

Teacher Outcomes of School-Wide Positive Behavior Support

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A Case Study Published in

TEACHING Exceptional Children Plus

Volume 3, Issue 6, July 2007

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Abstract

Thousands of schools throughout the country are now implementing School-Wide Positive Behavior Support (SWPBS) as a way to improve school culture, safety, and climate. Research is needed to assess the effects of implementing SWPBS on (a) teacher stress and (b) teacher efficacy. The present pilot study provides a preliminary study of these variables by analyzing self-report measures conducted by 20 teachers within schools of differing levels of SWPBS implementation. Results indicated a statistically significant relationship between SWPBS implementation and teacher perception of educational efficacy. Results did not indicate a significant relationship, but rather a trend in the anticipated direction, between SWPBS implementation and reduced perception of teacher stress. Limitations of the study are discussed and directions for future research are recommended.

Keywords

positive behavior support, teacher stress, teacher efficacy

SUGGESTED CITATION:

Ross, S. W., & Horner, R. H. (2007). Teacher outcomes of school-wide positive behavior support. *TEACHING Exceptional Children Plus*, 3(6) Article 6. Retrieved [date] from <http://escholarship.bc.edu/education/tecplus/vol3/iss6/art6>

Introduction

Anti-social behavior of children is a major barrier to effective education (Elliott, Hamberg, & Williams, 1998; Jimerson & Furlong, 2006; Walker, Colvin & Ramsey, 1995). An increasing proportion of children are coming to school hindered by limited family supports and significant learning and /or behavioral problems. Many of these children require comprehensive supports that involve family, school, and community participation. Without effective support, these students are likely to experience significant barriers to successful education, socialization, employment opportunities, and community adaptation (Horner, Diemer, & Brazeau, 1992; Knitzer, 1993; Meyer, Peck, & Brown, 1991; Walker, Ramsey & Gresham, 2003). If not addressed, the impact on students, families, teachers, and the community can be devastating (Sprague & Horner, 2006).

The National Educational Goals Panel Report (U.S. Department of Education, 1998, 2000) pointed out 5 critical areas where national school performance has declined: (a) reading achievement at grade 12 has decreased; (b) student drug use has increased; (c) sale of drugs at school in grades 8, 10, and 12 has increased; (d) threats and injuries to public school teachers have increased; and (e) more teachers are reporting disruptions in their classroom, which interferes with their teaching. These outcomes make very evident the connection between ineffective/inefficient student support, decreasing school safety, and faltering academic achievement.

Traditional punitive approaches to dealing with problem behavior are often the first line of defense and involve "getting tough" or "zero tolerance" policies. These approaches can effect short-term removal of problem behavior, but have little long-term benefit (Skiba & Rausch, 2006). In addition,

such approaches tend to displace the problems elsewhere, impair relationships with adults, injure attachments to schooling, and maintain a trajectory of problem behavior and academic failure (Greenberg, Domitrovich, & Bumbarger, 1999).

SWPBS

School-Wide Positive Behavior Support (SWPBS) is a prevention-focused alternative to student support that blends socially valuable outcomes, research-based procedures, behavioral science, and a systems approach to reduce problem behavior and improve school climate (Horner, Sugai, Todd, & Lewis-Palmer, 2005). With a foundation in early efforts to apply principles of behavior to life improvement for children with severe problem behaviors (Bijou & Baer, 1961; Bijou, Peterson, & Ault, 1968), SWPBS involves the application of behavior analysis to real world settings where children and adults struggle to maintain appropriate behavior (Sugai & Horner, 2002). The emphasis within SWPBS is on creating a three tiered prevention structure where behavioral expectations are (a) clearly defined, (b) actively taught, (c) consistently acknowledged, and (d) monitored within data-based decision-systems (Lewis, Sugai, & Colvin, 1998; Sugai et al., 2000).

The primary tier of SWPBS is designed to create positive, predictable environments for all students at all times of the day. This tier encourages the use of empirically-tested instructional principles to clearly teach expected appropriate, positive behavior to all students, modeling appropriate behavior, leading them through practice in specific settings, and testing their knowledge (Colvin & Kame'enui, 1993). Effective reinforcement of appropriate and expected behaviors follows, and is instated by all staff in the school (Crone & Horner, 2003), who receive

training and feedback regarding the effective implementation of the systems. With a clear understanding of expectations common throughout the school, the demand for constantly reminding students of the rules is significantly reduced. In addition, reinforcement and discipline are documented through a concise, predictable, and clear continuum of consequences matched to the intensity of the problem behavior (Sprague & Horner, 2006), thus reducing much of the ambiguity and stress in consequence delivery, both for teachers and students.

The secondary tier of School-Wide positive behavior support includes all of the pieces described in the primary tier with additional support given to students who are "at risk" for whom the primary tier of support is not enough. The secondary tier usually involves interventions given to small groups of children, including more reinforcement, and a more individual consideration of things in the environment that precede (antecedents) and follow (consequences) behavior (Sugai et al., 2000). Again, because interventions are documented and staff understand how to refer children for extra support, they may feel more adequately supported in their efforts to work with challenging students.

Finally, the tertiary tier of support is for students whose negative behavior patterns have been established and who fail to respond to the primary and secondary levels of intervention. For these students, behavior support is individualized based on a functional assessment of their behavior. The foundation for understanding patterns of problem behavior (Repp & Horner, 1999), functional assessment takes note of individual differences, links interventions directly to problem behavior, and increases the effectiveness of interventions (O'Neill et al., 1997). With clear and understandable definitions of problem behav-

ior including antecedents, behaviors, and consequences, school staff can more efficiently assess student problems, more effectively design interventions, and more adequately support the teacher in their efforts.

To date, evaluation and research studies have focused on the impact of SWPBS for improving the social and academic outcomes for students. SWPBS has been shown to have short and long-term beneficial effects on attachment to school, academic achievement, aggression, drug use, crime, student reports of positive reinforcement, positive referrals, decreased discipline referrals, and increased academic learning time (Hawkins, Catalano, Kosterman, Abbott, & Hill, 1999; Nelson, Martella & Marchand-Martella 2002; Metzler, Biglan, Rusby, & Sprague, 2001). If SWPBS is effective, however, additional effects might include reduced teacher stress, and improved teacher efficacy. It is hypothesized that consistent and clear School-Wide behavioral expectations will increase the predictability and consistency within the school, improving the effectiveness of teachers to both support social behavior, and deliver instruction. Teachers in schools using SWPBS would be expected to have increased perceptions of professional efficacy and reduced perceptions of professional stress.

Teacher Efficacy

Teacher efficacy refers to teachers' confidence in their ability to encourage student learning and positive behavioral change (Ashton & Webb, 1986). Teachers high in teacher efficacy believe that their teaching makes a difference and that they can personally affect student learning. On the contrary, teachers with low efficacy believe that their teaching has little influence on students and that they can not regulate student learning. Since research in the area of teacher efficacy

has found intriguing relationships between high teacher efficacy and improved student achievement in math and reading (Armor et al., 1976; Ashton & Webb, 1986), teacher efficacy is sometimes considered a general indicator or predictor of teaching effectiveness.

Teacher Stress

Teacher stress has been described as the perception of imbalance between demands at school and the resources teachers have for coping with them (Esteve, 2000). For example, when a child's behavior is inconsistent with how a teacher expects them to act, they must consider the resources available to deal with the situation. If their resources appear equal to the demands, they view the behavior as a mere challenge. If, however, the behavior is conceived as exceeding their resources, the behaviors can become stressful.

Teachers' reports of stress have also been shown to strongly predict their relationships with students in general, where greater levels of stress lead to more negative relationships with students (Yoon, 2002). Not only does stress affect teachers' general attitude, but it affects the quality of their relationships with students. As a result, teachers may experience even more negativity in their relationships with students, thereby further increasing their stress level. Studies of teacher stress indicate that the sources include: time pressure and workload, coping with changes, evaluation, negative interactions with colleagues, self-esteem and status, poor working conditions, role conflict, administration and management, discipline, teaching students who lack motivation, and coping with change (Travers & Cooper, 1996; Pithers & Soden, 1998). Symptoms of stress in teachers can include anxiety and frustration, impaired performance, and ruptured interpersonal relationships at work and home (Kyriacou, 2001).

Stress over a long period of time can lead a teacher to distance themselves from others and begin to view others impersonally. Long term stress can also lead to reduced feelings of accomplishment and efficacy. Finally, many teachers under continual stress have to deal with emotional exhaustion where they feel emptied of personal emotional resources. The depletion of these resources can lead to an even greater sensitivity to future stressors (Wood & McCarthy, 2002).

Methods

The present study was developed to examine the relationship between School-Wide Positive Behavior Support and perceived levels of teacher stress and teacher efficacy.

Participants

The study included four middle schools within the state of Oregon with similar class size ($M = 26$), socioeconomic status as determined by percent of students on free and reduced lunch ($M = 32.50\%$), and teachers on staff ($M = 31$). All of the schools were evaluated for School-Wide Positive Behavior Support through the School-Wide Evaluation Tool (Todd et al., 2003), with scores above 80 in the high implementation group, and below 80 in the low implementation group. In addition, 5 teachers in each of the 4 schools ($N = 20$) were randomly selected and given measures of teacher stress and teacher efficacy.

Outcome Variables

The first variable of interest was the level of perceived teacher stress measured by a teacher's self report on the Index of Teaching Stress (Abidin, Greene, & Konold, 2004), a 43 item instrument distinguished by its focus on the stress experienced by a teacher in interactions with specific students. The cen-

tral issues underlying the Index of Teaching Stress (ITS) are (a) the impact of student behavior on teacher self-perception, (b) teacher perception of the teaching process, and (c) teacher perception of support from other adults involved. Clinically significant scores on this measure are associated with a generalized sense of hopelessness and ineffectiveness in a person's role as a teacher. Items on this measure include:

- *I feel I should be in better control of problem behavior.*
- *I have this feeling I cannot handle problematic students very well.*

Each item of the survey was ranked by teachers on a Likert scale from 1 (strongly disagree) to 6 (strongly agree). Possible scores on the measure range from 54 to 215, and internal consistency coefficients for the scale ranged from .87 to .93 (Greene, Abidin, & Kmetz, 1997).

Teacher efficacy, the second variable of interest to this study, was measured by a teacher's self report on the Teacher Efficacy Scale (Gibson & Dembo, 1984), a 30 item measure, again ranked on a Likert scale from 1 (strongly disagree) to 6 (strongly agree). The Teacher Efficacy Scale (TES) includes two major dimensions: personal teaching efficacy and teaching efficacy. Personal teaching efficacy measures belief that one has the skills and abilities to evoke student learning. A teacher high in personal teaching efficacy believes they make a difference in the lives of their students and is more likely to associate positive student performance with the hard work they put into that student. For example:

- *When a student does better than usual, many times it is because I exerted a little extra effort.*

The second dimension of the TES is teaching efficacy, or belief that a teacher's ability to change student outcomes is signifi-

cantly limited by factors that the teacher can not alter, such as the home environment and family background. A teacher high in teaching efficacy believes that through their efforts they can overcome even the toughest situations a student may come from. For example:

- *If students aren't disciplined at home, they aren't likely to accept any discipline.*

Teachers in the present study were assessed on a global efficacy score, which includes both personal teaching efficacy and teaching efficacy. Internal consistency reliability of this measure as calculated by Cronbach's alpha is .79, and possible scores range from -54 to 86.

Implementing SWPBS

The level of implementation of School-Wide Positive Behavior Support was considered the independent variable for this study. A school's implementation of the program was determined by their score on the School-Wide Evaluation Tool (Todd et al., 2003). The School-Wide Evaluation Tool (SET) is a very important tool that evaluates how well a school implements SWPBS and considers 28 different issues across seven feature areas (Horner, Todd, Lewis-Palmer, Irvin, Sugai, & Boland, 2004). These areas include:

- (a) the defining of expectations,
- (b) the teaching of behavioral expectations,
- (c) procedures for acknowledging students and staff,
- (d) correction procedures,
- (e) monitoring and evaluation,
- (f) management of the program, and
- (g) district-level support.

Scoring for the SET involves assigning a value of 0, 1, or 2 (0 = not implemented, 1 = partially implemented, 2 = fully implemented) for each of the 28 items. Information

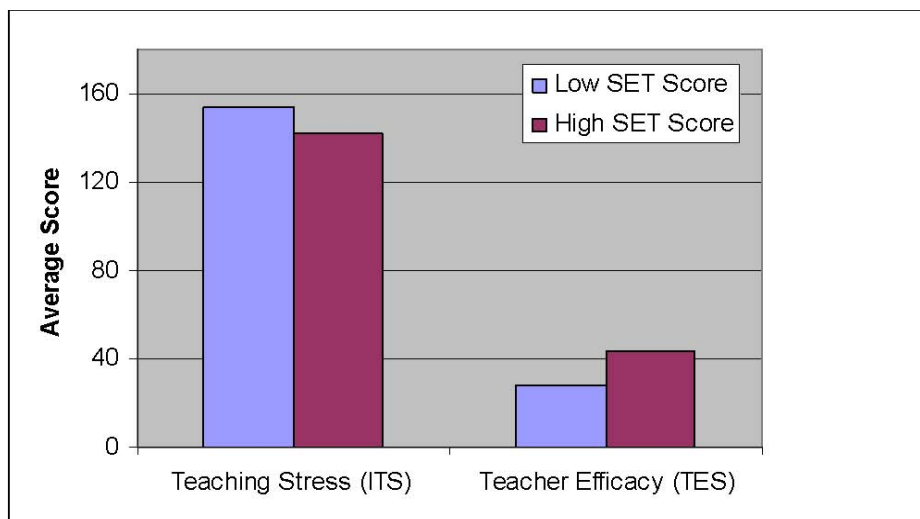
necessary for the SET is gathered through multiple sources including interviews with administrators, teachers, staff members, and students; reviewing permanent products such as school policies, training curricula, and meeting minutes; and examining data systems currently in use. The internal consistency reliability of the SET has documented an overall alpha of .96 and exceeds standard psychometric criteria for discriminability, internal consistency, and test-retest reliability. For this study the SET data was collected by either the lead author or the applicable school districts, after achieving inter-rater reliability of at least .90. Schools evaluated on the SET scored in one of two categories:

- Schools were given a *high* SET score when they received a score above 80%, and
- Schools were given a *low* SET if they scored below 80%.

Analysis and Results

Data were analyzed in this study using a one-way analysis of variance for both teacher efficacy and teacher stress, and an alpha level of .05 ($p < .05$) was used for all statistical tests. Each school's level of SET score (high or low), the teachers' scores on the ITS, and the teachers' scores on the TES, were run on a computerized statistical program. On the Index of Teacher Stress (ITS), teachers received an average score of 148.05 ($M = 148.05$) and scores had a standard deviation of 28.07 ($SD = 28.07$). On the Teacher Efficacy Scale (TES), teachers attained an average efficacy score of 35.60 ($M = 35.60$) and these scores had a standard deviation of 14.49 ($SD = 14.49$). In addition, the outcomes of both measures maintained a relatively normal distribution shape. Finally, scores on the School-Wide Evaluation Tool (SET) ranged from 38 (low implementation) to 96 (high implementation). On average, schools scored 66.5% ($M = 66.5$, see figure 1 for average scores on the ITS and TES based on SET score).

Figure 1. Average Scores on the Index of Teaching Stress (ITS) and Teacher Efficacy Scale (TES) for Schools With High and Low Scores on the School-Wide Evaluation Tool (SET)



Results indicated a strong significant effect of level of SWPBS implementation on teacher efficacy, $F(1, 18) = 7.34, p < .05$ (see table 1 below). There was no significant effect of level of SWPBS implementation on teaching stress, $F(1, 18) = .86, p = .36$ (see table 2 below), but there was a non-statistically significant effect in the anticipated direction.

Following this analysis, effect sizes were calculated for both measures, which determined a small effect size for teacher efficacy ($\eta^2 = .29$), and no effect size for teacher stress ($\eta^2 = .05$).

Finally, to follow-up on the small effect sizes, a power analysis was run to determine if the lack of significance may have

been due to low statistical power. Results indicated that the study design produced little power ($1 - \beta = .14$). This suggests that the reason for the lack of statistical significance may have been due to the little power and the small number of teachers in the study.

Overall, the present study determined that teachers in schools where School-Wide Positive Behavior Support was implemented at a high level scored *significantly* better on teacher efficacy compared to schools where School-Wide Positive Behavior Support was implemented at a low level. Unfortunately, the same can not be said for the teacher stress measure, but this may have been due to the low number of teachers included in the study or the indirectness of using surveys.

Table 1. One-Way Analysis of Variance Summary Table for the Effects of SWPBS on Teacher Stress

Source	<i>df</i>	<i>SS</i>	<i>MS</i>	<i>F</i>
SET	1	684.45	684.45	0.86
Error	18	14290.50	793.92	
Total	19	14974.95		

Table 2. One-Way Analysis of Variance Summary Table for the Effects of SWPBS on Teacher Efficacy

Source	<i>df</i>	<i>SS</i>	<i>MS</i>	<i>F</i>
SET	1	1155.20	1155.20	7.34*
Error	18	2831.60	157.31	
Total	19	3986.80		

* $p < .05$.

Discussion

This study examined the teacher stress and efficacy outcomes of implementing School-Wide Positive Behavior Support, a three-tiered school-based preventive intervention program focused on reducing problem behavior, increasing social competence, and providing staff with additional strategies and supports. Four schools were examined in the study, two that implemented the program with high fidelity, and two that implemented with low fidelity. Significant effects were found on teacher efficacy, with teachers of the high implementation schools scoring significantly higher on teaching stress than teachers within the low implementation (control) group. With regards to teacher stress, we found no significant effects, but a pattern in the anticipated direction (see Figure 1). Our findings on teacher efficacy are consistent with previous studies that have demonstrated a link between teacher efficacy and improved student outcomes (Armor et al., 1976). The lack of statistical significance for the relationship between SWPBS and teacher stress ran counter to expectations, but was understandable considering the lack of power due to sample size and indirectness of the measures implemented.

From a practical perspective, the efficacy and anxiety of teachers should be a major priority when considering interventions at every level of support, for increased fidelity of implementation, intervention effectiveness, and social validity. These variables lay the groundwork for effective teacher and student outcomes, positive adult-child interactions, lower teacher turnover, and long-term improvement of life. Interventions should contain strategies specifically designed to accomplish these goals to increase the likelihood of sustained behavior change over time. Research suggests that teachers low in efficacy and high in teacher stress are likely to

have a greater number of negative relationships with students and staff (Yoon, 2002). This may increase their chances of implementing more punitive discipline strategies and less effective instructional practices, in turn increasing their risk for subsequent raised stress and lowered efficacy.

Like all studies, the present study had distinct limits. First of all, the evaluation involved the analysis of surveys from only five randomly selected teachers within each of four schools, each school implementing the program at different levels. Therefore, only 20 teachers were surveyed in the study, producing results with considerably low power. Additionally, the use of indirect measures in the Index of Teaching Stress and the Teacher Efficacy Scale allows for doubt in the actual behavioral change brought on by the implemented intervention. Studies considering these issues in the future should involve more participants and additional ways of measuring teacher stress and efficacy, especially ones that involve direct measures like direct observation and medical analysis of stress levels.

Another limit to this study was history as a potential threat to internal validity. It is possible, although unlikely, that the two schools implementing SWPBS with high fidelity happened to be implementing other curriculum or administrative changes as well, which may have caused the improved stress and efficacy. Finally, several potential confounds were controlled for by matching the four selected schools on class size, socioeconomic status, and number of teachers on staff, but other potential confounds may remain.

Conclusions

The current results are suggestive that School-Wide Positive Behavior Support does indeed improve teacher efficacy. The significant effects for teacher efficacy along with

the positive pattern for teacher stress underscore the idea that School-Wide positive behavior support may have positive effects not only on student outcomes, but on teacher outcomes as well, a consideration that deserves more attention than it currently receives in the literature. The next steps we take should include a larger number of subjects, a greater diversity in methods, and the inclusion of more adult outcomes important to the school and community. A randomized controlled trial in which multiple schools are randomized to receive or not receive the SWPBS intervention would provide a more rigorous evaluation of the effects on adult levels of stress and efficacy. Such a study could evaluate the effects of the School-Wide program throughout its implementation, providing a better understanding of the longitudinal impacts and allowing those implementing the program to ensure fidelity.

The perceptions of teachers should be seriously considered whenever an intervention is proposed. This study provides evidence that a School-Wide approach to prevention may increase teachers' beliefs in their ability to teach, lower the demands placed on them, and increase their resources for dealing with those demands. Although improved student outcomes are always the end goal, better adult outcomes are essential to getting us there.

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