

Examination of the Fidelity of School-wide Positive Behavior Support Implementation and its Relationship to Academic and Behavioral Outcomes in Florida

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Abstract

The purpose of this research was to examine the level of School-wide Positive Behavior Support (SWPBS) implementation in the State of Florida. The relationship between implementation fidelity of SWPBS to academic and behavioral outcomes for elementary and middle schools was then analyzed. The results of this study found that SWPBS is being implemented with fidelity in the majority of schools in one year and that these schools maintain or increase fidelity over time. Findings also suggest that there may be a relationship between greater implementation fidelity and lower ODR and OSS rates and to a lesser extent, academic outcomes.

School leaders continue to face unprecedented challenges since the passage of the No Child Left Behind Act of 2001. Most notably, leaders are facing increased accountability for student achievement. One factor that has been identified as influencing the instruction that schools provide is student problem behavior (Lassen, 2006). Luiselli, Putnam, Handler, and Feinberg (2005) suggest that establishing effective discipline practices is critical to ensuring academic success. Recognizing this challenge, school leaders have instituted various programs to improve school culture and meet the needs of the students.

One framework that is currently being used in more than 8000 schools in over 47 states throughout the nation is School-wide Positive Behavior Support (SWPBS) (Spaulding, Horner, May, & Vincent, 2008). Some outcomes associated with SWPBS include decreased office discipline referrals (ODR), increased instructional time, decreased administrative time addressing discipline, increased teacher satisfaction, improved peer relationships, increased academic achievement, and an increase in perceived school safety (Glover, 2005; Lassen, 2006; Landers, 2006; Lassen, Steele, & Sailor, 2006; Rentz, 2007; & Luiselli, Putnam, Handler, & Feinberg, 2005). The purpose of this study was to examine the relationship between the fidelity of implementation of SWPBS to academic and behavioral outcomes. Examining possible relationships between the fidelity of implementation of SWPBS to academic achievement and student problem behaviors may be of use to policy makers, practitioners, and future researchers.

Research Procedures

Although researchers have studied the relationship between the implementation of SWPBS to academic and behavioral outcomes, few have included data in their studies regarding how closely the program is implemented as it is intended (Muscott, Mann & Lebrun, 2008). Dumas, Lynch, Laughlin, Smith, and Prinz (2001) suggested that the conclusions that can be drawn about a program are limited if fidelity is not established. The purpose of this study was to examine the extent which SWPBS was implemented in elementary and middle schools in Florida during the 2007-2008 school year. Furthermore, the number of years that SWPBS had been implemented in each school as a factor in proper implementation was analyzed. This study also examined

possible relationships between the fidelity of implementation of SWPBS as indicated by the total BoQ score and the Florida Comprehensive Achievement Test reading and mathematics subtests. The relationship between BoQ scores and students' behaviors within the school as measured by office disciplinary referrals and total days of out of school suspensions during the 2007 - 2008 school year in the state of Florida were also studied. Next, differences between schools that scored in the top quartile of total BoQ scores, the lowest quartile of total BoQ scores, and a control group were examined.

Research Questions

The study was guided by the following research questions:

1. To what extent is SWPBS implemented with fidelity as measured using the BoQ in selected elementary and middle schools in Florida during the 2007-2008 school year? Is there any difference in fidelity scores between schools that have implemented SWPBS for one year, two years, or three or more years?
2. What is the relationship, if any, between fidelity of implementation of SWPBS as measured using the BoQ during the 2007-2008 school year and student problem behaviors as measured by office discipline referrals and the number of days for out of school suspensions in selected elementary and middle schools in Florida?
3. What is the relationship, if any, between fidelity of implementation of SWPBS as measured using the BoQ during the 2007-2008 school year and academic achievement as measured by FCAT reading and mathematics subtest scores in selected elementary and middle schools in Florida?
4. Is there a statistically significant difference during the 2007-2008 school year in mathematics and reading FCAT scores among elementary and middle schools that scored in the top quartile of BoQ scores, those that were in the bottom quartile of BoQ scores, and those schools which did not implement SWPBS?

Methodology

Population and Sample

The population for this study was 2,889 public elementary and middle schools in the state of Florida during the 2007- 2008 school year (FLDOE, 2008). For research question one, the sample included 145 elementary and 60 middle schools that actively utilized SWPBS during the 2007-2008 school year and had completed the BoQ survey. The sample for research question two included 134 elementary and 59 middle schools that actively utilized SWPBS during the 2007-2008 school year, had completed the BoQ survey, and had reported ODR and OSS data. Research question three was answered using a sample which included 134 elementary and 59 middle schools that actively utilized SWPBS during the 2007-2008 school year, had completed the BoQ survey, had reported ODR and OSS data and had valid FCAT Reading and Mathematics subtest scores. For question four, three groups of elementary schools and three groups of middle schools were randomly selected. Group 1 included 30 elementary schools that scored in the lowest quartile of total BoQ scores. Group 2 consisted of 30 schools in the highest quartile of total BoQ scores. A comparison group, Group 3, included 30 schools that did not participated in SWPBS training. Group 4, Group 5, and Group 6 consisted of 14 middle schools each. Group 4

included middle schools that scored in bottom quartile of BoQ scores, Group 5 consisted of middle schools in the top quartile of BoQ scores, and Group 6 included non-SWPBS middle schools.

Instrumentation

The Benchmark of Quality (BoQ) survey was used to measure the fidelity of implementation of the program. Cronbach's alpha was used to test the reliability of this scale. Academic achievement was measured using grade level mean scale scores from the Reading and Mathematics subtests of the Florida Comprehensive Achievement Test (FCAT). Data about students' behavior was gathered using a School-wide Positive Behavior Support Outcome Data Summary form. Information about the number of Office Discipline Referrals (ODR) and the total number of days of out of school for suspensions was recorded on this form.

Data Collection Procedures

The results of the BoQ survey, the School-wide Positive Behavior Support Outcome Data Summary, and demographic information for the 2007-2008 school year were gathered by the Positive Behavior Support Project at the Mental Health Institute, University of South Florida and provided to the researcher. Discipline data were for the total school population for each elementary and middle school. Mean scale scores from the reading and mathematics portions of the 2008 FCAT for each grade level were obtained from the Florida Department of Education website. The average Mean Scale Score in grades three through five for each subject area were used to determine elementary school scores. For middle schools the average Mean Scale Score for grades six through eight were used for each subject area.

Analytic/Statistical Methods

BoQ total scores were examined for the 2007-2008 school year to evaluate the target schools' adherence to universal SWPBS procedures. A total score of 70 indicated that the program was being implemented with fidelity. Descriptive statistics including the mean, median, standard deviation, skewness, and kurtosis were analyzed to determine the level of implementation. A one-way between groups ANOVA with post-hoc tests was run to determine if there was a relationship between years of implementation and fidelity.

Two sets of analyses were conducted in order to examine the mean ODR and out of school suspensions days at the target schools. The first analysis was of detailed descriptive statistics generated for ODR's and suspensions. Second, a Pearson's Product-moment Correlation was conducted between the fidelity of implementation (BOQ total score) and the number of office discipline referrals per 100 students and the number of days of out of school suspensions, respectively.

Two sets of analyses were conducted to examine the relationship between the fidelity of implementation and Mathematics and Reading FCAT scores. The first analysis was a set of detailed descriptive statistics generated for mathematics and reading mean scale scores. Second, a Pearson's Product-moment Correlation was conducted between the fidelity of implementation

(BOQ total score) and the mean scale scores for the mathematics and reading subtests of the FCAT.

To examine the differences between elementary schools that have implemented SWPBS with fidelity and those who have not, two sets of analyses were conducted to address question four. The first analysis was a set of detailed descriptives. For the second analysis, Analysis of Variance (ANOVA) tests were conducted. The independent variable, fidelity of implementation, had three categories: lowest quartile of BoQ scores (Group 1), highest quartile of BoQ scores (Group 2), or did not participate in SWPBS training (Group 3). The dependent variable was the FCAT Reading and Mathematics mean scale scores. The ANOVA tests were conducted to compare Group 1, Group 2, and Group 3 for each year using reading and mathematics subtest mean scale scores of the FCAT. This procedure was repeated for middle schools with the three categories for fidelity of implementation identified as lowest quartile of BoQ scores (Group 4), highest quartile of BoQ scores (Group 5), or did not participate in SWPBS training (Group 6). In the following sections, each research question is addressed independently.

Research Question 1

To what extent was SWPBS implemented with fidelity as measured using the BoQ in selected elementary and middle schools in Florida during the 2007-2008 school year? Is there any difference in fidelity scores between schools that have implemented SWPBS for one year, two years, or three or more years?

BoQ scores were examined for 145 elementary schools and 60 middle schools from the 2007-2008 school year to evaluate the implementation of the critical components of SWPBS in the State of Florida. Collectively, 71.7% of the schools in the study implemented SWPBS with fidelity as indicated by a total BoQ score of 70 or greater. Closer examination revealed 75.2 % of the elementary schools and 63.3% of the middle schools scored above a 70.

A one-way between groups analysis of variance was conducted to explore the impact of years of implementation on implementation fidelity as measured by the BoQ. Schools were identified as having one year of implementation, two years of implementation, or three or more years of implementation.

There was a statistically significant difference at the $p < .05$ level in BoQ scores for the three groups [$F(2,201)=3.7, p=.03$]. Post-hoc comparisons using the Tukey HSD test indicated that the mean score for schools after one year of implementation ($M=72.96, SD=13.77$) was significantly different from schools that had implemented SWPBS for three or more years ($M=80.01, SD=18.19$). Schools that had implemented SWPBS for two years ($M=74.42, SD=18.45$) did not differ significantly from either of the two other groups.

Research Question 2

What is the relationship, if any, between fidelity of implementation of SWPBS as measured using the BoQ during the 2007-2008 school year and student problem behaviors as measured by

office discipline referrals and the number of days for out of school suspensions in selected elementary and middle schools in Florida?

To answer this question the researcher conducted Pearson's Product Moment Correlations between the fidelity measure, BoQ total score, and each of the behavioral measures, ODR per 100 students and OSS days per 100 students for each school.

The assumptions for Pearson's correlations include the level of measurement having the same number of cases, related pairs of data from the same subject, normality, linearity, and homoscedasticity. Issues generally associated with correlations include non-linear relationships, outliers, and a restriction of range. Preliminary analyses were performed to ensure no violation of these assumptions.

First, it was determined that the assumptions of the level of measurement and related pairs were met for each variable. To reduce the concern regarding a restriction of range, as wide a range of values as possible was used.

The initial investigation by the researcher also included inspection of a scatterplot for each of the variables to examine linearity, homoscedasticity, and outliers. This visual inspection suggested reasonable linearity and homoscedasticity for each variable and one significant outlier. The outlier was a middle school with a BoQ total score of 24, ODR per 100 students of 521, and OSS days per 100 students of 319. The values for ODRs and OSS days were 43% and 20% higher than the next highest value respectively. Reasons for this disparity were unavailable to the researcher since there was no contact between the researcher and individual schools. This outlier was removed from the study.

The researcher then analyzed histograms, Normal QQ plots, Komogrov-Smirnov, skewness and kurtosis statistics to assess normality for each variable. These analyses indicated scores for OSS days per 100 students and ODR per 100 students were positively skewed. Further analysis indicated BoQ scores were negatively skewed. One alternative when facing skewed distributions when conducting a parametric statistical test is to transform the variables so that the distribution better meets the assumptions of the parametric technique (Pallant, 2005). Since the assumption of normality was not met, the researcher transformed these variables. ODR and OSS scores were transformed using the square root to meet the assumption of normality for Pearson's correlations. BoQ scores were reflected and then the square root was used to meet the assumption of normality. To examine if these transformations had an impact on the Pearson's correlation coefficients, the subsequent analyses were conducted using both the transformed and non-transformed scores. This was not found to make any significant differences to the individual coefficients or the overall amount of variance. Thus, only the transformed scores are reported.

The relationship between implementation fidelity as measured by BoQ total score and the ODR per 100 students was investigated using Pearson's product-moment correlation coefficient.

There was a small, negative correlation between the two variables [$r = -.18$, $n = 193$, $p < .05$], with higher levels of fidelity associated with lower ODRs being reported per 100 students. This

finding was significant at the $p < .05$ level with three percent of the variance shared by the two variables.

The relationship between implementation fidelity as measured by BoQ total score and the OSS days per 100 students was investigated using Pearson's product-moment correlation coefficient. There was a moderate, negative correlation between the two variables [$r = -.33$, $n = 193$, $p < .01$], with higher levels of fidelity associated with lower numbers of OSS days being reported per 100 students. This finding was significant at the $p < .01$ level with 11 percent of the variance shared by the two variables.

The researcher then examined these relationships based on if the schools served students at the elementary level or middle school level. At the elementary level, no relationship between fidelity and ODR was noted.

Conversely, there was a small negative relationship between implementation fidelity and OSS [$r = -.23$, $n = 134$, $p < .01$] at the elementary level. This finding was significant at the $p < .01$ level with five percent of the variance shared by the two variables.

At the middle school level, there were moderate, negative relationships between fidelity and ODR [$r = -.33$, $n = 59$, $p < .05$] and fidelity and OSS [$r = -.49$, $n = 59$, $p < .01$]. The findings between the BoQ and ODR were significant at the $p < .05$ level with 11 percent of the variance shared by the two variables. The findings between the BoQ and OSS were significant at the $p < .01$ level with 24 percent of the variance shared by the two variables.

Research Question 3

What is the relationship, if any, between fidelity of implementation of SWPBS as measured using the BoQ during the 2007-2008 school year and academic achievement as measured by FCAT reading and mathematics subtest scores in selected elementary and middle schools in Florida?

The relationship between implementation fidelity as measured by the BoQ and academic outcomes as measured by FCAT reading and FCAT mathematics subtest scores were investigated using Pearson's product-moment correlations coefficient. Preliminary analyses were performed to ensure no violation of the assumptions of normality, linearity, and homoscedasticity. BoQ scores were negatively skewed. These scores were reflected and then the square root was used to meet the assumption of normality. FCAT reading and FCAT math scores were reasonably normal and were not transformed.

The initial examination of the Pearson's product-moment correlation indicated there was no statistically significant relationship between the fidelity of implementation and academic outcomes in this study.

The researcher then examined these relationships based on grade level. At the elementary level, there was no statistically significant relationship between implementation fidelity and academic outcomes.

At the middle school level, moderate, positive relationships existed between BoQ and FCAT Reading subtest scores [$r=.25, n=59, p=.05$]. This finding was significant at the $p<.05$ level with six percent of the variance shared by the two variables. The findings between the BoQ and FCAT Math subtest scores were not statistically significant [$r=.20, n=59, p=.13$] (Table 10).

The significance levels for these results should be treated cautiously as it may have been influenced by the small size of the sample ($N=59$) of middle schools.

Research Question 4

To what extent is there a statistically significant difference during the 2007-2008 school year in mathematics and reading FCAT scores among elementary and middle schools that scored in the top quartile of BoQ scores, those that were in the bottom quartile of BoQ scores, and those schools which did not implement SWPBS?

A one-way between-groups analysis of variance was conducted to explore the impact of implementation fidelity as measured by the BoQ on academic achievement as measured by Mean FCAT Reading and Mathematics subscale scores.

Elementary schools were divided into groups based on the total BoQ score (Group 1: Lowest quartile; Group 2: Highest quartile; Group 3: No PBS training). There was no statistically significant difference in FCAT Reading subscale scores between the three groups [$F(2,87)=1.07, p=.35$]. Conversely, there was a statistically significant difference at the $p<.01$ level in FCAT Math subscale scores between the three groups [$F(2,87)=24.92, p<.01$]. The effect size, calculated using eta squared, was .36 which indicated a large effect. Post-hoc comparisons using the Tukey HSD test indicated that the mean Reading score for Group 1 ($M=332.46, SD=15.80$) and Group 2 ($M=329.70, SD=16.96$) were significantly different from Group 3 ($M=303.98, SD=18.81$). No significant difference between Group 1 and Group 2 was noted. It is interesting to note that both Group 1 and Group 2 scored above the State of Florida mean ($M=312$) which was calculated by adding the mean scores for grades three through five for all schools in the state.

A second set of one-way between-groups analysis of variance were conducted to explore the impact of implementation fidelity as measured by the BoQ for middle schools.

Middle schools were divided into groups based on the total BoQ score (Group 4: Lowest quartile; Group 5: Highest quartile; Group 6: No PBS training). There was no statistically significant difference in FCAT Reading subscale scores between the three groups [$F(2,39)=1.31, p=.28$]. In addition, no statistically significant difference was noted between groups for mean FCAT Math scores [$F(2,39)=.34, p=.71$].

It is important to note that many factors should be considered when considering these results. One such consideration is sample size. Since a small sample was selected for this study results may be influenced by a small number of schools.

Findings

Prior to discussing the findings of this study it seems pertinent to review the limitations of the study. The implementation fidelity data used for this study from the BoQ tool is based on self reported information from each school. As a self evaluation tool, some inconsistency could result. In addition, the level of fidelity at each grade level is assumed to be consistent with the level of implementation of the school as a whole since grade level data was not collected regarding implementation. Therefore, assumptions regarding the impact on specific grade levels or individual students could not be made. Data from different cohorts of students were analyzed in aggregate. This limits any conclusions regarding individual academic and behavioral functioning. Finally, due to the relatively small sample size for correlational statistics, conclusions are limited.

Research question one examined the extent that SWPBS was being implemented with fidelity as measured using the BoQ in selected elementary and middle schools in Florida during the 2007-2008 school year and if there were significant differences between schools that had implemented SWPBS for one, year, two years, or three or more years. This study suggests that schools that have implemented SWPBS for three or more years have higher fidelity scores than schools who have implemented the program for one or two years. This question was answered using a sample which included 145 elementary and 60 middle schools that actively utilized SWPBS during the 2007-2008 school year and had completed the BoQ survey. The results indicated that the majority (71.7%) of elementary and middle schools in Florida did in fact implement SWPBS with fidelity as indicated by a total BoQ score of greater than 70. Further investigation suggested that a greater percentage of elementary schools in this study implemented the framework with fidelity than middle schools. To answer the second part of this question, a one-way between groups ANOVA was conducted to examine the impact of years of implementation on implementation fidelity. The results indicated that there was statistically significant difference at the $p < .05$ level in scores between the schools that had implemented SWPBS for one year ($M=72.96, SD=13.77$) and schools that had implemented SWPBS for three or more years ($M=80.01, SD=18.19$). These findings indicate that schools are able to successfully adopt SPWBS with fidelity in the first year of implementation and sustain or increase the use of these practices over time.

Research question two asked: what is the relationship, if any, between fidelity of implementation of SWPBS as measured using the BoQ during the 2007-2008 school year and student problem behaviors as measured by office discipline referrals and the number of days for out of school suspensions in selected elementary and middle schools in Florida? This question was answered using a sample which included 134 elementary and 59 middle schools that actively utilized SWPBS during the 2007-2008 school year, had completed the BoQ survey, and had reported ODR and OSS data. The relationship between implementation fidelity as measured by the BoQ total score and ODR per 100 students was investigated using a Pearson's product-moment correlation coefficient. A Pearson's correlation was also used to examine the relationship between implementation fidelity and OSS days per 100 students. Both statistics indicated that a statistically significant relationship existed between implementation fidelity and these measures of behavioral outcomes. For office discipline referrals the significance was at the $p < .05$ level.

The significance level for out of school suspension days was at the $p < .01$ level. In each case higher levels of fidelity were associated with lower levels of undesirable behaviors.

Research question three asked: what is the relationship, if any, between fidelity of implementation of SWPBS as measured using the BoQ during the 2007-2008 school year and academic achievement as measured by FCAT Reading and Mathematics subtest scores in selected elementary and middle schools in Florida? The sample for this question included 134 elementary and 59 middle schools that actively utilized SWPBS during the 2007-2008 school year, had completed the BoQ survey, had reported ODR and OSS data and had valid FCAT Reading and Mathematics subtest scores. The scores for elementary schools were calculated using the mean FCAT Reading and Mathematics subtest scores for grades three through five at each school. The scores for middle schools were calculated using the mean FCAT Reading and Mathematics scores for grades six through eight. Pearson's product-moment correlation coefficients were utilized to examine the relationship between fidelity and FCAT reading and mathematics subtest scores. The results indicated that there was no statistically significant relationship between implementation fidelity and academic outcomes as measured by FCAT scores for the group as a whole. When broken down into elementary and middle schools, results indicated that there was a moderate positive relationship at the $p < .05$ level between BoQ and FCAT reading subtest scores in middle schools. Due to the small sample size of middle schools ($N=59$) these results should be viewed cautiously. However, these results do warrant further investigation.

Research question four asked: is there a statistically significant difference during the 2007-2008 school year in Mathematics and Reading FCAT scores among elementary and middle schools that scored in the top quartile of BoQ scores, those that were in the bottom quartile of BoQ scores, and those schools which did not implement SWPBS? This question was answered using elementary and middle schools selected based on their total BoQ scores. The three groups of elementary schools were identified as Group 1, Group 2, and Group 3. Group 1 included 40 elementary schools that scored in the lowest quartile of total BoQ scores. Group 2 consisted of 40 schools in the highest quartile of total BoQ scores. A comparison group, Group 3, included 40 schools that had not participated in SWPBS training. The three middle school groups were identified as Group 4, Group 5, and Group 6 and consist of 14 middle schools each. Group 4 consisted of middle schools that scored in bottom quartile of BoQ scores, Group 5 consisted of middle schools in the top quartile of BoQ scores, and Group 6 included non-SWPBS middle schools. One-way between-groups ANOVAs were conducted to examine the impact of implementation fidelity as measured by the BoQ total score on academic achievement as measured by FCAT reading and mathematics subtest scores. At the elementary level, no statistically significant difference between FCAT Reading scores was noted. Conversely, the mean FCAT Mathematics subtest score for Group 1 ($M=332.46, SD=15.80$) and Group 2 ($M=329.70, SD=16.96$) were significantly higher at the $p < .05$ level than Group 3 ($M=303.98, SD=18.81$). The groups were then compared to the state mean FCAT Mathematics score ($M=330$). It is relevant to note that both Group 1 and Group 2 were similar to the state mean while Group 3 was significantly lower. Here the limitation of the sample size ($N=40$) should be considered when evaluating these results as it may have influenced the results. No statistically significant differences were noted for the mean FCAT Reading and Mathematics subtests for the middle school cohorts. It is interesting to note that the academic outcomes for

SWPBS schools were in line with or were greater than the outcomes for schools that did not participate in SWPBS training. Frequently, schools focus on one area for improvement such as writing, mathematics, reading, or improved behaviors. When this occurs, attention to other areas may lapse. The outcomes of this study may suggest that schools implementing SWPBS improve student behavior while sustaining or improving academic outcomes.

Discussion

The influence of multiple factors should be considered when evaluating the outcomes of this study. These include other academic and behavioral programs that may have been in place, administrative and staff buy-in, and environmental factors. In addition, staff tolerance for different behaviors may influence behavioral outcomes. The results of this study suggest that SWPBS practices can be implemented with fidelity on a large scale and greater fidelity is associated with fewer instances of negative behaviors. The strength of the relationship between fidelity and the behavioral measures was low to moderate. One possible explanation is that schools may have over reported the level of implementation. The results also indicate that there may be a relationship between implementation fidelity and academic outcomes as indicated by the middle school outcomes. The findings from the evaluation data and results have important implications for policy, practice, and SWPBS program evaluation.

Recommendations for Policy

This research has important implications for policy makers. The findings of this study suggest that implementation fidelity is mildly associated with reduced instances of ODRs and days for OSS. As a self reported tool the possibility exists that BoQ scores may have been over reported which could have the effect of reducing the strength of the correlation between fidelity and behavioral outcomes. Policy makers should consider examining how closely schools are accurately reporting implementation fidelity. Identifying schools that are utilizing SWPBS appropriately with data to support the results will undoubtedly help school leaders utilize SWPBS effectively.

In some cases SWPBS has also been associated with improved academic outcomes. Since SWPBS focuses on improving student behavior, this may not be a causal relationship. However, by improving behavioral outcomes, SWPBS creates an opportunity for schools to improve student achievement by increasing the time available for planning and implementing engaging lessons for students. Policymakers should take note that this success is based on sound instructional practices and effective training on appropriate behavioral strategies. By appropriately utilizing the time available for instruction, behavioral and academic outcomes can be maximized.

This research has also suggested that the fidelity of SWPBS increases over time. Policy decisions should be made to support the continued implementation of SWPBS and examine if this trend leads to improved outcomes over time.

Recommendations for Practice

While the findings of this study are subject to limitations, they offer guidance to practitioners. One of primary findings of this study is that a relationship exists between implementation fidelity and behavioral outcomes. There is also some limited evidence that a relationship between implementation fidelity and academic outcomes may exist as well. Prior research has indicated that a total score of less than 70 on the BoQ indicates partial implementation of the critical components of SWPBS which may not be sufficient to achieve desirable outcomes. To implement SWPBS with fidelity, practitioners should strive to implement each of the major components of SWPBS. These components include establishing a planning team, defining school-wide behavioral expectations, training teachers, teaching behavioral expectations to students, developing procedures for acknowledging appropriate behaviors and discouraging inappropriate behavior, utilizing data to monitor behaviors, and evaluating the system (Sugai & Horner, 2002). As a school implements this framework, some of the factors that impede the implementation of SWPBS such as insufficient funding, lack of time, and lack of stakeholder buy-in should be addressed. By developing an awareness of the possible pitfalls to implementation and focusing on the research based strategies of SWPBS practitioners may experience some of the positive outcomes suggested by the findings of this research. School based leaders should also conduct classroom walkthroughs and have frequent discussions with stakeholders such as staff members, students, and parents to investigate implementation fidelity. In addition, school leaders should ensure that additional time is used appropriately to improve student instruction.

Recommendations for SWPBS Program Evaluation

This research examined the relationship between implementation fidelity and behavioral and academic outcomes. To validate this research further research should be conducted in this area of investigation. In addition, emerging research has begun to examine qualitative data regarding improved quality of life outcomes for students. Future research should include longitudinal studies of behavioral, academic, and quality of life outcomes in relation to implementation fidelity. Research should be directed in this area in addition to examining factors that influence the adoption of evidence based practices, how to sustain SWPBS practices, and the integration of SWPBS with additional types of intervention efforts such as response-to-intervention (RtI). The findings of this study support previous research advocating SWPBS as a conceptually sound framework for improving student behaviors when implemented with fidelity.

References

- Dumas, J., Lynch, A., Laughlin, J., Smith, E., & Prinz, R. (2001). Promoting Intervention fidelity: Conceptual issues, methods and preliminary results from the EARLY ALLIANCE prevention trial. *American Journal of Preventive Medicine*, 20(1S), 38–47.
- Florida Department of Education (2008).:2008 FCAT results. Retrieved from <http://fcats.fldoe.org/mediapacket/2008/default.asp>
- Glover, D. M. (2005). The impact of a school-wide positive behavior support plan on high school student's perceptions of school climate and peer relationships. Ph.D. dissertation, Loyola University Chicago, United States -- Illinois. Retrieved from Dissertations & Theses: Full Text database. (Publication No. AAT 3180952).
- Landers, E. J. (2006). Examination of the impact of school-wide positive behavior supports on middle school teachers. Ph.D. dissertation, University of Florida, United States -- Florida. Retrieved from Dissertations & Theses: Full Text database. (Publication No. AAT 3228768).
- Lassen, S. R. (2006). Impact of school-wide PBS on indicators of social development and academic performance in an inner-city middle school. Ph.D. dissertation, The University of Kansas, United States -- Kansas. Retrieved from Dissertations & Theses: Full Text database. (Publication No. AAT 3243448).
- Lassen, S. R., Steele, M. M., & Sailor, W. (2006). The relationship of school-wide positive behavior support to academic achievement in an urban middle school. *Psychology in the Schools*, 43, 701-712.
- Luiselli, J., Putnam, R., Handler, M., & Feinberg, A. (2005). Whole-School Positive Behavior Support: Effects on student discipline problems and academic performance. *Educational Psychology*, 25 (2-3), 183-198.
- Muscott, H., Mann, E., & LeBrun, M. (2008). Positive behavioral interventions and supports in New Hampshire: Effects of large-scale implementation of School-wide Positive Behavior Support on student discipline and academic achievement. *Journal of Positive Behavior Interventions*, 10(3), 190-205.
- Pallant, J. (2005). *SPSS Survival Manual Second Edition*. New York: Open University Press, McGraw Hill.
- Rentz, N. L. (2007). The influence of positive behavior support on collective teacher efficacy. Ph.D. dissertation, Baylor University, United States -- Texas. Retrieved from Dissertations & Theses: Full Text database. (Publication No. AAT 3273175).
- Spaulding, S. A., Horner, R. H., May, S. L., & Vincent, C. G. (2008, November). *Evaluation brief: Implementation of school-wide PBS across the United States*.

OSEP Technical Assistance Center on Positive Behavioral Interventions and Supports.
Web site: http://pbis.org/evaluation/evaluation_briefs/default.aspx

Sugai, G., & Horner, R. H. (2002). The evolution of discipline practices: School-wide positive behavior supports. *Child and Family Behavior Therapy*, 24, 23-50.