESEARCH DESIGN AND APPROACH

This quantitative, ex-post facto, non-experimental research study examined existing data for middle school students in the Educational Regions of One, Two, and Twenty of South Texas. Obtaining district permission was not necessary since data was considered public information. Texas Academic Performance Reports (TAPR) from the Texas Education Agency (TEA) was obtained for six 3A and/or 4A middle schools using PBIS in the Educational Regions of One, Two, and Twenty of South Texas. One school from each of the Educational Regions One, Two, and Twenty, was a school that fully implemented PBIS and one school from each of the educational regions was a school that did not implement PBIS. The data was disaggregated for academic achievement on STAAR, attendance, and disciplinary placement.

SETTING AND SAMPLE

For this study, a total of six middle schools from the Educational Regions of One, Two, and Twenty of South Texas were selected. The schools in which students were selected from were comparable in student demographics. One school from each region was a school that implemented Positive Behavior Interventions and Supports (PBIS) while the other was a school that did not implement PBIS or other tiered form of behavior intervention.

A total of six middle schools were selected for this study. The data was collected from a total of approximately 3,800 students who attended six middle schools in South Texas Education Service Center Regions 1, 2, and 20. Of the students from the population, about half of the students attended schools that implemented PBIS and the other half attended schools that did not implement PBIS. The population was disaggregated by schools within each of the three Educational Region Centers. School participation information is displayed in Table 1 (see Appendix).

ARCHIVAL DATA

Academic achievement on STAAR, disciplinary placement, and attendance were collected from Texas Academic Performance Reports (TAPR). Since Positive Behavior Interventions and Supports (PBIS) was a school-wide approach, all students on a campus either received or did not receive these interventions based on implementation practices of the school campus. All data was collected for the 2017-2018 school year.

VALIDITY AND RELIABILITY

At each school, data was entered by several people who were responsible for student information. Each teacher took attendance each period and then each day the attendance clerk was responsible for verifying the attendance codes for each student. If a mistake was found, a request with documentation was sent from the person who was responsible for physically taking attendance to the attendance clerk in order for the attendance to be corrected.

Administrators were responsible for entering disciplinary data into PEIMS when consequences were issued for students. PEIMS clerks then went in and verified the data. Reported data was checked against disciplinary documentation records.

RESULTS

Descriptive Statistics for Archived Data

The data analysis demonstrated that regarding disciplinary placements among students who attended schools that implemented a PBIS model and schools that did not implement a PBIS model, there was no significant difference. More specifically, students who were exposed to positive behavior intervention models did not have a statistically significant increase or decrease in disciplinary placements (M=10.33, SD=11.02) compared to students who were not exposed to PBIS implementation (M=16, SD=8). Information is provided in Table 2 (see Appendix).

The data analysis in Table 3 (see Appendix) demonstrated that no statistical difference in daily average attendance existed among students who attended schools that implemented PBIS and schools that did not implement PBIS. More specifically, students who were exposed to PBIS

implementation did not have a statistically significant increase or decrease in attendance rates (M=95.03, SD=1.78) compared to students who were not exposed to PBIS implementation (M=95.23, SD=0.81).

The data analysis demonstrated that there was no statistical difference in academic success on STAAR in Reading and Math among students who were exposed to PBIS implementation school-wide and schools that did not expose their students to PBIS. More specifically, schools that exposed their students to PBIS did not have a statistically significant increase or decrease academic success by meeting passing standards on STAAR in Reading and Math (M=74.00, SD=13.11) compared to students who attended schools that do not implement PBIS (M=76.33, SD=13.58). Information is provided in Table 4 (see Appendix).

Inferential Statistics

In order to clearly address the null hypothesis: $H_{01,}$ H_{02}, and $H_{03,}$ the researcher performed a T-Test to assess the significance of the group differences associated with students who were exposed to PBIS implementation and those who were not exposed to PBIS implementation. As Martin and Bridgmon (2012) state, the t-test was conducted when wanting to investigate whether or not there were significant differences among the averages of two variables. The results of the test in this study showed no significant difference between schools whose students were exposed to PBIS implementation and those who were not exposed to PBIS implementation when analyzing the schools' disciplinary placements, attendance rates, and academic success on STAAR in Reading and Math. The assumptions of equal variances assigned were checked and met.

The researcher looked at Levene's Test for Equality of Variances for assumption of equal variances to determine which T value was going to be used. It was to be determined if the T value was going to be used with equal variances assumed or equal variances not assumed. Based on the significance for F, it was determined that equal variances assumed would be used because F>.05. The 2-tailed significance values were all values greater than .05, so as a result, the null hypothesis was retained (see Appendix: Table 5).

For research question numbers one, two, and three, the researcher retained the null hypothesis. There were no statistically significant differences among implementation of school-wide PBIS and disciplinary placements, daily attendance, or academic success on STAAR in Reading and Math. This can be seen in Table 5 for academic success (p=0.819), disciplinary placements (p=0.418) and daily attendance rate (p=0.254). There were no values for p that were less than 0.05.

Although there was no statistical significance, by looking at actual means, it could be concluded that there were differences substantially. These differences were not for daily attendance or for academic success, but for disciplinary placements. Schools that implemented PBIS were showing a means of 6 less placements for the year than those schools that did not implement PBIS (see Appendix: Table 6).

Summary of the Findings

This quantitative study was conducted to investigate the affect that exposure of PBIS might have on middle school students in South Texas. It was specifically determined whether or not the dependent variables: disciplinary placements, attendance rate, and academic success on STAAR in Reading and Math for middle school students in South Texas were affected by being exposed to PBIS implementation or not being exposed to PBIS implementation. The data unveiled that there were no statistical differences or relationships among disciplinary placements, attendance rate, or academic success among students who attended schools that implemented PBIS and those students who did not attend schools that implemented PBIS.

CONCLUSIONS AND RECOMMENDATIONS

This quantitative study was guided by research questions that specifically looked at the impact exposure to Positive Behavior Interventions and Supports (PBIS) might have on South Texas middle school students' attendance, disciplinary placements, and academic success on STAAR in Reading and Math. Research questions, hypotheses, and T-Test tests were conducted by the researcher to analyze the data. The analysis of the data, as discussed in Chapter IV, did not reveal a statistical significant difference among students who attended middle schools in South Texas that implemented PBIS versus those students who attended schools that did not implement PBIS in the areas of attendance, disciplinary placements, and academic success.

Overall, the data analysis found that middle school students in South Texas Educational Regions 1, 2, and 20 were not significantly impacted in the areas of attendance, disciplinary placements, and academic success due to exposure to PBIS. In Education Service Center Regions 1, 2, and 20, students who attended schools that implemented PBIS did not show an increase or decrease in attendance. There was no statistically significant relationship seen among attendance rates of any of the PBIS implementing schools versus the non PBIS implementing schools.

Academic success as determined by The State of Texas Assessments of Academic Readiness (STAAR) among the three South Texas educational regions that were used for the study did not prove to show any significant statistical relationships among PBIS implementing schools and non PBIS implementing schools. The dependent variable of academic success did not increase or decrease among students who were exposed to PBIS and students who were not exposed to PBIS.

Disciplinary placements for students who attended middle schools in South Texas Education Service Center Regions 1, 2, and 20 that both implemented PBIS and did not implement PBIS, showed no statistically significant relationship. However, the average total number of disciplinary placements did decrease among South Texas middle schools that implemented PBIS compared to schools in the same education regions that did not implement PBIS.

Prior studies demonstrated the struggle that educators were facing in classrooms with negative behaviors interfering with instructional time. Many schools began seeking a systematic way to approach the task of reducing negative behaviors. Positive Behavior Interventions and Supports (PBIS) is an approach used toward that effort. Prior studies have not specifically looked at middle schools in South Texas Education Service Center regions.

The researcher studied specific dependent variables that were used by the Texas Education Agency (TEA) to report on and monitor student's and school's academic success. The results ($p>.05$) listed in Table 5 demonstrated that the dependent variables of attendance,

disciplinary placements, and academic success that were studied in both PBIS and non PBIS environments had no influence on South Texas middle school students.

Research questions were examined individually. Research question one was examined to determine whether or not exposure to PBIS impacted the number of disciplinary placements for schools that are exposed to implementation of school-wide PBIS versus schools that do not implement school-wide PBIS. The data indicated that there were no statistically significant relationships among disciplinary placements for schools that implemented PBIS versus schools that did not implement PBIS. However, there were differences in disciplinary placements substantially. The mean of disciplinary placements for schools that exposed students to implementation of school-wide PBIS decreased by six placements compared to schools that did not expose students to implementation of school-wide PBIS.

Research question two was examined to determine if there were any difference in academic success on STAAR in Reading and Math among students who were exposed to implementation of school-wide PBIS versus students in schools that did not implement school-wide PBIS. The data indicated that PBIS had no significant effect on student academic success on STAAR in Reading and Math.

Research question three was examined to determine if students who were exposed to implementation of school-wide PBIS versus students in schools that did not implement school-wide PBIS differentiated significantly in their attendance rates. The data indicated that there were no differences that were statistically significant in the area of daily average attendance rates among schools that implemented PBIS and those that did not implement PBIS.

The results of research questions one, two, and three indicated that the presence or absence of PBIS exposure to students in middle schools in South Texas had no statistically significant effect on disciplinary placements, academic success on STAAR in Reading and Math, or attendance rates.

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APPENDIX

Table 1

Descriptive Statistics for Students of Schools That Implemented PBIS and Students of Schools

That Did Not Implement PBIS

Educational Service Center Region	PBIS Middle School	Non PBIS Middle School	Total
One	1	1	2
Two	1	1	2
Twenty	1	1	2
Total	3	3	6

Table 2

Descriptive Statistics for Students of Schools That Implemented PBIS and Students of Schools

That Did Not Implement PBIS (Disciplinary Placements)

Groups	n	M	SD
PBIS	3	10.33	11.02
Non PBIS	3	16	8

Table 3

Descriptive Statistics for Students of Schools That Implemented PBIS and Students of Schools

That Did Not Implement PBIS (Attendance)

Groups	n	M	SD
PBIS	3	95.03	1.78
Non PBIS	3	95.23	0.81

Table 4

Descriptive Statistics for Students of Schools That Implemented PBIS and Students of Schools

That Did Not Implement PBIS (Academic Success)

Groups	n	M	SD
PBIS	3	74.00	13.11
Non PBIS	3	76.33	13.58

Table 5

Inferential Statistics for Lavene's Test for Equality of Variances

		F	Sig.	t
Met Passing standards on STAAR in Reading/math	Equal variances assumed	0.6	0.819	-0.214
	Equal variances not assumed			-0.214
Disciplinary Placements	Equal variances assumed	0.813	0.418	-0.721
	Equal variances not assumed			-0.721
Daily Attendance Rate	Equal variances assumed	1.768	0.254	-0.177
	Equal variances not assumed			-0.177

Table 6

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Group Statistics for Students of Schools That Implemented PBIS and Students of Schools That

Did Not Implement PBIS (Academic Success, Disciplinary Placements, and Daily Attendance

Rate)

		N	Mean	Std. Deviation	Std. Error Mean
Met Passing standards on STAAR in Reading/math	PBIS	3	74.0000	13.11488	7.57188
	Non PBIS	3	76.3333	13.57694	7.83865
Disciplinary Placements	PBIS	3	10.3333	11.01514	6.35959
	Non PBIS	3	16.0000	8.00000	4.6188
Daily Attendance Rate	PBIS	3	95.0333	1.77858	1.02686
	Non PBIS	3	95.2333	0.81445	0.47022