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# Walking the Talk in Bullying Prevention: Teacher Implementation Variables Related to Initial Impact of the *Steps to Respect* Program

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*Abstract.* This study examined relationships between teacher implementation of a comprehensive bullying prevention program and student outcomes. Implementation in third- through sixth-grade classrooms ( $N = 36$ ) was measured by observation and teacher report. Student outcomes were measured by student surveys and teacher ratings of peer social skills ( $N = 549$ ) and observations of playground behaviors ( $n = 298$ ). Multilevel modeling showed that teacher coaching of students involved in bullying was associated with less observed victimization and destructive bystander behavior among students engaged in these problems at pretest, and less observed aggression among fifth- and sixth-grade students. Support for skill generalization related to reductions in observed aggression and victimization among older students. Adherence to lessons was associated with higher ratings of peer social skills. Quality of lesson instruction corresponded to greater self-reported victimization, as well as more perceived difficulty responding assertively to bullying. Implications for school-based practice and future research directions are discussed.

Bullying, a pernicious problem in American schools, is aggressive behavior distinguished by unequal power and the intention to cause physical, social, or emotional harm to others (Olweus, 1991; Smith & Brain, 2000). Bullying corresponds to adverse outcomes for its victims (Hawker & Boulton, 2000) and perpetrators (Olweus, 1991; Connolly, Pepler, Craig, & Taradash, 2000), as well as for the peers who witness it (O'Connell, Pepler, &

Craig, 1999). Both student reports (Nansel et al., 2001) and observations on elementary school playgrounds (Frey, Hirschstein, Snell et al., 2005) indicate this kind of coercion is widespread.

Researchers have responded to the prevalence and impact of bullying by developing school-based programs, many of which take a comprehensive approach to preventing and intervening in peer aggression at multiple levels

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in a school's ecology (Swearer & Doll, 2001). Examples of prevention activities at the school level include establishing antibullying policy and training staff to monitor and intervene. At the classroom level, teachers implement curricular activities targeting student learning objectives (Stevens, De Bourdeaudhuij, & Van Oost, 2001). At the individual level, teachers work one-on-one to promote behavior change among the children directly involved in bully-victim problems (Olweus, 1991). Early studies of multilevel interventions (e.g., Olweus, 1991; Pepler, Craig, Ziegler, & Charach, 1994; Whitney, Rivers, Smith, & Sharp, 1994) showed reduced rates of student self-reported bullying and victimization, outcomes that have been typically used to evaluate program effectiveness.

Given the level of staff coordination required by a comprehensive approach, it is not surprising that implementation has emerged as an important factor in bullying outcome research. In contrast to the earlier findings, a more recent meta-analysis showed modest and conflicting results, with most evaluations of whole school antibullying programs yielding nonsignificant outcomes (Smith, Schneider, Smith, & Ananaiadou, 2004). Smith et al. conjectured that their findings reflected, among other things, the lack of systematic monitoring of implementation fidelity. In fact, treatment fidelity in school-based interventions has been infrequently assessed (Durlak, 1997; Gresham, Gansle, Noell, Cohen, & Rosenblum, 1993). Outcome measurement reflects the passage of key program ingredients through implementation (Elias, Zins, Graczyk, & Weissberg, 2003). Lack of information about this process hinders our ability to explicate results and apply this knowledge to support effective practice. Thus, there has been a call for more systematic study of implementation (Domitrovitch & Greenberg, 2000; Walker, 2004).

Notably, those studies in Smith et al. (2004) that *did* document implementation fidelity showed greater effects, specifically, larger reductions in student-reported victimization. Evidence further suggests that teacher implementation at the classroom level affects bullying prevention outcomes. A moderate

correlation was found between teacher implementation and reductions in self-reported bully-victim problems in 80 classrooms (Olweus, 1991). A recent evaluation involving 48 classrooms showed that most reductions in student-reported bullying problems occurred in only classrooms characterized by very high levels of initial teacher implementation (Salmivalli, Kaukiainen, & Voeten, 2005). Taken together, these findings identify a need for further exploration of teacher implementation and its relationship to outcomes.

### **Dimensions of Teacher Implementation**

Teachers have been identified as key agents of change in bullying prevention (Kallestand & Olweus, 2003; Orpinas, Horne, & Staniszewski, 2003). They intervene at both the universal classroom level and at the individual level. Teachers' efforts might be further described as "talking the talk" and "walking the talk." The former includes formal instruction and activities as laid out in a social skills curriculum. For example, a teacher may present a classroom lesson on behaving assertively. In contrast, "walking the talk" entails prompting and reinforcing behaviors in the moment, for example, coaching a child to make eye contact and to use a strong voice during a real interaction. This kind of assistance also includes providing extra guidance, or coaching, for the individual students involved in bully-victim problems. A significant difference between talking and walking is that the latter is not scripted in program materials, but occurs "on the fly" and in response to perceived student needs.

### **Talking the Talk: Teaching Program Lessons**

Measurement of implementation of school-based programs has generally focused on the "talk" features of programs, such as the number of lessons delivered (dosage), the extent to which key lesson ingredients are delivered as intended (adherence), and the quality of lesson delivery (Dusenbury, Brannigan, Falco, & Hansen, 2003). Quality ratings often include aspects of classroom management, ef-

fective use of instructional techniques, and emotional tone (Greenberg, Domitrovich, Graczyk, & Zins, 2001). Ratings of dosage, adherence, and quality by trained observers are more reliable than implementers' self-reports (Hansen & McNeal, 1999) and have more often been associated with program outcomes, perhaps due to less social desirability bias (Dane & Schneider, 1998).

Variation in "talk" variables has been associated with better program outcomes. For example, high fidelity to lessons corresponded to improved social competence and reduced problem behaviors among students receiving the *Talking With TJ* social skills curriculum (Mokrue, Elias, & Bry, 2005). Quality of teacher delivery was associated with reduced aggression among students receiving the *Promoting Alternative Thinking Strategies* curriculum (Conduct Problems Prevention Research Group, 1999) and increased social competency among children receiving the *Raising Healthy Children* program (Harachi, Abbott, Catalano, Haggerty, & Fleming, 1999). Quality may be especially pertinent in regard to interactive program techniques, such as role plays and class meetings, which engage student interest, provide opportunities for skill rehearsal, and invite student-generated solutions to problems (Frey, Hirschstein, & Guzzo, 2000). Nevertheless, teachers often omit these activities (Tappe, Galer-Unti, & Bailey, 1995). In fact, teachers implementing bullying prevention efforts report much lower use of role-plays and class meetings than of more didactic, teacher-led activities (Kallestad & Olweus, 2003).

### **Walking the Talk: Generalizing Skill Use**

Lessons are one medium for teaching core skills and concepts targeted by programs, but schools provide ample opportunities for adults to support their use in real situations. For example, when students have conflicts over "cutting in line," a teacher may model using calming self-talk, cue students to "check your space," encourage classmates to consider one another's perspectives, and praise a child

for appropriately asserting herself during a conflict. Evidence suggests that modeling behavior is more effective than simply "telling" (Grusec, Saas-Kortsak, & Simutis, 1978) and that reinforcement in the moment influences developing goals and beliefs (Huesmann & Guerra, 1997). Indeed, program impact may be greatest when teachers generalize support for curriculum-based skills outside of lesson instruction and throughout the day in this manner (Conduct Problems Prevention Research Group, 1999).

Coaching, another technique used to strengthen and generalize program effects, entails one-on-one interactions with students to promote skill acquisition. It can be used to address the specific social needs of selected children and monitor their progress toward targeted behavior change. Coaching has been shown to reduce aggression (Bierman, Miller, & Stabb, 1987; Lochman, Coie, Underwood, & Terry, 1993) and negative peer interactions (Gresham & Nagle, 1980). Although these kinds of behavior management strategies can reduce disruptive behaviors, teachers often have difficulty implementing them consistently (Noell, Duhon, Gatti, & Connell, 2002). Measurement of these kinds of implementation practices, and their impact on outcomes, is also relatively rare.

In summary, there is little work to date that addresses the link between classroom- or individual-level implementation of bullying prevention programs and program effects. Evidence suggests that dimensions such as lesson adherence and quality of instruction may influence outcomes. Quality entails clear and engaging presentation of curricular content and interactive activities, delivered in the context of well-managed classrooms. In addition, teachers' practices *outside* program lessons merit examination. Such efforts demonstrate lesson concepts, skills, and values put into practice and may have more impact than the lessons per se.

### **The Current Study**

This study examines the impact of 1 year of classroom implementation of *Steps to*

*Respect* (Committee for Children, 2001), a multiyear bullying prevention program, on student outcomes. Multilevel analyses in a random control trial showed program effects on observed playground behaviors and students' beliefs after 1 year (Frey, Hirschstein, Snell et al., 2005). Antisocial beliefs and observed playground bullying increased among control students, but not among those receiving the program. A relative reduction in bullying occurred primarily among those who bullied at pretest. In the second year, further reductions relative to the nonintervention sample were found for observed bullying, aggression, argumentative-bystander behavior, and destructive-bystander behavior (Frey, Edstrom, & Hirschstein, 2005; Frey, Hirschstein, Edstrom, & Snell, 2005).

The present study examines questions of how first-year outcomes were achieved in the intervention schools. Specifically, we examined how "talk" (lesson adherence and quality) and "walk" (support for skill generalization and coaching of individuals) related to students' (a) observed playground behavior, (b) self-reported beliefs and behaviors, and (c) peer social skills as rated by teachers. We hypothesized that both fidelity to lessons and efforts to generalize would predict variation in student outcomes, with higher levels corresponding to greater reductions in problem behaviors. The optimal level of "talk" would be 100% dosage and adherence to high-quality lessons, as rated by observers. Because teacher efforts to coach and generalize skills occur in the context of real behaviors, we hypothesized that "walk" would be more predictive than "talk." Given their unscripted nature, however, the optimal levels were unclear. In line with the random control trial, we examined differential effects of implementation on students who did and did not evince problem behaviors at baseline.

## Method

Data were collected in schools in two suburban districts in the Pacific Northwest as part of a longitudinal trial of the *Steps to Respect* program (Frey Hirschstein, Edstrom,

& Snell, 2005, Frey, Hirschstein, Snell et al., 2005). Criteria for inclusion were as follows: (a) a minimum of 80% of school staff voted to participate in the study, (b) all staff attended program training, (c) all third- through sixth-grade teachers implemented classroom curricula, (d) schools refrained from introducing similar interventions during the study, and (e) at least 45 min of daily recess was scheduled. In the larger study, three pairs of schools were matched on demographic and socioeconomic variables. After school consent was obtained, schools were randomly assigned to intervention and control conditions. Data from the three intervention schools were examined in this study.

## Participants

The 859 students in third- through sixth-grade classrooms in these schools received *Steps to Respect* curricula. Sixty-one percent ( $N = 549$ ) of parents provided active consent for measurement of their child's behaviors and perceptions. Child assent was also obtained from fourth- through sixth-grade students. The measurement sample was equally split by gender (50% female), with 305 students in Grades 3 and 4 and 244 in Grades 5 and 6.

A subset of 296 students (49% female), stratified by grade and gender and representing 54% of the students with parental consent, was randomly selected at pretest to also be observed on the playground. This subset was composed of 12 children from each third- and fourth-grade classroom (for the longitudinal sample) and 10 from each fifth- and sixth-grade classroom.

The 36 third- through sixth-grade teachers in the schools (83% female) attended *Steps to Respect* training, were observed teaching lessons, and received monetary compensation for completing study measures. Information regarding the characteristics of teachers and schools and school-level data on proportions of students receiving free and reduced-cost lunch, ethnic and racial background, English proficiency, and academic achievement are provided in Table 1.

**Table 1**  
**School Demographic Characteristics**

Characteristic	School 1	School 2	School 3
<b>School characteristic</b>			
Location	Suburban	Suburban	Suburban
Size	567	503	481
Daily minutes of recess	60	65	60
<b>Student characteristic</b>			
Free or reduced-cost lunch	19%	42%	59%
African American	4%	6%	24%
American Indian	1%	1%	2%
Asian	14%	5%	21%
Caucasian	77%	81%	43%
Hispanic	4%	7%	9%
Limited English proficiency	3%	16%	26%
Grade 3 ITBS R/M Composite (NPR)	58	48	41
<b>Teacher characteristic</b>			
Average years of experience	11	11	10
Possess advanced degree	43%	33%	52%
Vote to adopt program	92%	100%	100%

*Note.* ITBS R/M = Iowa Test of Basic Skills Reading and Math; NPR = national percentile rank.

### Program Description

The overall goal of the *Steps to Respect* program (Committee for Children, 2001) is to reduce school bullying problems by (a) increasing adult awareness and monitoring, (b) enhancing support for prosocial behavior, and (c) teaching social-emotional skills to support healthy peer relationships and counter bullying. The program includes staff and family training manuals, a program guide, and lesson-based curricula for third- through sixth-grade classrooms. Table 2 shows examples of program activities and goals at school, class, and individual levels.

**Staff training.** Schools received 6 hours of on-site training from professional trainers using scripted materials and videos from the *Steps to Respect* training manual. Training provided an overview of program goals and content, information about research, and practice taking bullying reports using a protocol. In addition, staff role-played coaching students involved in bullying, also using a

protocol. Teachers in Grades 3–6 received orientation to lessons and instructional strategies, including behavioral-skills training, cooperative learning, and role-plays.

**Classroom curricula.** Three curricular modules were developmentally sequenced corresponding to grade level: Level 1 for Grades 3–4, Level 2 for Grades 4–5, and Level 3 for Grades 5–6. They include skill-based lessons designed to be taught over a 12- to 14-week period. The skill unit is composed of 10, 45-min lessons followed by a 15-min “booster” taught within the same week. Lessons target general social-emotional skills to support healthy peer relations and specific bullying prevention skills. Scripts guide teachers in covering topics such as types of bullying and responsible bystander behavior. Curricula include a variety of materials (e.g., photo cards, videos, and posters), instructional strategies (e.g., direct instruction, discussion, skill rehearsal, and interactive games), and transfer-of-learning activities.

**Table 2**  
***Steps to Respect: Program Activities, Goals, and Examples***

Activity	Goals and Examples
Whole-School Components	
Create antibullying policy and procedures	Develop shared understanding of bullying, consequences, and sequences
Conduct staff training in bullying prevention	Increase adult awareness, monitoring, and intervention school-wide
Give parent presentation; send home program materials	Increase parent awareness and involvement with student learning
Classroom Lessons	
Teach friendship skills	Promote good peer relations and reduce the likelihood of victimization
Practice emotion regulation skills	Role-play “cool and calm” responses to provocation
Identify types of bullying behavior	Define and discuss direct, indirect or relational, and sexual bullying behaviors
Teach specific bullying prevention skills	Assess safety, and recognize, report, and refuse bullying behaviors (“The 3 R’s”)
Discuss peer group values and behavior	Identify fair, respectful, and responsible behaviors (e.g., helpful bystanders)
Support transfer of learning	Encourage skill use in daily events (e.g., cue students to invite others to join recess games)
Individual Interventions	
Take student bullying reports using protocol	“The Four-A Response”: affirm behavior, ask questions, assess immediate safety, act
Coach students involved in bullying	Determine history, provide support and/or consequences, generate a plan for the future
Follow up with involved students	Assess plan’s success and long-term safety of children; refer and contact parents as needed

### **Program Implementation**

Implementation of the program occurred in phases. First, a school-wide initiative was undertaken to develop the infrastructure to support bullying prevention (e.g., development of antibullying policy and reporting procedures). Principals sent letters home in the fall describing the program. Program consultants worked within schools to support this initial work. Two of the program consultants, both coinvestigators, were school psychologists. The third had extensive experience teaching and su-

pervising preservice teachers. In November, a professional trainer from the Committee for Children conducted training workshops for all staff in each school.

Classroom lessons were then implemented by third- through sixth-grade teachers from December through May. Program consultants supported teachers’ efforts throughout this period by supplying “grab and go” kits of photocopied materials<sup>1</sup> and meeting to discuss ongoing implementation efforts every other week, at which time they also observed and rated implementation of *Steps to Respect* lessons.

## Study Procedure

Pre- and post-test playground observations were collected across 10 weeks in the fall and 10 weeks in the spring. Each child was observed for 5-min sessions about once per week. Children meeting the minimum of 40 min of playground observation at pre- and post-test ( $n = 296$ ) were included in analyses. Students also completed surveys in the fall (baseline) and spring (post-test), at which time teachers rated students' social skills. Implementation data were collected throughout the intervention phase, from December through May.

## Measures

**Implementation.** Implementation measures reflected the key features of teachers' classroom practices thought to contribute to program efficacy—both “talk”: (a) adherence to essential lesson components and (b) provision of quality lesson instruction; and “walk”: (c) support for generalizing social–emotional and bullying prevention skills and (d) coaching of students involved in bully–victim problems.

Program consultants completed ratings of observed teacher lesson adherence and instructional quality. After observing, they rated adherence using an a priori checklist of activities (e.g., “teacher defines *bullying*”) related to the specific learning objectives for each lesson (e.g., “learners will define *bullying* and identify a variety of bullying behaviors”). They also assessed the quality of instruction using a 3-point system (*poor*, *good*, and *excellent*) to rate instructional clarity, participant responsiveness, classroom management, and emotional tone. A global score was then calculated based on these characteristics. Our measure was based on observations of five lessons collected at midpoint of the intervention.

To prevent observer drift, pairs of consultants independently rated the same lesson at regular intervals throughout the implementation period. No decrements in reliability were observed over time. Based on 50 overlapping observations, acceptable interrater reliability (Lindahl, 2001) was achieved on measures

of lesson adherence ( $\kappa = .81$ ) and quality ( $\kappa = .62$ ).

Support for skill generalization and coaching of individual behavior were assessed via the *Social-Emotional Learning Checklist—Bullying Report* (SELC-BR; Hirschstein, Edstrom, & Frey, 2000), a survey of generalization and coaching behaviors that teachers completed monthly, over 4 months, using a 4-point scale (*never to four or more times in the past week*). Results of an exploratory factor analysis performed on baseline data yielded three factors: Support for Bullying Prevention Skills ( $\alpha = .78$ ), Support for General Social-Emotional Skills ( $\alpha = .79$ ), and Coaching of Bullying Participants ( $\alpha = .85$ ). (See SELC-BR scales and items in Table 3.) Work with a previous version of the questionnaire showed that teacher reports of their generalization efforts correlated with the frequency of observed classroom practices (Hirschstein, Edstrom, Frey, & Nolen, 2001).

**Outcomes.** Playground behaviors were coded by 13 coders, trained for 200 hours to reliably use a continuously measured microcoding system (Frey, Hirschstein, Snell et al., 2005). Coders were required to meet a criterion of  $\kappa = .70$  on increasingly difficult segments of videotape of children on playgrounds, then on field events, before collecting data. Ongoing reliability was maintained by monitoring coder agreement with two master coders, who conducted random agreement checks for 15% of all sessions (overall Cohen's  $\kappa = .80$ ). To provide a more stringent rest of reliability, separate agreement statistics by code were calculated and found to be in the fair range. The three codes for focal child behaviors included bullying ( $\kappa = .63$ ), nonbullying aggression ( $\kappa = .54$ ), and bystander encouragement of bullying ( $\kappa = .55$ ). A focal child could be either the perpetrator or target of bullying and nonbullying aggression. Hence, we examined victimization by bullying and targeting by nonbullying aggression as well. A final analysis examining coder ability to distinguish bullying from nonbullying aggression showed excellent discriminability ( $\kappa = .80$ ).

**Table 3**  
**The Social–Emotional Learning**  
**Checklist—Bullying Report**  
**(SELC-BR)**

Scales and Items
Support for specific bullying prevention skills
1. I encouraged students(s) to be friendly to someone who was being left out.
2. I praised a student for stating what s/he wanted in an assertive, respectful manner.
3. I helped student(s) respond assertively to peer pressure.
4. I prompted students to stand up for someone being picked on.
5. I asked students to think about inviting others to join a play or work group.
Support for general social–emotional skills
6. I discussed times when student(s) might need to manage their emotions.
7. I intervened in a student conflict by prompting students to manage their emotions.
8. I intervened in a student conflict by asking students to report how the other party felt about the conflict.
9. I prompted student(s) who were involved in a conflict to problem-solve.
10. I modeled perspective taking, problem solving, or emotion management strategies.
Coaching of bullying participants
11. I coached a student who bullied others about how to avoid future problems.
12. I coached a student who had been bullied about how to avoid future problems.
13. I checked in with a student who had been bullied to see how things were going.
14. I praised student(s) for reporting bullying.

Students responded to questions about their experiences and perceptions related to bullying on *The Student Experience Survey: What School Is Like for Me* (Frey et al., 2004), a 60-item measure that yielded seven scales with adequate to high internal reliability: direct bullying or aggression ( $\alpha = .86$ ), indirect bullying or aggression ( $\alpha = .77$ ), victimization ( $\alpha = .84$ ), acceptance of bullying or aggression ( $\alpha = .86$ ), bystander responsibil-

ity ( $\alpha = .88$ ), difficulty responding assertively ( $\alpha = .82$ ), and perceived adult responsiveness ( $\alpha = .61$ ).

Teachers rated children on the Peer-Preferred Social Behavior Subscale of the *Walker-McConnell Scale of Social Competence and School Adjustment, Elementary Version* (Walker & McConnell, 1995). Using a 5-point scale (1 = *never*, 5 = *frequently*), they rated children on 17 items such as “Voluntarily provides assistance to peers who require it.” Internal consistency in the current study was high ( $\alpha = .97$ ).

## Results

### Preliminary Analyses

Twenty-one students (4%) were lost to attrition prior to post-testing. No significant differences in baseline outcome scores were found between the lost and retained students.

**Implementation data.** The mean level of adherence to essential lesson components was 91.0% ( $SD = 0.11$ ). The mean rating for lesson quality was 2.24, just above the scale midpoint ( $SD = 0.56$ ). The mean levels of support for students’ bullying prevention and social–emotional skills were 1.40 and 1.41, respectively ( $SD = 0.60$  and  $0.65$ ), an average of slightly more than once per week. Coaching of students occurred, on average, once per week ( $M = 1.06$ ,  $SD = 0.66$ ).

Distributions of implementation variables were visually inspected and skew compared to standard errors for skewness using Tabachnick and Fidell’s (1983) procedures. Because skewed distributions may result in artificially inflated correlations, we reflected and applied a square root transformation to lesson adherence, yielding a more normal distribution with a skew of 0.323.

Intercorrelations among the implementation variables can be seen in Table 4. Lesson adherence and quality were moderately related, but not associated with other variables. Coaching, support for bullying prevention skills, and support for general social–emotional skills were all highly correlated.

**Table 4**  
**Intercorrelations Among Implementation Variables**

Variable	1	2	3	4	5
1. Adherence	–				
2. Quality	.532**	–			
3. Bullying prevention support	.030	.184	–		
4. Social-emotional skill support	–.052	.893	.795**	–	
5. Coaching	.153	.067	.724**	.735**	–

\*\* $p < .01$ .

**Outcome data.** The severe non-normality of the playground observation variables was addressed by calculating change scores, which yielded acceptable distributions and residuals. Survey measure variables were also examined, then square root transformed.

Intercorrelations among the dependent variables are presented in Table 5. Note significant but moderate correlations between observed bullying, aggression, and targeting by bullying and aggression. Bystanders did not appear to be directly involved in bullying behaviors. Observed playground behavior variables were not significantly related to self-report variables. Self-report variables showed more consistent and larger relationships. Teacher ratings of social skills were unrelated to other measures.

### The Impact of Classroom Implementation on Student Outcomes

Two-level hierarchical linear modeling (HLM 5.05) was used to evaluate implementation effects while accounting for nonindependence of data because of nesting of students within classrooms (Raudenbush & Bryk, 2002). For the survey measures, pretest scores and gender were entered at the individual level as fixed-effect variables. At the classroom level, grade (Grades 3–4 vs. Grades 5–6) was entered along with each of the independent variables. Implementation by grade level interactions for each dependent variable was included at the classroom level, and removed if nonsignificant. A similar model was used to

predict change in observed playground variables. In place of pretest scores, the occurrence of behaviors at pretest (coded *none* or *some*) and their interactions with implementation variables were entered.

Results by implementation measure are described below. For significant findings, we report the standardized mean difference ( $d$ ) as an estimate of the magnitude of effect size, estimated for the highest and lowest 20% of scores on each implementation variable. Table 6 shows coefficients and standard errors for significant findings for the full intervention sample. Table 7 shows parameter estimates for subsets of students involved in playground aggression at pretest.

**Lesson adherence.** Adherence predicted greater teacher-rated interpersonal skills ( $t = -2.21, p < .05, d = 0.30$ ), but not observed behavior or self-reported perceptions. Students exposed to all the essential concepts and skills were rated more skilled by teachers, as compared to those receiving fewer of these components.

**Lesson quality.** Quality predicted greater perceived difficulty responding to bullying ( $t = 2.22, p < .05, d = 0.44$ ). Students whose teachers presented high-quality lessons indicated more perceived difficulty as compared to students whose teachers presented low-quality lessons. In addition, high-quality instruction was associated with more self-reported victimization ( $t = 3.25, p < .01$ ,

**Table 5**  
**Intercorrelations Among Dependent Variables**

Variable	1	2	3	4	5	6	7	8	9	10	11	12	13
<b>Observed playground behavior</b>													
1. Bullying	–												
2. Targeting by bullying	.247**	–											
3. Aggression	.338**	.176**	–										
4. Targeting by aggression	.173**	.245**	.405**	–									
5. Encourages bullying	.036	–.047	.001	.096	–								
<b>Student survey scales</b>													
6. Direct bullying	.136*	.099	.331**	.138*	.008	–							
7. Indirect bullying	.089	.140*	.231**	.031	.022	.611**	–						
8. Victimization	.010	.026	.088	–.034	.007	.287**	.297**	–					
9. Bystander responsibility	–.153**	–.118*	–.263**	–.114	–.066	–.423**	–.378**	.082	–				
10. Acceptance of bullying	.148*	.137*	.231**	.131*	.018	.463**	.455**	.044	–.608**	–			
11. Difficulty acting assertive	–.086	–.067	–.001	–.037	.090	.065	.182**	.299**	–.034	.073	–		
12. Perceived adult responsiveness	–.118*	–.075	–.275**	–.101	–.056	–.358**	–.311**	–.132**	.527**	–.447**	–.022	–	
Teacher rating													
13. Peer social skills	.030	.086	–.044	–.093	–.018	–.039	.000	–.133**	.017	–.065	–.044	.058	–

*Note.* Cell numbers equal 296 for all observed behavior. They vary from 497 to 528 for teacher- and self-reported data, because of missing responses, and from 279 to 283 for correlations between observed behavior and the student- and teacher-reported variables.

\*  $p < .05$ .

\*\*  $p < .01$ .

**Table 6**  
**Parameter Estimates for Final Models**

Implementation Variable and Predicted Student Outcome	Main Effect Model			Implementation × Grade Model		
	Intercept (SE)	Main Effect (SE)	Intercept (SE)	Grade (SE)	Main Effect (SE)	Implementation × Grade (SE)
1. Adherence						
Teacher-rated interpersonal skills <sup>a</sup>	3.78** (0.06)	-0.62* (0.28)				
2. Lesson quality						
Difficulty acting assertive <sup>b</sup>	1.05** (0.05)	0.16* (0.07)				
Self-reported victimization <sup>c</sup>	0.82** (0.03)	0.13** (0.04)				
3. Bullying prevention support						
Observed aggression <sup>d</sup>			-0.27 (0.29)	2.44 (1.21)	0.52 (0.40)	-1.74* (0.84)
4. Social-emotional skill support						
Observed target of aggression <sup>d</sup>			-0.23 (0.22)	3.08* (1.12)	0.46 (0.27)	-2.22** (0.72)
5. Coaching						
Observed aggression <sup>d</sup>			-0.26 (0.29)	1.81* (0.87)	0.59 (0.38)	-1.70* (0.75)
Perceived adult responsiveness <sup>b</sup>	1.35** (0.02)	0.04* (0.02)				

Note. Gender is held constant in each model.

<sup>a</sup>Range is 1–5.

<sup>b</sup>Range is 0–3.

<sup>c</sup>Range is 0–4.

<sup>d</sup>Observational outcomes represent change in number of bouts per hour from pre- to post-test (Time 2 – Time 1).

\* $p < .05$ .

\*\* $p < .01$ .

**Table 7**  
**Parameter Estimates Predicting Intervention Outcomes for Students Involved in Playground Aggression at Pretest**

Predicted Student Outcome	Intercept (SE)	Coaching Modeled on Intercept (SE)	Pretest Occurrence Slope (SE)	Coaching Modeled on Pretest Occurrence Slope (SE)
Observed encouragement of bullying <sup>a</sup>	0.14 (0.12)	0.02 (0.14)	-0.96** (0.08)	-0.32* (0.14)
Observed victimization by bullying <sup>a</sup>	0.32 (0.16)	-0.03 (0.19)	-0.78** (0.10)	-0.38* (0.17)

Note. Gender and grade are held constant.

<sup>a</sup>Observational outcomes represent change in number of bouts per hour from pre- to post-test (Time 2 – Time 1).

\* $p < .05$ .

\*\* $p < .01$ .

$d = 0.36$ ). Lesson quality was not associated with other outcomes.

#### Support for skill generalization.

Teacher support for specific bullying prevention skills was associated with less observed playground aggression among older students ( $t = -2.08, p < .05, d = 0.86$ ). Fifth- and sixth-graders whose teachers reported high levels of support (i.e., two to three times per week) aggressed less frequently after the intervention than the fifth- and sixth-grade students of teachers reporting no or low support.

Fifth- and sixth-graders who received frequent support for general social-emotional skills were also observed being aggressed upon less frequently than those provided little or no support ( $t = -3.06, p < .01, d = 1.45$ ). Support for skill generalization was not associated with other playground behaviors or student self-reported perceptions.

**Coaching.** Coaching was associated with student perceptions of adult responsiveness to bullying ( $t = 2.17, p < .05$ ). Students of teachers who provided high levels of coaching gave slightly *lower* ratings for perceived adult responsiveness than those in low-coaching classrooms. The magnitude of the effect size ( $d = 0.12$ ) and predicted means (1.31 and 1.39, respectively) indicated this finding was not practically significant.

Coaching was associated with less observed victimization by bullying among those victimized at pretest ( $t = -2.28, p < .05, d = 0.48$ ). Among pretest victims ( $n = 93$ ), those in high-coaching classrooms experienced a lower rate of subsequent victimization than those in low-coaching classrooms.

Coaching was also related to less observed encouragement of bullying among students who encouraged bullying at pretest ( $t = -2.28, p < .05, d = 0.50$ ). Within this group ( $n = 89$ ), those in high-coaching classrooms decreased more from fall to spring than those in low-coaching classrooms.

Teacher coaching of students involved in bullying situations was also related to change over time in observed playground aggression among fifth- and sixth-grade students ( $t = -2.26, p < .05, d = 1.15$ ). Older students with teachers indicating higher levels of coaching became less aggressive from fall to spring, whereas those with teachers who did little to no coaching did not. Coaching was not associated with teacher ratings or student-reported perceptions.

#### Discussion

We examined five dimensions of classroom implementation of a bullying prevention program and their initial impact on observed and reported student outcomes. The findings

related to “teacher talk” (lesson adherence and quality) were mixed, presenting challenges to interpretation. Implementation extended beyond scripted lessons, however, to teachers’ efforts to incorporate program concepts, skills, and values into their daily interactions with students. These first-year efforts to “walk the talk” related to reductions in observed student aggression, victimization, and encouragement of bullying on the playground.

### **The Impact of Talking the Talk**

Although the number of lessons delivered to students was uniformly high across classrooms, adherence and quality varied. High levels of teacher adherence predicted better teacher ratings of peer interaction skills, a finding consistent with others in school-based prevention research (e.g., Conduct Problems Prevention Research Group, 1999; Denham & Burton, 1996; Mokrue et al., 2005). One interpretation is that high adherence yielded better interpersonal behavior. On the other hand, teachers who invest the effort in teaching lessons with fidelity may be biased to see behavioral improvement. This is, arguably, a useful outcome in its own right, as teachers who see their efforts linked to improved behavior are likely to value, champion, and continue using a program. In either case, helping teachers concentrate on essential activities, such as role-plays, may be a relatively easy investment in program sustainability.

Contrary to predictions, students receiving high-quality lessons reported more victimization and greater perceived difficulty responding assertively to bullying. Observations on the playground, however, showed no rise in victimization. Reported increases may therefore be an artifact of the methodology. Discrepancies between mean levels of self-reported bullying and victimization (Frey, Hirschstein, Edstrom, & Snell, 2005) and between self- and peer-reported victimization (Cornell & Brockenbrough, 2004) have raised speculation that the social stigma associated with victimization depresses self-reports. It may be that high-quality instruction reduces the stigma. High-quality lessons may also sensi-

tize students to a larger range of victimizing behaviors. Specifically, a program focus on indirect and relational forms of bullying potentially broadens students’ ideas about what constitutes victimization, while also increasing awareness of the skill and courage required to respond assertively. The use of qualitative methodology might help us better understand findings relative to self-reported victimization, as well as elucidate nonfindings for self-reported bullying, in this study and others. Such work may speak to larger questions in the literature about the association between self-reports and observed behaviors (O’Connell et al., 1999; Pellegrini & Bartini, 2000).

Overall, the lack of association between lesson quality and outcomes was surprising. Definitions and measures of quality vary across studies (Dusenbury et al., 2003), and may in fact include aspects of teacher generalization efforts (Greenberg et al., 2001). By focusing specifically on adherence and quality of *lesson* implementation, variability may have been limited, rendering it more difficult to discern effects. The faithfulness of teachers in executing program lessons also likely reduced the range. Future studies that specifically compare the full program to those with a reduced number of components may speak to this issue.

### **The Impact of Walking the Talk**

In contrast, measures of “walk”—support for skill generalization and coaching—were associated with reductions in observed antisocial behavior on playgrounds overall, particularly among fifth- and sixth-graders. Teachers may influence their students’ performance of new skills by encouraging and prompting skill use in the moment. These practices cue students to situations in which new behaviors are appropriately used and encourage their use under high-arousal conditions. Support for general social-emotional skills (e.g., emotion management) may enable students to stay calm as opposed to reacting aggressively or submissively when targeted for aggression. Similarly, support for specific

bullying prevention skills and coaching may equip older students with the skills to resolve rather than escalate playground conflicts. These findings are heartening, as most school aggression occurs during recess (Craig, Pepler, & Atlas, 2000; Olweus, 1993a).

Grade effects suggest differential treatment effects related to developmental changes at the individual and peer culture levels. It is possible that older students' increased cognitive, emotional, and behavioral skills enable them to execute and generalize skills better than younger ones. These effects may also reflect increased levels of antisocial behavior observed among children in the higher grades (Frey Hirschsten, Edstrom, & Snell, 2005). Investments of teacher time and effort may result, paradoxically, in larger effects as students' behaviors deteriorate. It may also be that older children are more sensitive to consistency between the talk and actions of adults. Thus, teachers' efforts to "walk the talk" may inspire trust, and improved behavior, in the older grades.

Across grades, coaching predicted reduced victimization by bullying and destructive bystander behavior among individuals involved in these processes at pretest. Coaching entails prompting, reinforcing positive social behaviors over time, and dispensing consequences in the context of real events and personalities. To provide this support, teachers must perceive or receive reports indicating that it is needed. Thus, teachers are likely to focus on students with obvious social-emotional skill deficits, such as reactively aggressive children (Coie & Dodge, 1998) or the chronically victimized. That coaching predicted reduced victimization and encouragement of bullying among those involved at baseline suggests this may be a promising approach to intervention with these students.<sup>2</sup>

Evidence of an association between implementation and changed bystander behavior has potentially large impact as bystanders attend most bullying events (Craig & Pepler, 1995) and tend to stop bullying when they help victims (Craig et al., 2000). The lack of correlations between bystander encouragement and observed bullying and aggression suggests that bystanders were not antisocial leaders (Rodkin, 2004), but

students who provide an audience (Salmivalli, 1999). Such students may be particularly sensitive to a shift in the school culture of bullying (Unnever & Cornell, 2003), exemplified by educators' efforts to take bullying reports seriously and coach those involved. The outcome evaluation showed reduced bystander encouragement among students involved at pretest after 1 year of program adoption (Frey, Hirschtein, Snell et al., 2005c), and sharp declines across two years (Frey, Edstrom, & Hirschstein, 2005; Frey, Hirschstein, Edstrom, & Snell 2005b). This suggests that encouraging children to be "part of the solution" (e.g., empathizing and reporting), not "part of the problem" (e.g., watching and laughing), may reduce their contribution to peer aggression (Snell, MacKenzie, & Frey, 2002).

Given the evidence that teacher support for skill generalization and coaching may influence playground aggression, victimization, and encouragement of bullying, the apparent lack of impact on bullying is surprising. The dynamics of coaching may operate differently for children who fit different behavioral profiles. As previous research has demonstrated (e.g., Schwartz et al., 1998), there is considerable overlap between victims of bullying and those who aggress. Children who respond aggressively to bullying suffer increased victimization (Kochenderfer & Ladd, 1997) and may be highly motivated to improve their situation. As such, they may be more amenable to intervention than the children who reap social rewards via bullying. It may simply not be as effective to use coaching (or lessons) to influence the students who bully proactively. Alternatively, there may be a selection bias in terms of who receives coaching. Reactively aggressive children are easily identified, but adults appear largely unaware of the socially skilled children who strategically bully on playgrounds (Craig & Pepler, 1997; Hirschstein & Frey, 2006).

### **Implications for School-Based Practice and Research**

This line of reasoning suggests that providing school personnel with empirical findings about bullying at their school may be a

useful initial step in data-based prevention and intervention planning (Olweus, 1993b). Our experience further suggests that information about the involvement of most elementary school children in bullying, including those well liked by peers and adults, should be emphasized in staff training, as teachers must be able to identify antisocial leaders in order to intervene (Frey, 2005).

Information about empirically supported practice is typically conveyed to staff in the form of written material and brief presentations, but evidence shows that teachers benefit from ongoing consultation when using intervention strategies such as coaching (DuPaul, 2003). Consultation linking the use of these strategies to student behavioral outcomes has been shown to increase levels of teacher implementation (Noell et al., 2002). Applied research examining the contexts and practices that increase and maintain teacher implementation, particularly of “walk the talk” prevention efforts, may be fruitful, as our findings suggest that supporting teachers’ efforts to coach and generalize skills has potential benefits for playground behavior. Examination of students’ knowledge about bullying (e.g., its frequency and different forms), as well as their perceptions about self-reporting bullying and victimization, might also elucidate findings, advance understanding and measurement of bullying-related phenomena, and consequently improve data-based decision-making and prevention efforts in schools.

### **Caveats and Contributions**

Low consent rates are not atypical in longitudinal research, and ours compares favorably with those found in other observational studies (e.g., Pellegrini, Bartini, & Brooks, 1999). Nonetheless, the generalizability of our findings is limited by the student consent rate as well as the small number of participating schools. The small number of schools also limited our ability to statistically compare features of school context. The ethnic composition and proportion of students receiving subsidized lunch varied considerably across schools, for example, and it is likely

that our findings interacted with these factors. Rates of reported victimization vary across ethnic and racial groups (Nansel et al., 2001) and relative ethnic representation within a school may affect reports (Juvonen, Nishina, & Graham, 2001). School poverty is associated with aggression (Aber, Jones, Brown, Chaudry, & Samples, 1998) and classroom levels of physical victimization (Leadbeater, Hoglund, & Woods, 2003). Moreover, school climate influences classroom implementation of programs (Kallestad & Olweus, 2003) and may inhibit or promote school bullying overall (Leff, Power, Costigan, & Manz, 2003). Future research conducted in more schools should examine multiple features and levels of implementation, as well as interrelationships in regard to school contexts and outcomes. A design and sample enabling exploration of ethnic and racial differences and implementation effects would also advance the field.

Another limitation was the large number of analyses. Examining separate effects of implementation variables increased the likelihood of spurious results. Summing across dimensions and informants, however, can mask meaningful variability (Dane & Schneider, 1998), for example, between the “talk” and “walk” features of classroom implementation.

It is also likely that our implementation measures captured nonspecific features of good teaching (Greenberg et al., 2001). Lesson quality, for example, took general teaching proficiency into account. In contrast, other measures, such as adherence and coaching, targeted specific teacher behaviors linked to program objectives. The random control trial offers additional evidence of program-specific effects, showing that relative to teachers in control schools, intervention teachers provided more support for bullying prevention skills and reported feeling more prepared to deal with bullying problems (Hirschstein & Frey, 2006).

This study makes several methodological contributions. First, we examined classroom practices outside program lessons, which are relatively neglected features of implementation. Second, we used observational methodology for both implementation and

outcome variables. Both are rare in the bullying literature. Indeed, much of the extant research has relied on single measures and single agents for both predictor and dependent variables (e.g., self-reports). Although in-depth playground observations are impractical for school use, our methodology offers potentially useful tools for future work. Independent observations tapped various aspects of lesson implementation. Brief teacher surveys made it possible to assess support for skill generalization and coaching of children involved in bullying. Use of these measures may actually increase fidelity to program goals of increased adult prompting, monitoring, and intervention.

### Conclusion and Future Directions

This study may be among the first to examine links between classroom implementation of a bullying prevention program and a range of observed and reported outcomes. Findings suggest that after 1 year, classroom implementation corresponded to positive changes in playground behavior. Specifically, teachers' efforts to "walk the talk," by coaching and supporting skill generalization, corresponded to observed changes in student aggression, victimization, and bystander behavior. Older elementary students appeared to particularly benefit, findings that are heartening given increased aggression in early adolescence (Pellegrini & Bartini, 2000) and the need for bullying prevention efforts directed at the transition from elementary to middle school (Espelage & Swearer, 2003).

Considerably more information is needed about the content and context of these important, often overlooked features of teacher implementation. How, for example, does the coaching of children who bully differ from coaching of those who are victims or bully victims? Is coaching differentially effective among these groups? Are teachers more inclined to intervene with some kinds of students than others? Are such interventions effective if they do not occur in the context of a comprehensive program?

Longitudinal follow-up of the *Steps to Respect* program will allow for further investigation of changes or continuity in classroom implementation, as well as in the association between implementation and outcomes. One might expect a progressively greater connection, but theoretical and empirical work in this area is still nascent. Given the ubiquity of playground aggression and the promise of effective interventions, researchers should feel encouraged to pursue the answers to these and other questions.

### Footnotes

<sup>1</sup>We gratefully acknowledge Kay Mehas, former principal of Kennedy Middle School in Springfield, Oregon, for sharing the idea of providing teachers with "grab and go" kits of prepared program materials.

<sup>2</sup>Evidence from the random control trial suggests these findings are not an artifact of regression to the mean. Longitudinal analyses showed very large reductions in bullying, victimization, and bystander encouragement of bullying among students evincing these behaviors at pretest, alongside non-significant increases among children with no observed pretest occurrences. At the end of 2 years, the means for both sets of children within the intervention group appeared to stabilize at a level slightly above 0, considerably below the levels observed for children in the control group (Frey, Edstrom, & Hirschstein, 2005; Frey, Hirschstein, Edstrom, & Snell, 2005).

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