

PRIMARY AND SECONDARY PREVENTION OF BEHAVIOR DIFFICULTIES: DEVELOPING A DATA-INFORMED PROBLEM-SOLVING MODEL TO GUIDE DECISION MAKING AT A SCHOOL-WIDE LEVEL

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This article focuses on the development and implementation of primary and secondary behavior supports at a schoolwide level. The approach described is consistent with previous efforts to address behavior at a systems level (e.g., G. Sugai, R.H. Horner, & F.M. Gresham, 2002). In this article, we illustrate this process through a school-based example. This example is drawn from a larger project in which area regional school-district consultants and university researchers partnered with four elementary schools in an effort to enhance each school's capacity to implement evidence-based practice and decisions at primary (i.e., universal or school-wide), secondary (i.e., targeted efforts for selected groups of students and/or settings), and tertiary (i.e., individual-student) levels to promote behavioral competence. The project incorporated promising strategies and tools designed to promote and sustain the use of evidence-based practices and data-driven problem solving. Continuous progress monitoring of systemic variables and student behavioral outcomes (e.g., office-referral data) helped to guide systemic reform efforts. Reductions were noted in the number of student discipline problems, and improvements were noted in critical features of school-wide effective behavior support at a systems level. Results are discussed with an emphasis on implications for practice, lessons learned from this project, and directions for additional research. © 2007 Wiley Periodicals, Inc.

Horner, Sugai, and colleagues provide a promising prevention and intervention prototype addressing violence prevention through school-wide positive behavioral support (SWPBS; e.g., Horner, Sugai, Todd, & Lewis-Palmer, 2005). SWPBS is a process through which schools improve services for *all* students by creating systems wherein intervention and management decisions are informed by local data and guided by intervention research. These approaches differ from previous school reform efforts because they consider organizational management and contextual fit to sustain and refine practices over time. SWPBS shifts emphasis from reactive and punitive methods to more proactive, preventative, and educationally focused methods. SWPBS employs a public health prevention framework that provides a continuum of supports and prevention for: (a) students currently not experiencing learning and/or social/behavior difficulties (*Primary Prevention; Universal Prevention Activities*); (b) students/settings determined to be at risk for social/behavior

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difficulties (*Secondary Prevention; Selected Prevention Activities*); and, (c) students who currently are experiencing significant learning and/or social/behavior difficulties (*Tertiary Prevention; Indicated Intervention Activities*).

Primary prevention efforts, or *universal* supports, are provided to all students through school-wide reform that involves research-based effective teaching and behavior management practices, ongoing monitoring of these practices and student outcomes, professional development, and systems level decision making. The goal of primary prevention is to create environments that promote student learning and engagement and decrease students' risk for learning and/or social/behavior problems. Given its potency as a preventive intervention for behavioral difficulties, SWPBS emphasizes effective instruction (cf., Sugai et al., 2002). Within SWPBS, the universal level includes identifying common behavioral expectations school-wide and the social skills necessary to meet these expectations in various school contexts (e.g., classroom, playground, etc.), teaching these skills to all students, encouraging and supporting socially appropriate behaviors and discouraging inappropriate behavior, and formatively evaluating whether these strategies are being effective. Guiding questions for designing universal supports include consideration of *who* are the stakeholder groups to be involved in prevention efforts (i.e., the student population, school personnel, and relevant community members), *what* will be the structure and content of these services (i.e., evidence-based interventions (EBIs) for prevention of mental health and social emotional problems), and *how* and *when* instruction and interventions will be implemented.

Within SWPBS, *secondary/selected* and *tertiary/indicated* prevention examines behavior in context to guide localized problem solving, matching resources with problem intensity (e.g., Gresham, 2004). For example, personnel may examine school-wide disciplinary patterns to determine whether particular settings or students experience greater behavioral difficulties than the student population as a whole (Crone & Horner, 2003). This information then guides further intervention efforts. Disproportionate referrals from a particular classroom suggest intervention at the classroom level (e.g., Witt, VanDerHeyden, & Gilbertson, 2004) whereas an individual student accounting for a large percentage of disciplinary actions indicates functional behavior assessment and individualized behavior-support planning (e.g., Crone & Horner, 2003).

Problem solving occurs at all three levels, but the unit of analysis and the target for intervention varies (i.e., school, setting/group, individual). Assessment, prevention, and intervention increase in intensity with increased risk or student needs. When students experience significant mental health or social-emotional problems, coordination across service delivery systems and monitoring responsiveness to intervention are needed (Gresham, 2004). This article describes development and implementation of SWPBS, emphasizing primary and secondary prevention efforts. We illustrate the process in one elementary school in the North Central United States and provide specific links to resources that provide greater detail for activities.

METHOD

Participants and Setting

Four elementary schools from four different school districts in two counties with varied demographic characteristics in Michigan participated in a larger project (see Ervin, Schaughency, Goodman, McGlinchey, & Matthews, 2006). The target school in this article, School A, was a Grade K–5 elementary school, with an average student enrollment of 339.6 students (range = 316–357) over the project. School A's district serves students from a mix of suburban and rural communities. During 2004–2005, 26% of the students were economically disadvantaged according to state criteria (i.e., 20.2% received free lunch; 5.8% received reduced-price lunch). Gender ratios were roughly equal (47% female, 53% were male), and 9.3% of students were identified with disabilities. The majority

were White (i.e., 88.5%), with the remainder Hispanic (5.8%), Black (2.5%), Asian/Pacific Islander (1.5%), American Indian/Alaskan Native (1%), or multiracial (1.3%).

Measures

School-Wide Evaluation Tool (SET). SWPBS practices were measured annually by project staff using the SET (Horner et al., 2004; available: <http://www.pbis.org/tools.htm>). SWPBS dimensions assessed by the SET include Expectations Defined, Expectations Taught, Rewards for Following Expectations, Responding to Rule Violations, Monitoring and Decision Making, Administrator Support, District Support, and an overall total score. Data are collected via direct observation; interviews with administrators, teachers, staff members, and students; and review of permanent products (e.g., written school policies, training curricula, meeting notes). Available technical adequacy evidence for the SET includes internal consistency (total score Cronbach's $\alpha = .96$), test/retest reliability (97.3%), interobserver agreement (99% for observation portions), and convergence with a measure of staff perceptions of school-wide PBS elements "in place" (Pearson $r = .75$, $p < .01$) (see Horner et al., 2004). The SET has been used as a measure of implementation integrity (Scott & Barrett, 2004) and outcome in program evaluation (Horner et al., 2004). Support for program evaluation use comes from analyses finding change in the SET scores following PBS implementation, with an average postimplementation overall score of approximately 84%. The scale's authors recommend two target goals: (a) a Teaching Expectations score of 80% based on observations that student behavior change is unlikely before school-wide expectations are taught and (b) a total score of 80% based on findings that effects are unlikely to be stable without the SET's practice constellation.

School-Wide Information System (SWIS; <http://www.swis.org>). Ongoing measures of discipline referrals (ODRs) were collected using the SWIS. Discipline referrals represent a series of events in which (a) students engaged in behavior (b) observed—or learned of—by a school staff member who (c) elected to record it (Irvin, Tobin, Sprague, Sugai, & Vincent, 2004). ODR frequency has strong predictive validity for student adjustment and is sensitive to change in program evaluation (Irvin et al., 2004). SWIS is a Web-based system developed to monitor student discipline contacts and assist schools in intervention planning and evaluation. To increase reliability and accuracy of ODR data, prerequisites for using SWIS include (a) a coherent ODR procedure with behavioral definitions resulting in ODRs and (b) designated personnel for SWIS training (Todd & Horner, 2003). Outcome data from SWIS presented here are:

- *Average ODRs per day per month.* Comparisons across months allow for formative evaluation and preventive problem solving for potentially difficult periods. For comparability of months with different numbers of school days, ODR frequency per day per month was calculated each year by dividing total ODRs per month by total school days per month.
- *Percentage of students across tiers of behavioral risk.* Normative ODR distributions converge with a three-tiered prevention model (Horner et al., 2005). Across schools, 87% ($SD = 10$) of students had 0 to 1 ODR, 9% ($SD = 6$) had 2 to 5 referrals, and 4% ($SD = 5$) had 6+ referrals. Based on these findings, and technical adequacy of ODR frequency-based behavioral-difficulty indices (Irvin et al., 2004), we created a severity index for each student. Long-range goals for percentage of students at each risk category were: (1) 85% of students would have 0 to 1 ODRs per year, (2) <10% would have 2 to 5, and (3) <5% would have ≥ 6 ODRs per year.

Cost-benefit perceptions of school personnel. Following the project, 11 stakeholders including 8 classroom teachers (one of whom also was a parent) and 1 representative special education

teacher, administrator, and special service provider completed an anonymous survey assessing satisfaction with and continuation of SWPBS. Four respondents also were members of the SWPBS team. Aspects of the project (e.g., time and effort spent in developing and implementing SWPBS, attitudes about effectiveness of SWPBS activities) were commented on and rated on a 6-point Likert scale from “strongly agree” to “strongly disagree.”

PROCEDURES

General elements in SWPBS include an agreed-upon set of behavioral expectations taught and supported across the school, ongoing data-collection system for formative evaluation and problem solving where further supports are needed, and systems and capacity to select and implement EBIs across levels of support need (see Horner et al., 2005). Replication of SWPBS as a promising school-reform prototype generally followed phases suggested by Adelman and Taylor (1997), which will be used to describe the project’s course. This process was overlapping and recursive rather than linear, with efforts in one area (e.g., universal supports) at a different developmental phase than another (e.g., selected/indicated problem solving and supports) (Elias, Zins, Graczyk, & Weissberg, 2003).

A project team, comprised of two school practitioners from regional areas containing participating schools and three university faculty, facilitated implementation within schools and coordinated activities across schools participating in the larger project. Rather than duplicate activities or create additional administrative tasks for already-busy staff, the school improvement team at School A was the site-based steering team guiding program development, supporting implementation and developing capacity for localized problem solving (Sugai et al., 2002; Taylor, Nelson, & Adelman, 1999). This team was augmented by relevant stakeholders (e.g., playground supervisors) and project support from a university partner and an educator hired to serve as a credible coach/facilitator. The school improvement team included the principal, counselor, special educator, reading specialist, and four to five general education teachers. The district school psychologist serving School A and relevant project staff also attended meetings occasionally. The school team developed implementation strategies, communicated to school staff via meetings, inservice days, e-mail, and Web site, and personal follow-up by project personnel. Initially, the school-improvement team met briefly before school. Early in the project, the team shifted to a longer meeting ($\frac{1}{2}$ day per month), with follow-up tasks, to allow more concentrated focus on project activities. Project-funded substitute teachers provided release time.

1999–2000: Creating Readiness

Prior to implementation, steps were taken to “create readiness” for undertaking innovation (Taylor et al., 1999). Recruitment and selection for the overall project are described in Ervin et al. (2006). The special education director for School A’s district identified and initially approached potential schools. To obtain voluntary and informed participation from stakeholders, recruitment activities included introductory presentations to the entire school staff (e.g., teachers, administrators, special service personnel, paraprofessionals, cafeteria staff, etc.). Presentations lasted 1 to 2 hr, followed by discussion, and outlined the project’s desired goals and outcomes, anticipated costs, potential incentives, activities, and nonnegotiable and adaptable project aspects (Taylor et al., 1999). Based on recommended guidelines (Horner et al., 2005; Slavin, 2004), selection criteria were (a) minimum of 80% of staff vote to carry out the project; (b) full support of the principal, including commitment to attend monthly meetings with principals of other participating schools; (c) agreement to designate a team to deal with action planning, data interpretation, and reporting to school staff; (d) reading and behavior improvement in top three school-improvement

goals; and (e) agreement to ongoing data collection related to student reading and behavior performance.

2000–2001: Creating Readiness and Establishing Data Systems

School-improvement teams from participating schools attended a full-day orientation session in Fall 2000. Teams were introduced to basic principles underlying SWPBS, considered whether SWPBS elements were in place at their schools, and began identifying school-specific behavioral expectations using a behavioral matrix to identify contextually relevant social skills (for sample start-up materials, see <http://www.pbis.org>). In Winter, schools fulfilled prerequisites for using the SWIS data system. The regional district consultant serving School A attended SWIS training and trained designated individuals (i.e., principal, school counselor, and school secretary) in using the system (e.g., data entry and report generation). Project staff trained the school-improvement and student-support teams and staff on decision making using SWIS data for localized needs assessment, school-wide problem solving, and formative evaluation (Adelman & Taylor, 1997). Project staff also provided training in functional behavioral assessment (FBA) based intervention planning (Crone & Horner, 2003; Sugai et al., 2002), attended by School A's special educator and counselor.

2001–2002: Initial Implementation of Universal Supports

Staff worked toward defining, communicating, teaching, and supporting contextually relevant social-skill expectations (i.e., school rules). Efforts were made to convey this information to all relevant stakeholders (e.g., staff, students, teachers), but information was presented separately to different constituencies to personalize content and experiences (Adelman & Taylor, 1997). Thus, information was presented to teaching staff and students at assembly, to the Parent Teacher Organization, and to playground supervisory staff. The matrix developed contained a number of elements recommended for SWPBS, including statement of a purpose, a limited number of positively stated behavioral expectations (e.g., "Be responsible, Be respectful, Be safe."), and contextually relevant social-skill expectations (in the classroom, hallway, playground, etc.) (Sugai et al., 2002). Using "Cool Tools" lesson plans (adapted from <http://www.pbis.org>), specific social skills from the matrix were taught to students by classroom teachers. To demonstrate consideration of additional support needs, the regional district consultant and university partner introduced prereferral problem solving (Sprick, 1999) to assist the teacher of a student experiencing behavioral challenges. In addition, the school team developed the action plan for the following year.

2002–2003: Implementation of Universal Supports and Creating Readiness for Selected/Indicated Problem Solving and Supports

Staff more fully implemented universal preventative interventions this year. For example, social skills were taught using previously developed lesson plans, and to support behavioral expectations, good behavior tickets were delivered and used as tokens toward school-wide goals and prizes. To promote monitoring of school-wide behavioral functioning and problem solving, the project coach presented current SWIS data at team meetings. School personnel worked toward developing strategies for discouraging inappropriate behavior and rule violations (Sugai et al., 2002) and began considering action steps for serving students with more intensive behavioral-supports needs. Based on reviews of SWIS data for preceding years, staff noted the majority of discipline referrals were happening on the playground, particularly during the long lunch recess, suggesting that targeted setting-based intervention was indicated (see Crone & Horner, 2003). Consistent with recommendations (Leff, Costigan, & Power, 2004), two intervention components were identified: (a) active monitoring by playground supervisory staff and (b) playground activities.

Training was provided to playground supervisors by the principal using materials by Sprick (1990), and personnel worked toward restructuring playground activities. To facilitate problem solving at the student level, the regional district consultant and university partner met with the principal, special educator, and school psychologist to develop a process for prereferral intervention, based on Sprick (1999). Following this, a school psychology intern provided professional development in this process to teaching staff during grade-level meetings. Following this didactic presentation, some grade-level teams selected individual students who were experiencing behavioral difficulties, and the intern modeled problem solving for developing prereferral interventions for these students.

2003–2004: Evolution of Universal Supports and Initial Implementation of Selected/Indicated Problem Solving and Supports

Based on formative evaluation of SWIS data by behavioral topography, School A revised their plan for social-skill instruction to include counselor-led classroom-based instruction for identified problematic behaviors (e.g., disrespect). In addition, School A more fully implemented secondary-level supports. At the setting level, playground activities were restructured, adapted from Hinson (2001). Based on formative evaluation of SWIS data per month, special attention was devoted to February, a month in which snow contributed to decreased structured activities and increased rough-and-tumble play related to snow (e.g., snowball fights). To precorrect for this, staff conducted booster sessions on behavioral expectations, with special attention to snow play, and purchased materials for snow play (e.g., sleds) through the Parent Teacher Organization. To promote implementation of student-level problem solving, technical assistance was provided, including written materials or scripts (Telzrow & Beebe, 2002), and the process began to be implemented by the student support team prior to consideration of eligibility for special education. When prereferral problem solving was insufficient, more intensive FBA was conducted by the special educator.

2004–2005. Institutionalization and Continued Evolution

By this year, data-based problem solving was institutionalized, within both school-improvement and student-support teams. Grant funds were used to provide substitute teachers for autonomously led meetings. During these meetings, staff collaboratively shared resources, including providing positive examples of classroom behavior-support systems subsequently adopted by other teachers.

RESULTS

SET

Table 1 displays scores for targets of Expectations Taught and SET total across years. In March 2001, the school received an overall score of 23%, with subscale scores ranging from 0% (*Expectations Taught, Rewards for Following Expectations*) to 63% (*Administrator Support*). No SET subscale reached the 80% goal, suggesting the need for systems-level work in all areas. When administered in December 2001–2002, the overall score improved to 67%, with subscales ranging from 33% (*Responding to Rule Violations*) to 83% (*Rewards for Following Expectations, District Support*). During subsequent administrations, improved subscale scores were noted, with the overall score reaching 96% during 2004–2005. Until 2004–2005, *Responding to Rule Violations* consistently fell below 80%.

Table 1
SWPBS Components in Place on the School-Wide Evaluation Tool Across Year

	2001–2002		2002–2003	2003–2004		2004–2005
	March	December	November	November	May	November
Expectations Defined	25%	75%	75%	100%	75%	100%
Expectations Taught ^a	0%	50%	100%	90%	90%	90%
Rewards for Following Directions	0%	83%	50%	33%	100%	100%
Responding to Rule Violations	17%	33%	75%	50%	38%	83%
Monitoring and Decision Making	38%	88%	100%	100%	100%	100%
Administrator Support	63%	56%	88%	75%	100%	100%
District Support	17%	83%	100%	100%	100%	100%
Total Components in Place ^a	23%	67%	84%	78%	86%	90%

Note. School-Wide Evaluation Tool (Horner et al., 2004). Data on Expectations Taught and Total Components in Place are from Ervin et al. (2006). Merging research and practice agendas to address reading and behavior school-wide. *School Psychology Review*, 35, 198–223. Copyright 2006 by the National Association of School Psychologists. Bethesda, MD. Reprinted/adapted by permission of the publisher. www.nasponline.org

^aTarget goal for program evaluation is 80%. Scores $\geq 80\%$ on these scales are in bold.

SWIS

During 2001–2002, 539 major ODRs were documented. Total ODRs across subsequent years were 547 (2002–2003), 473 (2003–2004), and 257 (2004–2005). From initial to most recent years, there was an overall reduction of 282 ODRs per year. Controlling for student enrollment, ODRs occurred at a rate of 1.15 ODRs per day per 100 students. Horner and Sugai (2005) reported the average ODR rate to be .39 ODRs per day per 100 students ($SD = .43$) from a sample of over 600 elementary schools. School A's initial ODR rate was greater than 1.5 SD s higher than this average rate. Coincident with improvements in universal primary- and setting-level secondary-prevention efforts, ODRs per day per 100 students at School A dropped to 1.0 in 2002–2003 and .79 in 2003–2004. During 2004–2005, this number fell to .44, within 1 SD of the average reported rates.

Figure 1 presents average number of ODRs per day per month across project years. Average ODRs per day per month across project years were considered formatively. A higher number of ODRs occurred during February 2001–2002 and 2002–2003 relative to other months. With implementation of additional instructional and environmental strategies, there was a 50% reduction in average ODRs per day per month in February during 2003–2004 and 2004–2005.

Figure 2 presents the percentage of students at each tier of risk over project years. The percentage of students in the no-behavior-problem tier (i.e., received 0–1 ODRs) was 76.2% during the initial implementation year (2001–2002). The percentage of students with 0 or 1 ODR per year reached goal levels of 85% during 2004–2005, wherein 87.7% of students at School A had ≤ 1 ODR, suggesting that the majority of students was responsive to primary prevention efforts. The percentage of students in the at-risk tier (i.e., 2–5 ODRs per year) was 15.8% during 2001–2002. This percentage dropped across project years and met goal levels of $< 10\%$ in 2004–2005, with 8.2% of students exhibiting ODR levels indicative of risk for behavior problems. The percentage of students with intensive behavior problems (i.e., ≥ 6 ODRs per year) was reduced by almost 50% over the project (i.e., from 8% in 2001–2002 to 4.1% in 2004–2005). The year in which School A met its goal of $< 5\%$ of students meeting criteria as having identified problems according to ODRs coincided with adoption of a structured prereferral process and individual FBAs for students experiencing behavior problems (i.e., tertiary prevention).

Reductions in ODR frequency and percentage of students contributing to ODRs were associated with decreases in time students spent outside the classroom. During 2001–2002, students

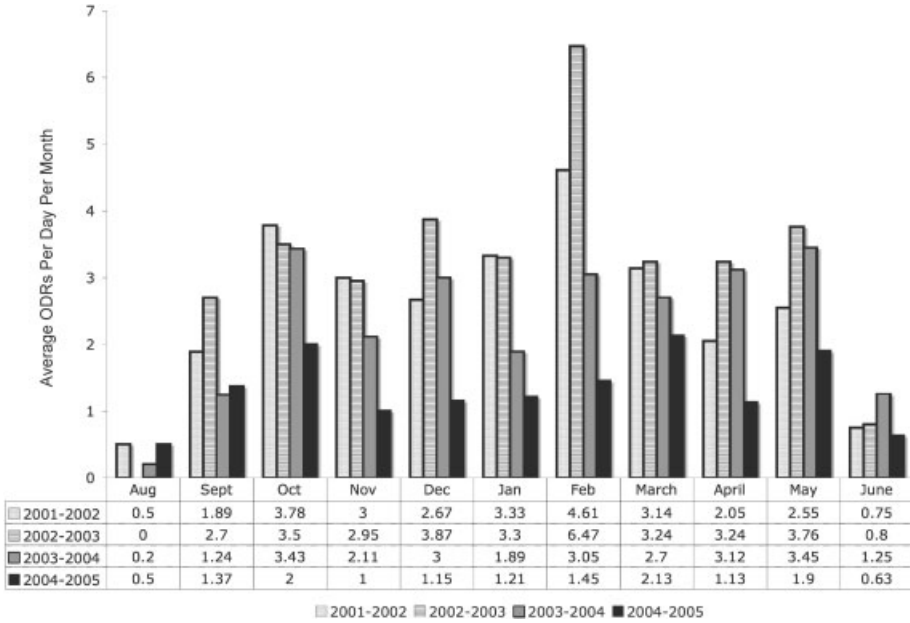


FIGURE 1. Average number of ODRs per day per month across project years.

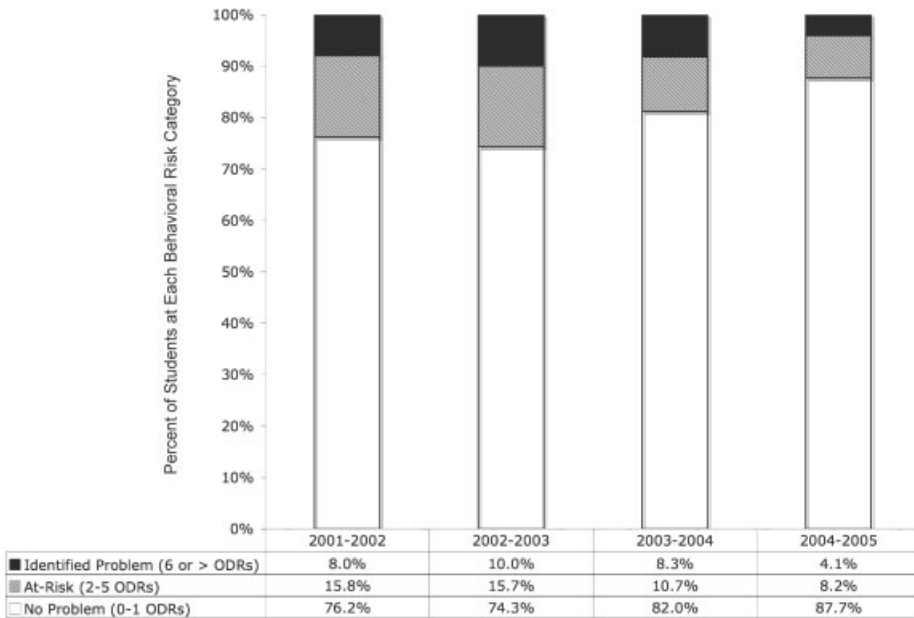


FIGURE 2. Percentage of students at each tier of behavioral risk across project years. From Ervin et al. (2006). Merging research and practice agendas to address reading and behavior school-wide. *School Psychology Review*, 35, 198–223. Copyright 2006 by the National Association of School Psychologists. Bethesda, MD. Reprinted/adapted by permission of the publisher. www.nasponline.org

spent approximately 41.2 seven-hr days away from class due to disciplinary consequences (estimated rate of 20 min per office referral, based on Scott & Barrett, 2004, plus time in suspension). This number dropped to 37.8 days in 2002–2003, 30 days in 2003–2004, and 21.2 days in 2004–2005. By 2004–2005, students spent 50% less time (i.e., approximately 20 days) away from the classroom due to disciplinary consequences than they did in 2001–2002.

Cost–Benefit Perceptions of School Personnel

Ratings of project effectiveness, worth, cost, and perceived fit are summarized in Table 2. Proportion of respondents who perceived the initiative to involve additional time and effort decreased over the project, from 6 of 11 respondents (55%) indicating that the project involved additional time during planning and development to 1 respondent (9%) once the project was up and running. Ratings of perceived worth, fit, and expected effectiveness remained high throughout the project.

In addition, across all 11 respondents, ratings of maintenance of SWPBS activities at follow-up averaged 3.36 ($SD = .5$), on a Likert scale from 4 (*Entirely*) to 0 (*Not at all*). All respondents perceived SWPBS to continue and rated it to be “largely” to “entirely” incorporated into the regular school routine at follow-up. Ratings of predicted sustainability averaged 3.18 ($SD = .6$), with 10 of 11 respondents (91%) predicting that SWPBS would continue to be “largely” to “entirely” incorporated into the regular school routine (one respondent was undecided).

DISCUSSION

Following implementation of recommended strategies for building capacity to address behavior at a school-wide level, results suggest improvements occurred in systems-level factors (i.e., the SET results) and in behavioral outcomes for students (i.e., the SWIS data). Information gathered via yearly administrations of the SET indicated that prior to implementation of SWPBS, school rules or expectations for student behavior were not clearly defined and were not taught or encouraged in a systematic manner. A consistent continuum of procedures for responding to rule violations was not in place at the start of the project nor was there a systematic method for monitoring student outcomes. Data gathered from SWIS indicated that during the initial project years, ODRs occurred at a rate significantly higher than average rates reported, and the percentage of students

Table 2
Staff Ratings by Project Phase

Dimension	Project phase		
	Planning and development <i>M (SD)</i>	Initial implementation	Up and running
Time and effort	–0.10 (1.2) (<i>n</i> = 10)	0.36 (.92) (<i>n</i> = 11)	–0.73 (.65) (<i>n</i> = 11)
Worth	1.64 (.50) (<i>n</i> = 11)	1.55 (.52) (<i>n</i> = 11)	1.27 (.90) (<i>n</i> = 11)
Fit with mission	1.56 (.53) (<i>n</i> = 9)	1.82 (.40) (<i>n</i> = 11)	1.91 (.30) (<i>n</i> = 11)
Expected effectiveness	1.55 (.69) (<i>n</i> = 11)	Not rated	1.70 (.48) (<i>n</i> = 10)

Note. Items were rated on a 5-point Likert scale: Ratings of “*Undecided*” were assigned scores of 0; positive ratings were assigned +1 point (*Agree*) to +2 points (*Strongly Agree*); negative ratings were assigned –1 point (*Disagree*) to –2 points (*Strongly Disagree*).

at risk for and/or experiencing behavior problems, as indicated by ODRs, was higher than desired (Horner & Sugai, 2005; Horner et al., 2005). The SET results suggest that SWPBS was being implemented with increasing integrity over time, suggesting system-level changes occurred. Moreover, survey data suggest that SWPBS project activities were perceived favorably, maintained at initial follow-up, and are anticipated to continue. These findings have relevance for practitioners considering adoption of SWPBS in their schools or districts. Guidelines and strategies for developing SWPBS practices are described by Sugai et al. (2002). Next, we will discuss implications of project evolution and expectations for maintaining SWPBS activities.

Implications for Planning and Developing SWPBS Activities

Scholars recommend “buy-in” as a prerequisite for school reform (Horner et al., 2005; Slavin, 2004) and a 3-year commitment before undertaking an SWPBS initiative (Sugai et al., 2002). Based on recommendations, participation in this project was limited to those schools in which $\geq 80\%$ of school staff plus the administrator agreed to inclusion criteria. When school personnel were asked whether, during planning and development phases, they *expected* SWPBS to be effective in improving the behavioral climate of the school, all but 1 respondent indicated they “strongly agreed” or “agreed” to this statement [One indicated (s)he was “undecided.”], and all respondents indicated that they perceived SWPBS to “fit” with the primary mission of their school at this stage. Both perceived effectiveness and fit have been found to be associated with implementation fidelity (Adelman & Taylor, 2003b; Gresham, 2004). Additional strategies may be needed to establish buy-in for moving EBPs into practice settings when such readiness is not in place (Carnine, 1999). Therefore, schools considering adoption of SWPBS activities should assess their “readiness for change” and stakeholder “buy-in” prior to embarking on the activities described in this project (e.g., Adelman & Taylor, 2003a; Carnine, 1999).

Implications for Implementing and Adapting SWPBS Activities

Social validity alone is insufficient to ensure implementation (Noell et al., 2005). Although plans were developed for universal supports in the first year, they were more fully and consistently implemented in subsequent project years. Both time and support seemed to contribute to successful implementation and institutionalization of EBIs in later project years, consistent with writings on system change (e.g., Adelman & Taylor, 1997; Elias et al., 2003). Exposure to EBIs through didactic presentations may be necessary to address knowledge gaps (Atkins, Graczyk, Frazier, & Abdul-Adil, 2003), with support via modeling and materials (e.g., scripts) needed to facilitate their adoption (Gresham, 2004; Telzrow & Beebe, 2002).

Additional foci for future efforts include generalization and maintenance. Whether efficacious interventions should be adopted with fidelity or adapted to meet local contexts is under debate (Elias et al., 2003). We used the SWPBS approach as a framework for developing school-specific action plans for localized service delivery. Thus, the action plan for School A (A sample is available from the first author.) was unique to this school. Adapting interventions that are focused on principles (e.g., define expectations for behavior) rather than specific practices (e.g., schools should adopt these specific rules) and systematically evaluating their utility on an ongoing basis provide a means for adapting practices and systems (Grimes & Tilly, 1996).

Implications for Sustaining SWPBS Activities

Several indicators suggest potential sustainability of SWPBS for School A. The time required for implementation is related to implementation integrity (Gresham, 2004). Although the majority of survey respondents indicated that SWPBS took considerable time and effort during planning and development, perceived time demand may vary by role, with those on the team experiencing

more time demand than teachers not on the team. Over the project, ratings of perceived time and effort decreased, and all respondents indicated that they agreed or strongly agreed with statements that SWPBS was well worth the effort, was part of their current classroom/school routine, and 91% indicated that SWPBS will be integrated into their classroom/school routine in the future (One respondent was undecided.) During the project, with grant financial and technical support, the school team adapted infrastructure to focus on SWPBS activities. Over time, technical assistance was faded, with school staff autonomously leading team meetings in the final year. These observations, coupled with the SET and ODR results described earlier, suggest increased school capacity and independence in meeting students' behavioral needs and likelihood of sustained change (Horner et al., 2005). Moreover, following cessation of project funds in 2005–2006, the school continued to allot this time for communication and focused problem solving using regularly occurring funding mechanisms (Slavin, 2004; Sugai et al., 2002). Finally, external alignment or alignment of systems-change activities with larger systems (e.g., district policies) that govern or impact the target school system (Baker, Gersten, Dimino, & Griffiths, 2004) and active professional support networks (Slavin, 2004) also are posited to promote sustainability. Both factors appear to be associated with differential institutionalization and capacity building in project schools, with schools experiencing more positive change more engaged in these processes (Ervin et al., 2006). School A made explicit efforts to promote external alignment (e.g., presenting to district administration), and school personnel continue to actively share their experiences with others in their district, region, and state. Thus, external alignment and active participation in supportive networks seemed associated with successful implementation and potential sustainability of SWPBS. Whether these are truly predictors of sustainability or active ingredients for sustained change remains to be directly evaluated.

Conclusions and Recommended Next Steps

This project suggests that researcher–practitioner partnerships hold promise as a vehicle for promoting EBIs (Schaughency & Matthews, 2002). These partnerships afford training opportunities in implementation and systems change. Elias and colleagues (2003) noted that many school practitioners feel ill-equipped to engage in this work. Although not explicitly designed as a personnel-preparation project, the project included many trainees ranging from undergraduate psychology majors now enrolled in school psychology programs offering training in EBIs and SWPBS, to school psychology interns, some of whom otherwise would not have gained this training and experience at the preservice level, to principal interns, inservice educational professionals being groomed by districts for leadership roles. These findings support future replications and evaluations of SWPBS in practice settings.

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