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BULLY PREVENTION IN POSITIVE BEHAVIOR SUPPORT

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Bullying behaviors are a growing concern in U.S. schools. We present here a behavioral approach to bully prevention utilizing a schoolwide intervention. Bully prevention in positive behavior support (BP-PBS) teaches students to withhold the social rewards hypothesized to maintain bullying. A single-subject multiple baseline design across 6 students and three elementary schools was implemented in an empirical evaluation of the intervention's effectiveness. Results indicated that implementation was functionally related to decreased incidents of bullying for all 6 students observed. In addition, we observed a decrease in the social responses from victims and bystanders. Finally, school staff implemented the program with a high degree of fidelity and rated the program as effective and efficient. Limitations and implications of these results are discussed.

DESCRIPTORS: bullying, positive behavior support, prevention, secondary intervention

The issue of bullying has become a chronic and costly problem in American schools. It is perhaps the most common form of school violence (Batsche, 1997). The National School Safety Center (1995) called bullying the most enduring and underrated problem in U.S. schools (Beale, 2001), and in a national survey, nearly 30% of students surveyed reported being involved in bullying as either a perpetrator or a victim (Nansel et al., 2001; Swearer & Espelage, 2004). In an effort to respond to these deleterious effects, the present research involved the development, field testing, and experimental validation of a behavioral approach to effective and efficient schoolwide bully prevention, titled bully prevention in positive behavior support (BP-PBS). BP-PBS blends schoolwide PBS, explicit instruction of a three-step response to problem behavior, and an emphasis on removing the antecedent and consequence events that control bullying behaviors.

Current Bully-Prevention Interventions

Over the last 20 years, great attention in education has been directed toward bullies and the negative impact of their behavior on schools (Smokowski & Kopasz, 2005). Major concern about improving school safety has followed, with an onslaught of bully-prevention campaigns across the country. According to a national survey of state departments of education, 39 states inform educators, parents, and students about how to respond to bullying (Furlong & Morrison, 2000), and 23 states have passed antibullying laws that prohibit bullying in schools (www.bullypolice.org). With this enhanced interest in stopping bullying has come a rapidly increasing number of intervention programs designed to reduce bullying. Evaluations of these interventions have commonly involved measurements of the incidence of bullying behavior before and after

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the intervention. Most of the time, these estimates have been based on student self-reports (Bagley & Prichard, 1998; Cowie & Olafsson, 2000; Kaiser-Ulrey, 2003; Leadbetter, Hoglund, & Woods, 2003; Mueller & Parisi, 2002; Olweus, 1997; Orpinas, Horne, & Staniszewski, 2003; Stevens, Van Oost, & De Bourdeaudhuij, 2000; Whitaker, Rosenbluth, Valle, & Sanchez, 2003; Whitney, Rivers, Smith, & Sharp, 1994), but in some cases, peer nominations were used (Fox & Boulton, 2003; Mensini, Codecasa, Benelli, & Cowie, 2003), and in a few studies, teachers or researchers conducted systematic observations (Pepler, Craig, Ziegler, & Charach, 1994; Turpeau, 1998).

Although some interventions have shown promising results, the overall results of bully-prevention efforts have been mixed (Merrell, Gueldner, Ross, & Isava, 2008; Rigby, 2006; J. D. Smith, Schneider, Smith, & Ananiadou, 2004). The U.S. Surgeon General's report on youth violence (U.S. Department of Health and Human Services, 2001) identified 29 best practices in youth violence prevention; the only program to make the list was Olweus' Bergen antibullying prevention program (Olweus, Limber, & Mihalic, 1999), and it was listed as a ''promising'' rather than a ''model'' program. A more recent listing of 32 effective programs produced the same result; only the Olweus program made the best practices list (Osher & Dwyer, 2006).

In a meta-analysis of 16 bully-prevention studies conducted by Merrell et al. (2008), none of the 16 antibullying programs were shown to produce a reduction in observed incidents of bullying, although most did note a shift in perception. Of the perception measures, approximately one third (36%) documented meaningful effects with the most improvement being noted in student social competence (effect size [ES] = 3.3), knowledge of the specific bully-prevention program (ES = 1.5), and global self-esteem (ES = 1.1). Rather than measuring how students actually responded to the interventions, these variables measured how well participants understood the program and how they thought they would respond to incidents of bullying. Finally, in a few studies, significant negative effects were discovered (1 of 28 mean effects across studies or slightly less than 4%, 8 of 107 individual effects within studies or about 7%). Although these findings were difficult to interpret, it is indeed possible that some well-intentioned programs may actually produce adverse effects on students. This may be the case when interventions cluster deviant peers in treatment groups in which the inadvertent result is that students teach each other bullying behaviors (Dishion, McCord, & Poulin, 1999).

The Bullying Construct

One critical reason bully-prevention efforts struggle to achieve their objective lies in the difficulty of conceptualizing and measuring bullying (Griffin & Gross, 2004). Common definitions of *bullying* involve repeated acts of aggression, intimidation, or coercion against a victim who is weaker in terms of physical size, psychological or social power, or other factors that result in a notable power differential (Due et al., 2005; Olweus, 1993; P. K. Smith & Ananiadou, 2003; P. K. Smith & Brain, 2000). The broad range of physical, verbal, and social behaviors; the intent to harm; the repetition of confrontation; and the imbalance of power between the perpetrator and the victim are key features of bullying that make it difficult to recognize and measure, forcing observers to judge not only intent but also the levels of power in each participant and the number of times the behavior has occurred in the past. Although understanding and appreciation have been aided by the development of these complex definitions, they are less than ideal for assessing prevalence or developing behaviorally based interventions.

Decreasing the frequency of bullying requires an operational definition and identification of

causal variables over which parents, educators, and professionals have control. Such variables are to be found outside the person and include the events that reliably precede and follow problem behavior. Research suggests that bullying is frequently reinforced by peer attention (Salmivalli, 2002; Soutter & McKenzie, 2000), so BP-PBS was designed to address these specific consequences without assumptions about intent or power imbalance.

Specifically, BP-PBS is designed (a) to define and teach the concept of "being respectful" to all students in a school, (b) to teach all students a three-step response (stop, walk, talk) that minimizes potential social reinforcement when they encounter disrespectful behavior, (c) to precorrect the three-step response prior to entering activities likely to include problematic behavior, (d) to teach an appropriate reply when the three-step response is used, and (e) to train staff on a universal strategy for responding when students report incidents of problem behavior.

BP-PBS was designed to fit within a system of schoolwide PBS, a prevention-focused approach to student support that blends socially valued outcomes, research-based procedures, behavioral science, and a systems approach to reduce problem behavior and improve school climate (Horner, Sugai, Todd, & Lewis-Palmer, 2005). PBS involves the application of behavior analysis to real-world settings in which children and adults struggle to maintain appropriate behavior and has been demonstrated in randomized control trials to improve social outcomes in schools (Bradshaw, Koth, Bevans, Ialongo, & Leaf, 2008; Horner et al., 2009).

Schoolwide PBS is organized around a three-tiered prevention model (Walker et al., 1996). The primary tier of PBS focuses on creating positive, predictable environments for all students at all times of the day. This tier prescribes the use of empirically tested instructional principles to teach expected behavior to all students; the use of social recognition of appropriate behavior; a concise, predictable, and clear continuum of consequences for problem behavior; and the active collection and use of data for decision making.

The secondary tier of schoolwide PBS includes all of the components described in the primary tier with additional support given to students who are at risk and 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 antecedents and consequences (Sugai et al., 2000). BP-PBS is considered to fit within this tier of support. Although it is an intervention implemented throughout the school, it teaches students to remove the social rewards that maintain bullying. It is hypothesized that this approach will have the greatest impact on those students at risk for bullying, although more serious issues of bullying may require assessment and intervention with more intensity.

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. In the case of BP-PBS, tertiary support would be initiated when a student failed to respond to BP-PBS. This support would include a more thorough analysis of the antecedents and consequences that control the student's problem behavior. Interventions within the tertiary level may involve significant resources to implement with fidelity, but by having a secondary intervention such as BP-PBS in place, the number of students requiring this level of support will be greatly reduced.

The primary research question we examined in the present study was whether or not there is a functional relation between the implementation of BP-PBS and a reduction in physical and verbal aggression on the playground during lunch recess performed by typical elementary-grade students. Two secondary research questions were also examined for descriptive purposes. First, is there a functional relation

between the implementation of BP-BPS and (a) an increased conditional probability that victims of bullying behaviors will say ''stop'' and walk away and (b) a decrease in the conditional probability of social reward for bullying behaviors? Second, is there a functional relation between the implementation of BP-PBS and an increased conditional probability that bystanders of bullying behaviors will say ''stop'' or help the victim to walk away?

METHOD

Participants and Setting

Three elementary schools in an Oregon school district participated in the study. Of the 12 interested schools within the district, the three selected schools included 319, 341, and 567 students and were attended by students of varying levels of socioeconomic status (range, 32% to 87%), as determined by the percentage of students on free or reduced-price lunch programs. In addition, to be eligible for the study, selected schools were made up of Grades K through 5 and had implemented schoolwide PBS (Sugai & Horner, 2009) with adequate fidelity, meeting an 80% criterion on the Schoolwide Evaluation Tool (Todd et al., 2003). In appreciation of the district's willingness to participate in the study, all interested schools in the district were provided with the intervention regardless of their study participation status.

Once we selected schools for participation, school principals nominated 2 students from each school based on their high levels of physical or verbal aggression toward peers. In an effort to compare the students' social skills and problem behavior to national norms, teachers of these students completed the Social Skills Rating System (Gresham & Elliott, 1990), which is a nationally normed instrument that includes ratings on social skills, problem behaviors, and academic competence, measured on a three-level scale (fewer, average, and more). Analysis of this measure indicated that all 6 students were rated above the 20th percentile in the category of problem behavior, including items such as ''fights with others,'' ''is easily distracted,'' and ''doesn't listen to what others say.'' In addition, all but 1 of the students scored below the 16th percentile on social skills, including items such as ''makes friends easily,'' ''receives criticism well,'' and ''follows your directions.''

We obtained passive parental consents for all third-, fourth-, and fifth-grade students in the selected schools and specific individual consents or assents for the 6 students nominated for direct observation. We implemented BP-PBS on a daily basis throughout the study and assigned each of the 6 participants a unique numerical identification to protect confidentiality.

Two boys, one in fifth grade (Rob) and one in fourth grade (Bruce), were nominated from School 1. Both boys exhibited problem behaviors outside the classroom including teasing, physical aggression to peers, and noncompliance to adults. Rob had an individual education plan for deficits in reading and math and spent approximately 30% of his day in the special education classroom.

The 2 students selected at School 2 were a fourth-grade girl (Cindy) and a fourth-grade boy (Scott). Cindy's problem behaviors included teasing, stealing, and gossip, and Scott's problem behaviors included talking back to adults, fighting, and disrupting peers. In addition, Scott had an individual education plan for deficits in reading, writing, and math and spent approximately 70% of his day in the special education classroom.

Finally, Anne and Ken were the 2 students selected at School 3. Anne was an 11-year-old fifth-grade girl whose problem behaviors included talking back to adults, teasing, and taunting. Ken was a 9-year-old third-grade boy whose problem behaviors included teasing and disrupting peers.

Measurement

Fidelity of implementation. We assessed fidelity of BP-PBS implementation through

both student knowledge of the curriculum and staff adherence to program components. We evaluated student knowledge of the curriculum approximately every 2 weeks during full implementation of BP-PBS (three times for School 1, twice for School 2, and once for School 3) by questioning 10 students in a convenience sample on the lunch-recess playground regarding their knowledge of the three-step response (stop, walk, talk) to problem behavior. We evaluated staff adherence using a checklist filled out by each playground supervisor daily and turned in to supervisors weekly. Items on the checklist included the daily number of times staff (a) checked in with chronic targets and instigators of problem behavior; (b) delivered verbal praise for student use of stop, walk, talk; (c) received reports of problem behavior; (d) practiced stop, walk, talk with students; and (e) gave out office discipline referrals for continued problem behavior.

Problem behavior. The primary dependent measure was the frequency of physical or verbal aggression during lunch recess. We defined *physical aggression* as hitting, biting, kicking, choking, stealing, throwing objects, or restricting freedom of movement (behaviors within games were considered physical aggression when they went beyond the appropriate expectations for the game). We defined *verbal aggression* as the direction of verbal or gestural negative communication toward one or more children including teasing, taunting, threatening, negative body language, or negative gestures.

We collected data using handheld computers loaded with MOOSES software, which allows collection and analysis of event data when events and related times are entered into a real-time running data stream (Tapp, 2004). Observers participated in training on behavior operational definitions and use of the handheld computers for 1 hr per day on the lunch-recess playground for 3 weeks prior to the study. All observers met an 85% interobserver agreement criterion on observation codes prior to initiation of study data collection.

In addition to the 2 target students selected in each school, an index of verbal or physical aggression was obtained for nontarget peers. This was done by using a convenience sample of 5 nontarget students present on the playground and observing each of these students for 2 min (total of 10 min). A single ''composite peer'' score was then used for comparison with levels of verbal or physical aggression by target students.

Victim responses to problem behavior. We also recorded victim responses to problem behavior within 5 s of problem behavior as a secondary dependent measure. Appropriate victim responses included the use of a stop signal, walking away, or ignoring the aggression. Inappropriate victim responses included positive responses (i.e., laughing, cheering) or negative responses (i.e., complaining, fighting back, whining). As with problem behaviors, we also gathered victim response data for nontarget students who engaged in verbal or physical aggression during the ''composite peers'' observations.

Bystander responses to problem behavior. Our third dependent measure was the social responses to problem behavior from bystanders. Within 5 s of each instance of problem behavior, we observed the responses of any bystanders within 3 m of the problem event. Appropriate responses included the use of a stop signal or helping the victim walk away, and inappropriate responses included positive responses (i.e., laughing, cheering) or negative responses (i.e., complaining, fighting back). We also recorded when bystanders provided no response. As with problem behaviors and victim responses, we collected bystander response data for composite peers.

Each victim and bystander response was mutually exclusive, and we coded the first response for each incident of problem behavior. In the case of multiple simultaneous responses

to a single incident, we coded responses using the following hierarchy in the following order: stop, walk, positive response, negative response, and no response. In other words, if stop and walk occurred simultaneously, only the stop was recorded.

Interobserver Agreement

Because data were entered via the MOOSES software in a real-time data stream, interobserver agreement was evaluated incident by incident. Incidents of problem behavior as well as victim and bystander responses were coded as an agreement if each observer recorded the same code within a 5-s window of each other. Observations were assessed for interobserver agreement on 30% of observations for each phase for each participant. We calculated interobserver agreement on a daily basis by dividing the number of agreements within the running time by the total frequency of incidents observed and converting the resulting proportion to a percentage. Interobserver agreement for problem behavior, victim responses to problem behavior, and bystander responses to problem behavior for each of the 6 observed students and peer composites met or exceeded 85% in both baseline and BP-PBS phases. We summarized observations daily to determine the frequency of problem behaviors for each 10-min observation, along with the conditional probabilities of victim and bystander responses to the behavior.

Social Validity

We used a four-item BP-PBS Acceptability Questionnaire to assess the social validity of the intervention. All staff involved in the intervention, including teachers, instructional aides, and administrators, completed the survey 3 months after implementation of BP-PBS. Questions assessed the extent to which BP-PBS was perceived (a) to improve behavior at school, (b) to be worth the time and effort, (c) to be worth recommending to others, and (d) to be easy to implement. Scores on the questionnaire were recorded on a Likert-type scale from 1 to 6, with higher scores indicating a more favorable impression.

Design and Procedure

We used a multiple baseline design across students and schools to examine the effectiveness of BP-PBS on reducing problem behavior outside the classroom and increasing appropriate responses from others to problem behavior. The design involved the following three phases: baseline, acquisition of BP-PBS skills, and full BP-PBS implementation.

Baseline. In baseline, we observed the 6 selected students during lunch recess on the school playground. Baselines occurred concurrently for each of the students along with a peer composite through daily observations four to five times per week. We recorded incidents of problem behavior and conditional probabilities of victim and bystander responses during baseline. We defined conditional probabilities as the probability of a victim or bystander response given the occurrence of physical or verbal aggression.

BP-PBS. Once we observed a stable baseline, we implemented BP-PBS sequentially, one school at a time, following documented change in problem behavior. Implementation of the intervention involved a two-step process in which (a) the first author provided training to the whole school faculty on the BP-PBS curriculum (Ross, Horner, & Stiller, 2008: available for download at www.pbis.org), and then (b) the school staff used the BP-PBS curriculum to provide training for students. During the first step of the intervention the instructional, administrative, and supervisory staff received a 1-hr workshop on the BP-PBS program components using the curriculum manual. Next, all playground supervisors and instructional aides received an additional half hour of training on supervising behavior outside the classroom. Teachers then provided the 1-hr BP-PBS training to their students during the following week.

The BP-PBS curriculum used by teachers focused on unstructured and less frequently monitored settings, such as the cafeteria, gym, playground, hallway, and bus area, where physical and verbal aggression is most common. The specific skills taught included (a) the discrimination of behavior that is respectful and not respectful; (b) if someone is not respectful to you (victim), say ''stop'' and use the stop gesture (hand held up); (c) if you see someone being treated disrespectfully (bystander), say ''stop'' and take the victim away; (d) if, after you say ''stop'' and disrespectful behavior continues, walk away; (e) if, after you walk away, disrespectful behavior continues, tell an adult; (f) if someone says ''stop'' to you, stop what you are doing, take a breath, and go about your day.

Note that at no time during the training was the concept or term *bully* presented or taught. The focus was on learning what respectful behavior looks like and how to handle situations in which someone forgot how to be respectful. A major emphasis was on teaching students that disrespectful behavior typically keeps happening because it results in attention and praise from others. Students were encouraged to ''take away the attention that serves as oxygen maintaining the flame of disrespectful behavior.''

During the extra half hour of training for supervision staff, the first author taught a specific ''review and resolve'' routine that was used on the playground when a student reported inappropriate behavior by another student. In addition to following normal standards for protection and safety, playground supervisors were taught the following steps: If a student reported problem behavior, ask the reporting student, ''Did you say 'stop'?'' or ''Did you walk away?'' If the reporting student did not say ''stop'' or walk away, practice the response and encourage them to use the response the next time and go no further. If the reporting student did say ''stop'' or walked away, interact with the student identified as engaging in problem behavior. Ask the offending student if he or she was asked by others to stop. Then ask if he or she did in fact stop. Provide practice for the steps to follow when someone asks you to stop.

After all faculty and staff were trained on the BP-PBS components, the teaching faculty delivered the BP-PBS curriculum to students over the next 4 to 5 school days. Given that students were not all trained on the same day but were trained in the same 4- to 5-day period, this period was considered to be an acquisition period in the design. The acquisition period ended when students in all classrooms had been trained in BP-PBS procedures by their teachers. The school was then defined as having entered the full implementation phase. Full implementation was also associated with playground supervisors and instructional aides completing the fidelity checklist on a daily basis. We also administered the student knowledge fidelity assessment at three points during the full implementation phase (3, 6, and 9 weeks following intervention). Finally, 8 to 12 weeks after BP-PBS was implemented, we asked all teachers, supervisors, and administrators to complete the BP-PBS Acceptability Questionnaire.

RESULTS

Impact of BP-PBS on Incidents of Physical and Verbal Aggression

The frequency of incidents of bullying during 10-min observations over lunch recess for each target student and their composite peers is presented in Figure 1. The 6 target students all displayed increasing trends in their frequency of aggression, with a combined mean of 3.1 incidents of aggression per baseline observation: 4 for Rob, 3.1 for Bruce, 2.8 for Cindy, 2.4 for Scott, 3.4 for Anne, and 3.1 for Ken. In School 1, Rob's baseline levels of problem behavior varied from 1 to 10 incidents and demonstrated an overall increasing trend. Bruce's baseline problem behavior was less variable, ranging

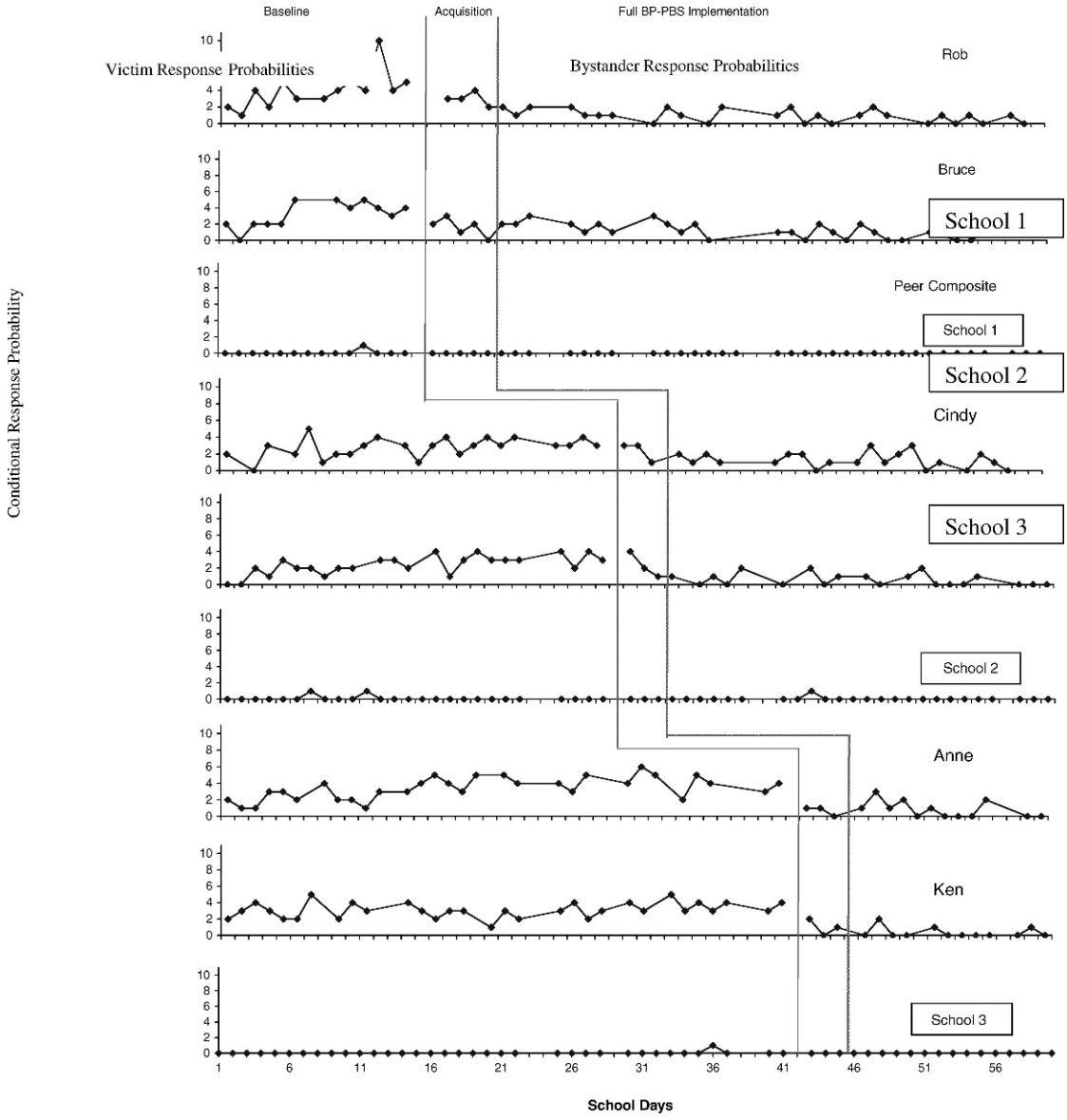

Figure 1. Incidents of bullying during baseline, BP-PBS acquisition, and full BP-PBS implementation for each participant and composite peers during 10-min observations.

from zero to five incidents, but with a similar increasing trend. In School 2, Cindy showed a slightly flatter increasing trend during baseline with a range of zero to five incidents over 23 observations. Scott's baseline was similar to that of Cindy with a slightly increasing trend, a range of zero to four incidents, and a mean of 2.4 incidents on a daily basis. In School 3, Anne showed a baseline of problem behavior ranging from one to six incidents and maintained a strong increasing trend over 30 observations. Ken's baseline ranged from one to five incidents, with a slightly lower mean and a more stable trend.

After the school staff received their training on BP-PBS, the study moved into the acquisition phase. During the acquisition phase, mean incidents of problem behavior per observation

was 1.9 for the selected students, with a range of zero to four incidents and decreasing trends.

Once schools fully implemented the BP-PBS intervention, we observed reductions in the mean level of problem behavior per school day (0.9 incidents; 72% decrease from baseline), decreasing trends, and reductions in variability for all 6 targeted students. Mean aggression during the BP-PBS phase for Rob was 0.96 incidents per observation (a 76% reduction) with a gradually decreasing trend across the intervention phase. Mean incidents of problem behavior were 1.2, 1.3, 0.6, 0.8, and 0.4 for Bruce, Cindy, Scott, Anne, and Ken, respectively. These levels represent reductions of 63%, 53%, 79%, 76%, and 86%, respectively, from baseline means. The trends decreased steadily for all 6 students, and each student demonstrated reduced variability.

The Impact of BP-PBS on Victim and Bystander Response Probabilities

Each time a data collector recorded an incident of problem behavior, he or she also recorded the victim and bystander responses. These data are presented as conditional probabilities in Figure 2. Bars indicate the pre and post response conditional probabilities for student in each school.

Overall, before the BP-PBS intervention, when an incident of problem behavior occurred, victims said "stop" 2% of the time, walked away 3% of the time, delivered a positive (reinforcing) response 19% of the time, delivered a negative (but presumably reinforcing) response 34% of the time, and delivered no response 43% of the time. Bystanders said "stop" 1% of the time, helped the victim walk away 2% of the time, delivered a positive response 39% of the time, delivered a negative response 18% of the time, and delivered no response 40% of the time.

The BP-PBS intervention was associated with increases in appropriate responses to problem behavior in all 3 schools. First, throughout the intervention phase, victims said "stop" 30% of the time (28% increase from baseline), walked away 13% of the time (10% increase), delivered a positive response 8% of the time (11% decrease), delivered a negative response 15% of the time (19% decrease), and delivered no response 34% of the time (9% decrease). Bystanders said "stop" 22% of the time (21% increase), helped the victim walk away 13% of the time (11% increase), delivered a positive response 17% of the time (22% decrease), delivered a negative response 8% of the time (10% decrease), and delivered no response 41% of the time (1% increase). Of particular note was the increased use of "stop" by both victims and bystanders, the decrease in victim delivery of a negative response (i.e., complaining, fighting back), and the decrease in bystander delivery of a positive response (i.e., cheering, laughing).

Fidelity of Implementation

We assessed fidelity of BP-PBS implementation by evaluating both student knowledge of the curriculum and staff adherence to program components. Student knowledge was examined by asking 10 students from a convenience sample to define the stop, walk, talk routines. We used the proportion of these 30 questions answered correctly as an index of student knowledge of the BP-PBS procedures. The results for three fidelity checks for School 1 were accuracy scores of 98%, 100%, and 93%. We assessed students in School 2 twice, and they scored 100% each time. We assessed students in School 3 once, and they scored 97%.

Staff self-reported fidelity of implementation results for each school. A total of 34 staff filled out the daily checklist during the study. Results indicate active use of BP-PBS procedures as staff reported a mean of 1.97 (range, 1.06 to 2.54) check-ins with chronic targets and instigators of problem behavior on a daily basis and delivered positive reinforcement to students for using the BP-PBS curriculum components a mean of 2.25 (range, 1.48 to 3.44) times per day. Together the data indicate that students were able to learn and retain the fundamental

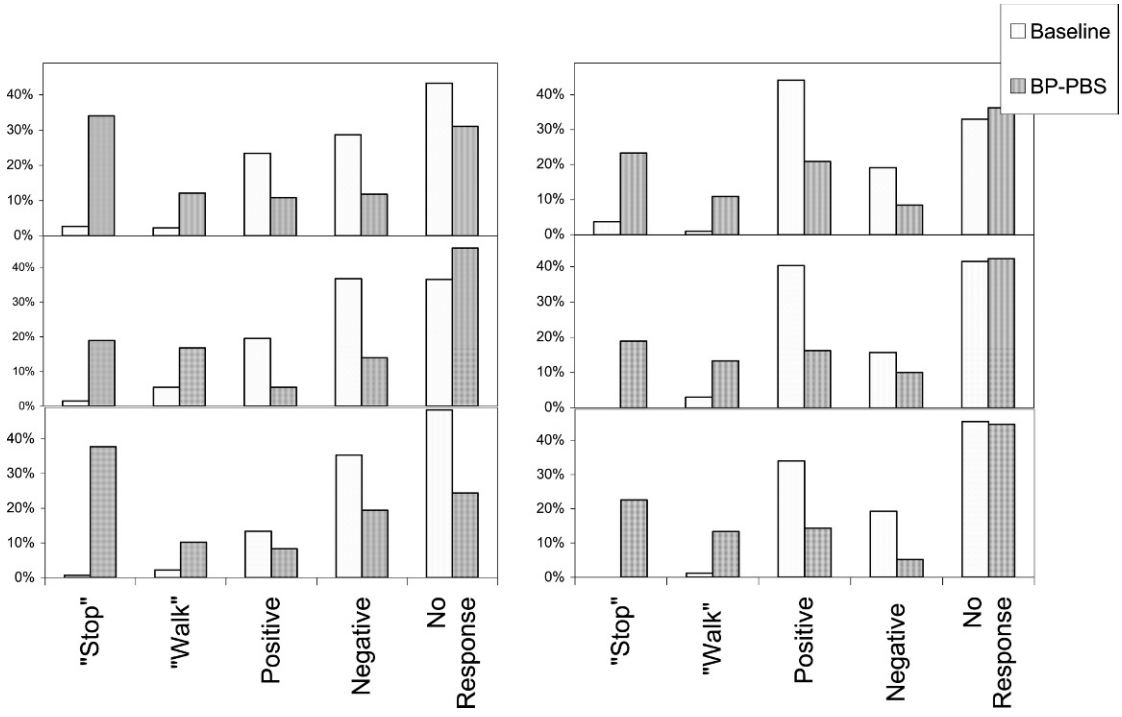

Figure 2. The conditional probabilities of victim and bystander responses to bullying during 10-min observations of lunch recess.

components of the BP-PBS curriculum, and that staff were able to implement the BP-PBS curriculum components throughout the study.

Social Validity

Twenty-five staff from all three schools completed the questionnaire on a six-point scale, with higher scores indicating a higher satisfaction with intervention components. The mean rating for "BP-PBS resulted in improved student behavior" was 4.4 (range, 3 to 6). Mean rating for "BP-PBS was worth the time and effort" was 4.7 (range, 3 to 6). Mean rating for "Would you recommend BP-PBS to others?" was 4.6 (range, 3 to 6), and the mean rating for "ease of implementation" was 5.5 (range, 3 to 6).

DISCUSSION

These preliminary results support the addition of BP-PBS to a school's system of PBS. The use of BP-PBS was functionally related to reduction in the number of incidents, variability, and trend of problem behavior in the 6 targeted students. These effects were coupled with an increase in appropriate bystander and victim responses, which may have reduced the likelihood that aggression on the playground resulted in peer reinforcement. Faculty and staff rated BP-PBS as effective and efficient and were able to implement the procedures with a high degree of fidelity.

Implications for Practice

First, the results of this study indicate that the use of bullying language may not be necessary, because its complex definitions and descriptions can be difficult to recognize for students as well as staff. By avoiding the bullying language, we were able to focus on observable behaviors, permitting more reliable data collection and more consistent responses by staff and students.

Second, the fact that staff rated BP-PBS as efficient to implement suggests that the ap-

proach may be more likely to be sustained over time. School 1 implemented the program with consistent fidelity over a 12-week period. Past research suggests difficulties in implementation of resource-intensive bully-prevention programs (Limber et al., 2004; Rigby, 2006; Roland, 1993). Although a number of programs (e.g., the Olweus program) have provided efficacious results, schools may have difficulty maintaining the fidelity needed to achieve positive outcomes. An important focus for future research on BP-PBS or any bully-prevention program will be documentation of the sustainability of program implementation and effects over multiple years.

Third, it is important to emphasize that the BP-PBS procedures were added in schools that were already using schoolwide PBS. Before BP-PBS was implemented, each school had already invested in establishing schoolwide PBS practices that included (a) instruction for all students on the concept of being respectful (e.g., the opposite of bullying), (b) formal systems for staff recognition of appropriate behavior, (c) consistent systems for responding to problem behavior, and (d) a schoolwide system for monitoring student problem behavior (and using those data for decision making). The investment in these foundation elements may have affected the success of school personnel in implementation of BP-PBS and the impact of the intervention.

Limitations

Several potential limitations of the current study warrant discussion. First, although we hypothesized that peer attention was likely a maintaining consequence for bullying behavior, no functional assessment was conducted with observed students to determine that peer attention did in fact serve to maintain their problem behavior. Because BP-PBS was designed as a secondary tier intervention within the schoolwide PBS system (Sugai & Horner, 2009), it maintains a focus on efficiency, changing behavior in the most pragmatic way possible. BP-PBS was designed around a hypothesized positive reinforcement function based on a logical extension of prior investigations of individual students using functional assessment methods. With that said, even though each of the observed students responded positively to the intervention, it is possible that students who engage in bullying maintained by other functions may not respond to this intervention. These students should be considered in the tertiary level of PBS, requiring additional assessment and intervention development.

It should also be noted that, although the frequency of aggression decreased for each of the selected students, their problem behavior was not eliminated completely, nor did it reach the low levels of the peer composite. It is possible that the BP-PBS procedures would need supplemental intervention through individually designed support plans to achieve further reductions in levels of aggression.

With regard to the data collection of student behaviors on the playground, because of the short amount of time during lunch recess, direct observation was limited to 10-min observations of each student. Thus, the data collected may or may not be representative of student behavior in other unstructured settings throughout the school, including the cafeteria, hallways, gym, bus, or library. In addition, although efforts were made to protect the identity of observed students, at times some students may have become aware that they were being observed. This recognition, coupled with the implementation of BP-PBS curriculum training, may have affected their behavior.

The practical implications of these data lie in the combined results of the problem behavior, peer response, fidelity, and acceptability data. BP-PBS is an example of a targeted intervention implemented with high fidelity by regular faculty and staff in three typical elementary schools. Although more data are needed on the maintenance of program effects over an extended period, the data described here are encour-

aging. Further, faculty and staff evaluated the procedures as effective in improving behavior, worth the time and effort, easy to implement, and were likely to recommend it to others.

As schools address the need to build environments that prevent problem behavior and support adaptive behavior, one important element may be the use of efficient, targeted interventions. BP-PBS holds promise as one intervention that can meet this need, especially for those students who engage in behaviors maintained by peer attention. Resources in schools are scarce, and intervention intensity must be matched to the severity of problem behavior. As schools develop schoolwide discipline systems that prevent problem behavior, targeted interventions like BP-PBS may be an important and useful component.

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