

Received 5/4/00

183123

PROPERTY OF  
National Criminal Justice Reference Service (NCJRS)  
Box 6000  
Rockville, MD 20849-6000

**Translating Research into Effective Practice:**

**The Effects of a Universal Staff and Student Intervention on Key Indicators of  
School Safety and Discipline**

Jeffrey Sprague, Ph.D.

Hill Walker, Ph.D.

Annemieke Golly, Ph.D.

Kathy White, M.S.

Dale Myers, M.S.

Tad Shannon, M.S.

The University of Oregon Institute on Violence and Destructive Behavior

Development and implementation of this study was supported by grant # 97-JN-FX-0022, from the U.S. Department of Justice, Office of Juvenile Justice and Delinquency Prevention. The opinions expressed are those of the authors and do not necessarily reflect the policies of the funding agency.

Running Head: Research to Practice

## Abstract

This study was designed to describe the effects of a universal intervention package aimed at improving the safety and social behavior of students in elementary and middle schools. Its major goals were to assist schools to provide more effective educational services, behavioral supports and social-behavioral skills teaching to all youth in the school. Nine treatment and six comparison (no-intervention) elementary and middle schools in three communities participated. A quasi-experimental and qualitative research designs were used to compare the one-year effects of the intervention. The treatment schools implemented a school-wide discipline plan based on the Effective Behavioral Support (Sugai and Horner, 1994) model in addition to the Second Step violence prevention curriculum (Grossman et al., 1997) for one year. Comparison schools were not restricted in their use of any interventions but did not receive systematic technical assistance and training nor databased feedback on their performance. Regarding changed in office discipline referrals, treatment schools generally showed greater reductions. Perceptions of school safety were not different across the schools after one year. In a focus group interview across some treatment and comparison schools, treatment school personnel generally reported improved operation of their schools and motivation to continue with the intervention. Comparison schools cited the need for school-wide intervention and technical assistance as a top need. Results are discussed relative to the need for examination of sustained use of the intervention over multiple years.

Educating the diverse populations of students enrolled in today's schools is an ever-increasing challenge. More students are culturally diverse, have English as a second language, less prepared to enter school, and have a greater range of learning and behavioral challenges (Knitzer, 1993; Knitzer, Steinberg, & Fleish et al., 1990). Our schools are challenged to educate this changing population with shrinking resources, competing priorities for improvement (e.g., academics, discipline, school safety), and changes in family structures and lifestyles that increase stress and impair parenting effectiveness (Hawkins, Catalano, Kosterman, Abbott, & Hill, 1999).

Overall rates of serious violent crime in the school appear to be decreasing or at least stable in the past decade (U.S. Department of Justice, 1999). However, these and the rates of less serious behaviors (e.g., theft, bullying, harassment, threats) remain the highest in the industrialized world (Osofsky, 1997). The dramatic increase in the sensationalized mass school shootings in recent years (U.S. Department of Justice, 1999) has heightened awareness of the myriad adjustment problems our children present in the face of family, neighborhood and school stressors. Children are more at risk now than ever before (Walker & Eaton-Walker, 2000) to be pushed onto a pathway leading to delinquency, violence, school failure and a host of other negative outcomes (Hawkins, et al., 1999; Sprague & Walker, 2000).

Our challenge is to understand how to prevent and decrease the prevalence and incidence of children and youth that display behaviors that foster antisocial lifestyles. By presenting behaviors that are dangerous to themselves, other students, teachers, families, and community members, these children and youth disrupt teaching and learning in schools, create inhospitable neighborhoods, upset family structures and functioning, and ultimately become involved in the criminal justice system. Fortunately, we have research evidence that helps us to understand the

nature of this challenge and to identify and characterize the features of an effective and efficient response.

Many school climate factors contribute to the development of antisocial behavior in children and youth. These include, (a) ineffective instruction that results in academic failure; (b) inconsistent and punitive management practices; (c) lack of opportunity to learn and practice prosocial interpersonal and self-management skills; (d) unclear rules and expectations regarding appropriate behavior; (e) failure to enforce rules; and (f) failure to individualize instruction to adapt to individual differences (Colvin, Kameenui, & Sugai, 1993; Mayer, 1995; Walker et al., 1996).

In combination, these school, family, and community risk factors pose a formidable challenge to those whose objective is to mount a comprehensive, effective, and efficient response to preventing and responding to antisocial behavior. Schools have been identified as an ideal place to organize an effort against the increasing problem of children and youth who display antisocial behavior (Mayer, 1995; Sugai & Horner, 1994; Walker et al., 1996).

School personnel have a long history of applying simple and general solutions to complex student behavior problems and expressing understandable disappointment when these attempts do not work as expected. Usually the approach used, or other factors (e.g., the child's home life, poor motivation for change, lack of parent support), is blamed for unsatisfactory outcomes. Commonly, the failure to achieve meaningful outcomes is due to a poor match between presenting problems and the intensity, fidelity, or focus interventions. Rarely do we come close to investing the resources, time and expertise necessary to solve the problem effectively. Often this practice is sustained by unrealistic expectations about what is actually required to produce enduring changes

in student behavior, or by a natural tendency to eliminate the immediate presenting problem quickly (i.e. remove the student) rather than to focus on the larger source of the problem.

In other cases, indirect intervention approaches (e.g., counseling, insight-based therapies, improving self-esteem) are used in isolation to solve intractable student behavior problems that require more powerful, direct forms of intervention (Mayer, 1995). Such indirect approaches are rarely adequate or sufficient because (a) these students tend to be unmotivated to engage in these therapies and (b) because "ownership" of the problem is often shared by the student and other social agents (e.g., peers, adults) (Dryfoos, 1990).

Unfortunately, when these indirect intervention approaches fail, punishments and exclusion from the school setting often become the interventions of choice to eliminate the problem. Exclusion, suspension, expulsion, verbal reprimands, detention and the like are common reactive responses. Although punishment consequences provide an immediate, short-term reprieve from the problem, positive long-term change in behavior is not achieved. In fact, research has shown that punishment-based interventions for students with serious antisocial and violent behavior usually result in an increase in the problem behavior (Mayer & Sulzer-Azaroff, 1990). Thus, we see an increase in truancy, vandalism, intimidation, harassment, and other forms of problem behavior. Ironically, these are among the same behaviors we are attempting to eliminate.

Solutions must start with a comprehensive look at the contexts in which violence and antisocial behavior occur (Biglan, 1995). The school, for example, represents a complex organization of people, environments, policies, routines, and procedures that must function as a coordinated whole. In any school, we would expect to find three relatively distinct populations of students. These include typically developing students; those at-risk for behavioral and academic

problems, and high-risk students who already manifest serious behavioral and academic difficulties (Sprague and Walker, 2000).

### Preferred and Best Practices

Given these circumstances and challenges, effective interventions (i.e., discipline) must be developed that, (a) apply a multiple systems approach to discipline aimed at all students in today's schools, (b) support educators in today's classrooms and schools, and (c) adopt and sustain effective and efficient practices (Gottfredson, 1997). Fortunately, the same body of literature that identifies ineffective strategies also acknowledges effective approaches to proactive school-wide discipline and management. These include (a) social skills instruction, (b) academic/curricular restructuring, (c) behaviorally based interventions, (d) early screening and identification of antisocial behavior patterns, and (e) proactive school-wide discipline systems (Biglan, 1995; Lipsey, 1991; Mayer, 1995; Sprague, Sugai, & Walker, 1998; Sugai & Horner, 1994; Tolan & Guerra, 1994; Walker, Colvin, & Ramsey, 1995; Walker, Sprague, Close & Schneider, in press). Two interventions that exemplify this approach include Effective Behavioral Support (EBS) and the Second Step violence prevention curriculum.

Effective Behavioral Support. A promising approach to this problem is the Effective Behavioral Support (EBS) Model as the primary framework for training, technical assistance, and evaluation of school climate. The EBS model has been researched and field-tested extensively by researchers at the University of Oregon (see Sprague, Sugai & Walker, 1998; Sugai & Horner, 1994; Taylor-Greene et al., 1995). EBS is a multiple system, whole school approach to addressing the problems posed by antisocial students and coping with challenging forms of student behavior.

EBS is a comprehensive, school-based intervention and has these key features:

1. Problem behaviors are defined clearly for students and staff members;

2. Appropriate, positive behaviors are defined for students and staff;
3. Students are taught these alternative behaviors directly and given assistance to acquire the necessary skills to enable the desired behavior change;
4. Effective incentives and motivational systems are developed and carried out to encourage students to behave differently;
5. Staff commits to staying with the intervention over the long term and to monitoring, supporting, coaching, debriefing, and providing booster shots as necessary to maintain the achieved gains;
6. Staff receives training and regular feedback about effective implementation of the interventions; and,
7. Systems for measuring and monitoring the intervention's effectiveness are established and carried out.

Teaching higher order social skills. Evidence of the efficacy of whole school approaches such as EBS is building (see Gottfredson, 1997 for a review). We also have evidence that behavioral skills training programs reduce the prevalence of antisocial behavior when applied universally in a school (Grossman et al., 1997). Combining the intervention components of the EBS model with systematic and frequent teaching of higher order social skills (i.e., anger management, problem solving, empathy) could produce powerful behavioral changes at the whole-school level, as opposed to singular, poorly integrated intervention approaches (e.g., providing anger management classes for at risk youth).

### Study Purpose

This study was designed to document the effects of a universal intervention package aimed at improving the safety and social behavior of students in elementary and middle schools. Its major goals were to assist schools to provide more effective educational services, behavioral supports and social-behavioral skills teaching to all youth in the school.

### **Methodology**

Subjects and Settings. We assisted nine treatment schools in two suburban and one urban community in the Pacific Northwest and compared their performance on selected measures to six

comparison schools in those same communities. Treatment and comparison schools were not randomly selected or but rather chosen by local school administrators based on willingness to collaborate. Schools were assigned to treatment or non-treatment conditions based on informal discussions with local personnel. Table 1 provides information regarding the characteristics of each school. Based on simple demographics, there were no substantial differences in characteristics between the schools. All schools had volunteered to participate as treatment schools.

--Insert Table 1 Here--

Measurement. We developed a profile of each school that included information about school demographics, the type and number of at-risk and high-risk students in the school, discipline referral patterns, school crime and safety, etc. The profile was used as a primary evaluation tool for the project and was also used to assist schools to plan for future interventions and evaluate current work

Several measures including staff and student demographics, intervention implementation and safety surveys, discipline referrals, student declarative knowledge (intervention schools only), and vandalism were collected. Table 2 lists the measures collected across treatment and comparison schools. Finally, we conducted a qualitative, focus group interview with four intervention and four comparison schools at the end of the study to assess differences between the perceptions of school team members.

--Insert Table 2 Here--

Research Design. The design used was a quasi-experimental treatment-comparison analysis between the nine treatment and six comparison schools. All nine treatment schools received the

intervention concurrently and the comparison schools were monitored on the same schedule. For purposes of comparison, elementary and middle school data were analyzed separately.

Procedures. The project included four major intervention components. First, we provided technical assistance and training to establish school-wide behavior rule teaching related to student-teacher compliance, peer-peer interaction, academic achievement, and academic study skills. Schools adopted rules around the general framework of "safety," "respect," and "responsibility" and directly taught lessons throughout the year to teach and maintain those patterns of behavior. In addition, schools posted the rules publicly in posters, school newsletters etc. Schools also used such strategies as school-wide assemblies and videotape presentations of the behavior lessons. This intervention has been described and tested extensively (see Taylor-Green et al., 1996 & Todd, Horner, Sugai, & Sprague, 1999 for additional explanation of this component.

Second, each school established a consistent system of enforcement, monitoring and positive reinforcement to enhance the effect of rule teaching and maintain patterns of desired student behavior. Reinforcement systems included school wide token economies in the form of "tickets" stating each school rule that were delivered by all adults in the building. These tokens were backed up with weekly drawings and rewards for the teachers as well. Each school implemented the procedures to fit their school improvement plan and specific discipline needs.

To enhance the effect of these strategies, we also gave data-based feedback to schools regarding their responses to the "Assessing Behavior Support in Schools" survey (Sugai, Lewis-Palmer, Todd & Horner, 1999) and discipline referral patterns as available (Sprague, Sugai, Horner & Walker, 1999.). Simple bar graphs of each school's performance were developed and

the entire school staff reviewed the data at monthly staff meetings (contact the primary author for examples of these displays). Staffs were encouraged to give comment on the data and participate in problem solving discussions and developing action plans during regular school meetings.

Finally, we installed the Second Step Violence Prevention Curriculum (Committee for Children, 1997) in each treatment school. The curriculum was taught by most teachers in the school to maximize the effect of the intervention (our goal was 100% participation). Research shows the Second Step curriculum to be one of the best available for use in schools (Grossman et al., 1997) as it has been shown to be effective and teacher-friendly.

### **Results**

Results will be presented regarding changes in disciplinary referrals at treatment and comparison schools, perceptions of school safety by adults in the schools, perceptions of the status of school discipline, changes in student social-skills knowledge related to the Second Step curriculum, school vandalism, and findings from the qualitative study.

Office discipline referrals. We asked schools to report the frequency of office discipline referrals for the year preceding intervention (1997-1998) and the intervention year (1998-1999). While office discipline referrals are not a true indicator of behavioral change, they have been shown to be a useful metric for guiding decision making regarding interventions and making inferences about intervention effects (Sprague et al., 1999; Sugai, Horner, & Sprague, in press). All treatment middle and elementary schools reported reductions in office discipline referrals in the intervention year when compared to the baseline year and showed greater improvement relative to comparison schools.

Discipline referrals in the baseline year ranged from 550-3167 for treatment middle schools and 260-2608 in the intervention year. Average percent change across the middle schools was -36% (range = -.18 to -.53) compared to .82 percent increase in the comparison schools (range = -.39 - 2.03). Comparison middle schools ranged from 601-1240 office referrals in the baseline year and 755 to 1222 in the intervention year.

Four of the six treatment elementary schools reported office discipline referrals for the baseline year. The remaining two had purged these data at the end of the baseline year (a common practice in schools we have found). Of the four schools with two years data, baseline frequencies ranged from 128-866 and 46-273 in the treatment year. Average percent change across the four treatment elementary schools was -51% (range = -.18 to -.685). Comparison elementary schools reported a range of 159-699 in the baseline year and 146-658 in the treatment year. Average percent change for these schools was -.075 (range = -.06--.09).

Figure 1 presents percent change statistics for treatment and comparison schools.

--Insert Figure 1 Here--

Perceptions of school safety. We administered the Oregon School Safety Survey (Sprague, Colvin and Irvin, 1995) to school site-based management councils at both treatment and comparison schools (n= a total of 100 administrators, teachers and parents). The survey asks respondents to rate the existence of 16 risk and 17 protective factors shown to increase or buffer against school violence and discipline problems. A scale of 1 (not at all) to 4 (extensive) was used. Treatment middle school site councils indicated an average of 2.53 for risk factors and 2.57 for protective factors (minimal to moderate risk and protect). Comparison middle school site

councils indicated an average of 2.3 for risk factors and 2.65 for protective factors (minimal to moderate risk and protect). No meaningful differences were detected in these ratings.

Assessing behavioral support in schools. In the treatment schools, the school discipline team was asked to rate the status of several features of Effective Behavioral Support (Sugai & Horner, 1994) using the "Assessing Behavioral Support in Schools" checklist (Sugai et al., 1999). This checklist asks raters to indicate whether an item is "in place," "in progress," or "not started" across the areas of school-wide, common area, classroom, and individual student systems. We used the tool to indicate the quality of implementation of intervention components from the perspective of staff participating in the intervention. Treatment middle schools reported 50% of school wide, 32% common area, 48% classroom, and 30% individual student items as "in place." Elementary treatment schools reported 57% of school wide, 33% common area, 63% classroom, and 42% individual student items as "in place." We did not use this assessment in the comparison schools. Figures 2 and 3 present a graphic summary of survey results. We obtained highest ratings in the school-wide and classroom systems, areas of focus for training and assistance in this study.

--Insert Figures 2 and 3 here--

Second Step knowledge change. Students in grades 3-8 in the treatment schools were given a 15-item test prior to receiving instruction in the curriculum and then at the end of the year. The test was created to assess student's ability to define key skills (e.g., empathy) and to respond to vignettes of school related problems. All grade levels in all schools improved on this measure after instruction. Average percent correct in baseline was 46% and average scores increased to 55% across all grades. Figure 4 provides a graphic summary of pre and post test scores by grade.

--Insert Figure 4 Here--

School vandalism. We obtained quarterly reports of school vandalism from treatment and comparison schools. Vandalism provides an additional measure of problem behavior in schools (see Mayer and Sulzer-Azaroff, 1995). Building administrators and custodians reported frequency and cost of vandalism events. Treatment middle schools averaged 8 vandalism events at a cost of 237 dollars. Comparison middle schools averaged 11.5 events for an average annual cost of 1550 dollars. This mean was brought up by one serious event at a comparison middle school.

Treatment elementary schools averaged 8.1 vandalism events with an average cost of 209 dollars. Comparison elementary schools (only two reporting) had an average of 2 events costing 72 dollars. The low base rate of reporting and missing control school data make this finding difficult to interpret.

Focus group interviews. As an additional measure of the effectiveness of the intervention, interviews were conducted with focus groups comprised of teachers, administrators and parents at four treatment (2 each elementary and middle) and four comparison (2 each elementary and middle) schools. The focus groups were interviewed to answer two basic questions:

1. What are the perceptions of school personnel regarding the process and content of school discipline, social skills teaching, reinforcement systems, and obstacles to improvement?
2. Do intervention schools report differences in consistency of intervention and satisfaction with the operation of their school, compared to the non-intervention schools?

School-wide discipline. Regarding school-wide discipline, the four comparison school groups reported less comprehensive approaches for school-wide discipline. Discipline procedures were reported as more reactive than preventive and generally applied most often to at-risk students. When asked about teaching school behavioral expectations, treatment schools described

consistent use of these procedures both school-wide and in classrooms. In contrast, only one of the comparison schools mentioned having a system of school-wide rules. In this school, the principal visited each classroom to teach the "5 don'ts." All comparison schools discussed the lack of defined school-wide rules as a challenge to effective operation. An elementary school staff member said that one of the biggest needs for improvement is "some consistency of expectations across the school."

Positive reinforcement. When asked to discuss the use of positive reinforcement and recognition in the schools, all treatment schools discussed effective operation of these systems. Each team also added that maintaining the reward system takes a lot of time and energy. In contrast only two of the four comparison schools reported use of a reinforcement and recognition system.

Social skills teaching. In addition to establishing and teaching school-wide behavioral expectations and positive reinforcement systems, the treatment schools implemented the Second Step violence prevention curriculum. Although most praised use of the curriculum and described examples of positive change in student behavior, others complained that the lessons were too time consuming. The comparison schools reported less systematic teaching of social skills and tended to not apply the curriculum universally. Social skills teaching typically was targeted to a handful of problematic students and delivered by specialized personnel such as the school counselor or special education teacher.

What it was like before and after intervention? The treatment schools reported significant improvement in their schools compared to the way things were prior to implementing school-wide interventions. One teacher said her elementary school was "off the charts" before implementing

EBS, Second Step and school-wide behavioral expectations. "Everyone looked so tired and exhausted," the teacher said. "It was like a general consensus: This isn't fun any more. Something has to change. This is not why we went into teaching." Now, the teacher said simply, "We can teach." Most of the comparison schools said they had began trying to take a more proactive stance toward school discipline in recent years after noting a rise in inappropriate and aggressive behavior among students. While improvement was noted, serious concerns were also expressed. One frustrated teacher put it bluntly when asked about teacher concerns regarding discipline and safety: "Columbine, I can't be bothered with fear about that. I'm trying to get through the day. It's the other kids, the kids who are constantly arguing, constantly challenging your authority, constantly disrupting who wear you down."

Areas for improvement. The lack of time was the biggest obstacle cited by treatment school staff regarding implementation of school-wide discipline and social skill strategies. Maintaining newly established systems takes a great deal of effort and resources. "It's a lot of work," said one middle school teacher. But, the teacher said, if there are fewer students getting into trouble, then it's worth the effort. Comparison schools generally reported the need for a consistent, school-wide approach to behavior management but noted a lack of technical support and training in this area.

### **Discussion**

This study provided a limited comparison of the effects of a one year intervention to improve school-wide discipline and safety in elementary and middle schools. The effects were compared to similar elementary and middle schools in the same communities. Treatment schools fared better regarding changes in office discipline referrals and these changes appeared related to

perceptions of intervention fidelity (as measured by the Assessing Behavioral Support in Schools survey) and improvements in student social skills (as measured by the knowledge tests). Adults in the school did not report measurable differences in their perceptions of school safety (as measured by the Oregon School Safety survey).

This study shows that school personnel can make meaningful changes in school practices in a one year period with a relatively inexpensive investment in time and expense. We provided about 20 hours of technical assistance and training to each treatment school across the year and required that a representative team of individuals (building administrator, representative teachers, related service staff) meet at least monthly to review progress and solve problems related to the implementation of EBS and Second Step. School teams were allotted 1500 dollars each to support substitutes for teachers and/or stipends for meeting after school hours. Cost of purchasing the Second Step curriculum (one kit for every two teachers) averaged 2500 dollars per school.

This study is limited due to a relatively small sample size ( $n=9$  treatment, 6 control) using the whole school as a unit of analysis. Future studies should use larger, randomly selected sample of schools to more adequately assess the impact of the intervention. This type of design will be challenging due to the need to find a large number of relatively equally matched schools for intervention or comparison. We did not compare individual students in the treatment and comparison schools on any measures as the focus of the study was on larger, whole school effects. Other studies (see Hawkins et al., 1999) which have used expanded, although similar, intervention procedures have shown significant effects for individual treatment students over a multi-year period.

The short duration of the study was an artifact of the grant that funded the training and technical assistance. While differential effects were observed in office discipline referrals and attitudes expressed by treatment versus comparison school staff, we would expect even greater differences in a multi-year comparison. In our work with multiple schools, we have consistently seen continued improvement over 2-4 years of implementation. Future studies need to follow schools (and the students they serve) over multiple years to assess the cumulative effect of these procedures. Reviews of treatments for reducing school violence (Gottfredson, 1997; Hawkins et al., 1999) and children's mental health symptoms (Greenberg, Domitrovich, & Bumbarger, 1999) recommend sustaining interventions over multiple years in order to cross important developmental periods (e.g., the transition from elementary to middle school). As noted by the focus group participants, sustaining these interventions remain a significant challenge and future work needs to focus on ways to assist school personnel to integrate increased demands for academic and behavioral excellence (Colvin, Kameenui, & Sugai, 1993).

The U.S. Public Health Service has developed a classification system of prevention approaches that provides for the integration of differing intervention types necessary to address the divergent needs of these three student types. The three prevention approaches contained in the U.S. PHS classification system are *primary* (prevent onset), *secondary* (reduce emerging problems) and *tertiary* (reduce or reverse ongoing damage). Walker and his colleagues have conceptualized an integrated prevention model, based upon this classification system, for addressing the problem of school-based antisocial behavior patterns (Walker, et al., 1996).

Universal interventions, applied to everyone in the same manner and degree, are used to achieve primary prevention goals; that is, to keep problems from emerging. This study attempted



to assess the effects of this level of intervention. Individualized interventions, applied to one case at a time or to small groups of at risk individuals (e.g. alternative classrooms) are used to achieve secondary and tertiary prevention goals. These interventions are labor intensive, complex, often intrusive, costly, and powerful.

This integrated model, though it has rarely been implemented fully in the context of schooling, provides an ideal means for school settings to develop, implement and monitor a comprehensive management system that addresses the needs of *all* students in the school. It is also a fair system in that typically developing students are not penalized by being denied access to potentially beneficial interventions. In addition, it has the potential to positively impact the operations, administration and overall climate of the school. This model, through its emphasis on the use of primary prevention goals, achieved through universal interventions, maximizes the cost-efficient use of school resources and provides a supportive context for the application of necessary secondary and tertiary interventions for the more severely involved students. Finally, it provides a built in screening and assessment process; that is, through careful monitoring of students responses to the primary prevention interventions, it is possible to detect those who are at greater risk and in need of more intensive services and supports.

### Conclusion

Emerging public concerns regarding the safety of students in the school setting coupled with recent school shootings and media coverage of youth violence in general are generating enormous pressures on educators to take ownership of the problems presented by antisocial, delinquent and violent youth. Over the next several years, an enormous amount of federal and state resources will be invested in school safety and prevention of antisocial behavior. It is

extremely important that these precious resources be used to promote the adoption of best professional practices and that proven, research based screening systems and early interventions be implemented in addressing them. These developments also create significant opportunities for school professionals (related services personnel, general educators, special educators) to collaborate more effectively and to forge new working relationships with families and community agencies. If we can implement with integrity what we currently know regarding these problems, a major positive impact can be achieved. The stakes are high for our society and school systems. Yet the potential gains are well worth the investment and effort.

## Table and Figure Captions

Table 1 School demographics

Table 2 Summary of measures

Figure 1 Percent change in discipline referrals for treatment and comparison schools

Figures 2 and 3 Assessing Behavioral Support in Schools survey results

Figure 4 Second Step knowledge test results. Pre and post instruction scores across all grades in treatment schools

Table 1: Treatment and Comparison School Characteristics

School	Grade Level	Treatment or Comparison	Number of Students Enrolled	Proportion of Minority Students (percent)	Proportion of Free and Reduced Lunch Students	Teacher-Student Ratio
Middle 1 Agnes	6-8	Treatment	742	9.2	50.13	
Middle 2 Sellwood	6-8	Treatment	542	10.7	23.62	17.3
Middle 3 LaPine	6-8	Treatment	502	1.0	45.85	21.8
		<b>Average</b>	595.33	6.97	39.87	19.55
Middle 4 Briggs	6-8	Comparison	482	6.4	28.84	19.1
Middle 5 Binnsmead	6-8	Comparison	646	32.1	61.61	18.9
Middle 6 Pilot Butte	6-8	Comparison	957	6.2	21.36	23.9
		<b>Average</b>	695	14.9	37.27	20.63
Elementary 1 Yolanda	K-5	Treatment	311	6.9	31.83	21.1
Elementary 2 Douglas G.	K-5	Treatment	425	8.2	49.88	22.7
Elementary 3 Faubion	K-5	Treatment	318	58.9	67.61	21.2
Elementary 4 Brooklyn	K-5	Treatment	187	28.1	76.47	12.2
Elementary 5 Thompson	K-2	Treatment	132	8.6	61.36	20
Elementary 6 Juniper	K-5	Treatment	540	12.5	35.56	25.2
		<b>Average</b>	318.83	20.53	53.79	20.4
Elementary 7 Thurston	K-5	Comparison	390	5.5	25.90	22.8
Elementary 8 Clarendon	K-5	Comparison	455	70.4	81.54	19.8
Elementary 9 LaPine	K-5	Comparison	502	1.6	57.37	24.2
		<b>Average</b>	449	25.83	54.94	22.27

Table 2: Primary Process and Outcome Measures

Instrument	Measure	Frequency	Respondents
Assessing behavior support checklist	Percent of items rated as in place or in progress	End of the school year	EBS team members or whole faculty
Oregon School Safety Survey	Likert ratings of selected risk and protective factors	End of the school year	School Site Council
School Vandalism Costs	Total cost summary	Quarterly	Building Principal
Student Second Step Knowledge tests	Quantitative and Qualitative summary of each instrument (e.g. % correct)	Pre and Post Instruction	Classroom teachers
Teacher use reports (Second Step Curriculum),	Quantitative and Qualitative summary (e.g. $\bar{x}$ rating)	Quarterly	Classroom teachers
Discipline referrals, attendance, SES ranking of school	Quantitative summary of each key measure	Annual	Building principal, State Department of Education Database

## References

- Biglan, A. (1995). Translating what we know about the context of antisocial behavior into a lower prevalence of such behavior. Journal of Applied Behavior Analysis, 28, 479-492.
- Colvin, G., Kameenui, E. J., & Sugai, G. (1993). "School-wide and classroom management: Reconceptualizing the integration and management of students with behavior problems in general education." Education and Treatment of Children, 16, 361-381.
- Committee for Children, (1997). Second Step: Violence prevention curriculum. Seattle, WA: Author.
- Dryfoos, J. G. (1990). Adolescents at risk. New York: Oxford University Press.
- Gottfredson, D. C. (1997). School-Based crime prevention. In L. W. Sherman, D. Gottfredson, D. MacKenzie, J. Eck, P. Reuter, & S. Bushway, Preventing crime: What works, what doesn't, what's promising (pp. 1-49). Washington, D.C.: U.S. Department of Justice, Office of Justice Programs.
- Greenberg, M.T., Domitrovich, C., & Bumbarger, B. (1999). Preventing mental disorders in school-age children: A review of the effectiveness of prevention programs (Executive Summary). Prevention Research Center for the Promotion of Human Development College of Health and Human Development, Pennsylvania State University.
- Grossman, D. C., Neckerman, H. J., Koepsell, T. D., Liu, P., Asher, K. N., Beland, K., Frey, K., & Rivara, F. P. (1997). Effectiveness of a violence prevention curriculum among children in elementary school: A randomized controlled trial. The Journal of the American Medical Association, 277(20), 1605-1612.
- Hawkins, J. D., Catalano, R. F., Kosterman, R., Abbott, R., & Hill, K. G. (1999). Preventing adolescent health-risk behaviors by strengthening protection during childhood. Archives of Pediatrics & Adolescent Medicine, 153, 226-234.
- Knitzer, J. (1993). Children's mental health policy: Challenging the future. Journal of Emotional and Behavioral Disorders, 1(1), 8-16.
- Knitzer, J., Steinberg, Z., & Fleish, B. (1990). At the school house door: An examination of programs and policies for children with behavioral and emotional problems. New York, Bank Street College of Education.
- Lipsey, M. W. (1991). The effect of treatment on juvenile delinquents: Results from meta-analysis. In F. Losel, D. Bender, & T. Bliesener (Eds.), Psychology and law. New York: Walter de Gruyter.
- Mayer, G. (1995). Preventing antisocial behavior in the schools. Journal of Applied Behavior Analysis, 28, 467-478.
- Mayer, G. R. & B. Sulzer-Azeroff (1990). Interventions for vandalism. Interventions for achievement and behavior problems. G. Stoner, M. K. Shinn and H. M. Walker. Washington, DC, National Association of School Psychologists Monograph: 559-580.
- Osofsky, J. D. (1997). Children in a violent society. New York, NY: Guilford Press.
- Sprague, J., Colvin, G., & Irvin, L. (1995). The Oregon School Safety Survey. Eugene: University of Oregon.

Sprague, J. R., Sugai, G., Horner, R. H., & Walker, H. M. (1999). Using office discipline referral data to evaluate school-wide discipline and violence prevention interventions. Oregon School Study Council Bulletin, 42(2). Eugene, OR: University of Oregon, College of Education.

Sprague, J. R., Sugai, G., & Walker, H. (1998). Antisocial behavior in the schools. In S. Watson & F. Gresham (Eds.), Child behavior therapy: Ecological considerations in assessment, treatment, and evaluation (pp. 451-474).

Sprague, J., & Walker, H. (2000). Early identification and intervention for youth with antisocial and violent behavior. Exceptional Children, 66(3), 367-379.

Sugai, G. and R. Horner (1994). "Including students with severe behavior problems in general education settings: Assumptions, challenges, and solutions." Oregon Conference Monograph, 6: 102-120.

Sugai, G., Horner, R. H. & Sprague, J. (in press). Functional assessment-based behavior support planning: Research-to-practice-to-research. Education and Treatment of Children.

Sugai, G., Lewis-Palmer, T., Todd, A.W., & Horner, R. H. (1999). School-wide evaluation tool. Positive Behavioral Interventions and Supports Technical Assistance Center, University of Oregon: Eugene, Oregon.

Taylor-Greene, S., Brown, D., Nelson, L., Longton, J., Gassman, T., Cohen, J., Swartz, J., Horner, R., Sugai, G., & Hall, S. (1995). School-wide behavioral support: Starting the year off right. Journal of Behavioral Education, 7(1), 99-112.

Todd, A. W., Horner, R. H., Sugai, G., & Sprague, J. R. (1999). Effective behavior support: Strengthening school-wide systems through a team-based approach. Effective School Practices, 17(4), 23-37. ADI.

Tolan, P. and N. Guerra (1994). What Works in Reducing Adolescent Violence: An Empirical Review of the Field. Chicago, Center for the Study and Prevention of Violence.

U.S. Department of Justice, Department of Education. (1998). Annual Report on School Safety.

Walker, H. M., Colvin, G., & Ramsey, E. (1995). Antisocial behavior in school: Strategies and best practices. Pacific Grove, CA: Brooks/Cole.

Walker, H. M., Horner, R. H., Sugai, G., Bullis, M., Sprague, J. R., Bricker, D., & Kaufman, M. J. (1996). Integrated approaches to preventing anti-social behavior patterns among school-age children and youth. Journal of Emotional and Behavioral Disorders, 4(4), 194-209.

Walker, H. M., & Eaton-Walker, J. (2000). Key questions about school safety: Critical issues and recommended solutions. NASSP Bulletin, March, 46-55.

Walker, H. M., Sprague, J. R., Close, D. W., & Schneider, T. (in press). School safety: Recommendations and generic strategies for educational leaders. University of Oregon: ERIC Clearinghouse on Educational Management.

PROPERTY OF  
National Criminal Justice Reference Service (NCJRS)  
Box 5000  
Rockville, MD 20849-5000