

# Gossip on the Playground: Changes Associated With Universal Intervention, Retaliation Beliefs, and Supportive Friends

Sabina Low  
*Wichita State University*

Karin S. Frey  
*University of Washington*

Callie J. Brockman  
*Wichita State University*

*Abstract.* Relational forms of aggression are known to increase during the middle school years. To date, the majority of efficacy studies of elementary school-based programs have focused on the reduction of physical and direct verbal aggression, to the exclusion of effects on relational aggression. *Steps to Respect: A Bullying Prevention Program* is one exception, which explicitly addresses relational forms of aggression such as malicious gossip and social exclusion. The current study assessed the short-term efficacy of *Steps to Respect* on reducing observed malicious gossip on the playground. Beliefs about aggressive norms and friends' social support were examined as moderators of program impact. Participants were 544 students from six schools in the Pacific Northwest. Mixed hierarchical modeling was used to test hypotheses. Results provide support for the effects of universal prevention programs on reducing relational aggression, and highlight the need to consider how aggression norms and supportive friends may impact victim responses and continued victimization.

Historically, little attention has been paid to sex differences in aggression, but we now recognize that girls are more likely to display aggression in a socially manipulative manner (e.g., rumors, gossip, and social exclusion) compared to physical or verbal forms of aggression. The intent to harm or manipulate someone's social relationships or social status

has been referred to as *relational aggression* (e.g., Crick & Grotpeter, 1995), and other times as *indirect* (Björkqvist, Lagerspetz, & Kaukiainen, 1992) or *social aggression* (Underwood, 2003). Although the terms are sometimes used interchangeably (Archer & Coyne, 2005), Xie, Swift, B. Cairns, and R. Cairns (2002) point out that some aspects of social

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Correspondence regarding this article should be addressed to Karin Frey, Educational Psychology, University of Washington, Seattle, WA 98195-3600; E-mail: karinf@uw.edu

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aggression are directly confrontational (e.g., social exclusion, insults), whereas others, such as gossip and rumor spreading, are not. In addition, there are important distinctions and discriminations between indirect and relational aggression (see Goldstein, Tisak, & Boxer, 2002). Despite this, very few basic or applied studies attend to these distinctions, leaving us with little knowledge of the ability for prevention programs to target relational forms of aggression. Relational forms of aggression may not have the same tangible harm as physical forms of aggression, but still warrant attention, as victims of relational aggression suffer socially, emotionally, and academically (via school refusal; Crick & Bigbee, 1998; Crick et al., 2001; Crick & Nelson, 2002). Furthermore, relational aggression, just like physical aggression, is more likely to take place within the peer ecology at school, and contribute to a hostile and unsafe environment.

### Defining Playground Gossip

Although both physical and relational aggression have overt and covert manifestations, physical aggression is arguably easier to observe (Cillessen & Mayeux, 2004). Despite this, there is growing evidence that relational aggression is observable (Goodwin, 1982; Putallaz et al., 2007), and that complex forms of relational aggression, such as malicious gossip, can be captured with observational methodology (Foster, 2004).

The current investigation focuses on malicious playground gossip. Videotapes of playground interaction loaned by Debra Pepler and Wendy Craig indicated that gossip was observable on the playground and occurred relatively frequently in the upper elementary grades. In some circumstances, the gossip was semipublic in nature. A student or students would speak negatively about a third party that was not among the listeners. Group members would laugh, gesture, or look “meaningfully” in the direction of an isolated, unhappy-looking student. In vivo observations confirmed that these behaviors, along with more discreet episodes of gossip, were common on playgrounds. In addition to the videotapes, ethno-

graphic studies (for review, see Foster, 2004) suggest that gossip is a complex behavior, and observational methods may provide important information about the form.

Relatively few observational studies have examined relational aggression during early adolescence. However, there have been studies of relational aggression during other developmental periods (e.g., Ostrov et al., 2008; Putallaz et al., 2007). The playground was selected for observations because previous research indicates that most aggression occurs in less structured and less supervised environments (Craig, Pepler, & Atlas, 2000; Olweus, 1991; Pepler, Craig, Ziegler, & Charach, 1994), and it offers enhanced external validity to reports because of the spontaneous nature of behavior captured (Pepler & Craig, 1995). In addition, this natural setting is arguably an ideal place to understand the nuances of childhood peer relations, because this is where much play occurs, providing the opportunity for prosocial skills to develop, as well as conflict and aggression (for review, see Leff, Costigan, & Power, 2004; Leff et al., 2009).

Although there is relatively little information about grade trends in the frequency of relational aggression (Murray-Close, Ostrov, & Crick, 2007), observational studies suggest that aggression, in general, increases during Grades 3–6 (Huesmann & Guerra, 1997). Therefore, it is important to focus prevention efforts before the transition to middle school.

In contrast to the long history of intervention research crafted for overt aggression, intervention research in the area of relational aggression is in its infancy. Most prevention efforts that specifically address relational forms of aggression have been undertaken in the last decade. For example, Friend to Friend (late elementary and early middle school, Leff et al., 2007, 2009) and the WITS (Walk Away, Ignore, Talk, Seek help) program (primary grades, Leadbeater, Hoglund, & Woods, 2003) use ecological interventions (friendship groups in the case of Friend to Friend; school and community in the case of WITS) coupled with cognitive and behavioral skills instruction to reduce relational aggression/victimization.

Another comprehensive program, the Early Childhood Friendship Project (Ostrov et al., 2008), has yielded promising results, whereas an approach with a more limited scope to early childhood intervention has found no demonstrable impact (Harrist & Bradley, 2003).

*Steps to Respect: A Bullying Prevention Program* (Committee for Children, 2001) is a universal school-wide program that explicitly addresses relational aggression such as malicious gossip and social exclusion, and is informed by both social ecological and cognitive-behavioral theories (Frey et al., 2005; Frey, Hirschstein, Edstrom, & Snell, 2009). Although several reports have addressed the impact of *Steps to Respect* on physical aggression (e.g., Frey et al., 2005, 2009), this is the first to assess its specific impact on relational forms of aggression.

In line with socioecological models of bullying that intervene at multiple levels, *Steps to Respect* (Committee for Children, 2001) has school-wide and classroom-level components. The school-wide components are intended to foster positive norms by creating and reinforcing policies about bullying and respectful behavior. This includes teacher/staff training aimed at enhancing more knowledgeable and ethical monitoring of students, and instruction on how to effectively intervene in bullying situations. Classroom lessons are predicated on the belief that all students can benefit from training in social skills (e.g., assertiveness) and on the belief that peers play an important role in determining rates of bullying behavior (i.e., bystander support). As Atlas and Pepler (1998) pointed out, bullying is a social process perpetuated by interactions with peers and teachers, making it critical to target the classroom context in interventions. Specifically, 11 lessons (approximately 50 min in length): (a) help students identify the various forms of bullying; (b) provide a rationale and clear guidelines for socially responsible actions and nonaggressive responses to bullying (that reduce chances of continued victimization); (c) train students in assertiveness, empathy, and emotion regulation skills; and (d) allow students to practice friendship

skills and conflict resolution (see Frey et al., 2005).

Because lessons are delivered in classrooms, both individual-level characteristics and peer-group-level factors are targeted. For example, longitudinal studies indicate that responding aggressively to bullying increases victimization (Schwartz et al., 1998; Snyder et al., 2003), whereas conflict resolution is associated with decreases (Kochenderfer-Ladd, 2004). Therefore, the program teaches prosocial alternatives (e.g., conflict resolution, assertive defense of self or others, and reporting to school staff) and establishes nonaggressive norms of behavior. This dual focus is meant to increase the perceived validity of nonaggressive responses coupled with the skills required to execute them effectively. At the peer-level, several lessons address and reinforce bystander intervention. Bystanders have a powerful role, typically by directly or indirectly rewarding bullying. Students are encouraged to refrain from aiding aggressors and to provide support to victims. Specifically, they are taught assertive, socially responsible ways of intervening (e.g., discouraging friends from bullying, befriending victims). Because children with friends are less likely to be victimized, and less likely to suffer distress following victimization (Boulton, 1999), some lessons focus on friendship skills.

### **Treatment of Relational Aggression in the Curriculum**

The use of power to control or hurt others is common to physical, verbal, and relational aggression. Most of the *Steps to Respect* lessons address universal elements that pertain to all forms of bullying (e.g., building empathy for victims, assertiveness, and the importance of bystander behavior). Other lessons help students identify different forms of bullying, including “face-to-face” bullying (e.g., physical intimidation, social exclusion) and “behind-the-back” bullying (e.g., gossip and rumors). Lessons indicate that bullying is not limited to social enemies—for example, “... sometimes our friends do bully us, and that can make bullying hard to recognize.” In

addition, students discuss, “What should you do if *your friends* bully you?”

### **Student Characteristics and Changes in Relational Aggression**

The current randomized controlled study examines the program’s impact on reducing playground relational aggression. It was hypothesized that participation in the program would lead to reductions in both victimization and perpetration of gossip among children involved in gossip at the fall pretest. It also examines the moderating role of normative beliefs and perceived friendship support on changes in aggression and victimization. Examination of moderators helps identify students who are more sensitive to program participation, and allows for more precise intervention strategies. The role of student characteristics on playground relational aggression could be additive or interactive in nature. An additive model suggests that beliefs will contribute uniquely to the prediction of aggression, independently of the contribution of intervention status. An interactive model suggests that beliefs may moderate the impact of intervention on student outcome. For example, influence of supportive friends may be limited to the intervention group, an amplification effect that identifies which students benefit most from participation. Because this program is predicated on the belief that multiple levels of the school ecology work in concert to produce effects, we were primarily interested in, and anticipated that, beliefs and supportive friends would qualify the relationship between intervention status and playground gossip.

#### **Normative Beliefs**

Normative beliefs have been conceptualized as “an individual’s own cognition about the acceptability or unacceptability of a behavior” (Huesmann & Guerra, 1997, p. 409). Huesmann (1988) articulated a model in which normative beliefs define standards for acceptable behavior, and provide an important filter between cognitive schemas for aggression and a behavioral response. Huesmann and Guerra found that normative beliefs endorsing

aggressive retaliation increased across the early elementary years, and by fourth grade beliefs that endorsed retaliation predicted increases in observed overt aggression above and beyond the contribution of previous aggression. Our previous work has also shown that endorsement of physical, verbal, and relational retaliation increased with age (Frey et al., 2009) and that the *Steps to Respect* program prevented such an increase (Frey et al., 2005, 2009).

Because normative beliefs supporting aggressive retaliation have been associated with increased aggression over the school year (Huesmann & Guerra, 1997), we hypothesize that children in the control group whose beliefs endorse aggression at the pretest will show increases in gossip. Intervention-group children are not expected to show this relationship, as those who endorse aggression at the beginning of the year may learn successful nonaggressive ways to interact with peers. We also hypothesize that children in the control group who have been targets of gossip will be increasingly victimized if they endorsed strong beliefs related to retaliatory aggression at the beginning of the year. These children are more likely to be both aggressive and victimized, which is linked to continued peer abuse (Schwartz et al., 1998; Snyder et al., 2003). Intervention-group children are not predicted to show this relationship given that participation in the *Steps to Respect* program will enable children to learn more skills and receive more peer support for constructive and more effective responses when angered or threatened.

#### **Supportive Friends**

Having supportive friends has long been demonstrated to yield both psychological (e.g., loneliness) and academic benefits, in regard to school adjustment, avoidance, and performance (Ladd, 1990; Ladd, Kochenderfer, & Coleman, 1996). Despite strong evidence linking perceived social support to adjustment (more generally) among youth, the role of perceived social support with respect to relational aggression is not well elucidated. If we

look to the broader aggression literature, research has focused on the role of peer support in helping children cope with victimization and peer support as a protective factor that reduces the incidence of victimization.

Much of the literature on peer support as a coping mechanism has shown that chronically victimized youth may have difficulty using social support. For example, Hunter and Boyle (2004) found that children who had been targeted for aggression for more than 4 weeks indicated using less social support than children who had been targeted for less than 4 weeks. In their investigation, social support consisted of asking for advice, accepting sympathy, or talking to someone who could help with the problem. Other work suggests that *seeking* social support (i.e., asking for help or advice from family or friends) may be a useful coping mechanism for victimized girls (Kochenderfer-Ladd & Skinner, 2002). For boys, however, *seeking* social support may be associated with decreased likeability, perhaps because it suggests personal weakness. Social support from classmates can buffer victimized adolescents from psychological distress (Davidson & Demaray, 2007) and high-quality friendships appear to buffer victimized students from internalization problems (Hodges, Boivin, Vitaro, & Bukowski, 1999). Having low-quality friendships, however, seems to exacerbate the negative effects of victimization.

Although research on victimization rates generally suggests the protective elements of social support, there is again the suggestion that peer support may have unexpected consequences. Garnering support from friends generally appears to be a protective factor for children. Internalizing and externalizing problems place children at risk for increased physical and verbal victimization unless they have friends who are “willing to stick up for you” (Hodges et al., 1999). Kochenderfer and Ladd (1997) found that boys who continued to be victimized across the school year were less likely to have friends help them, according to peer report, than boys whose victimization was limited to the beginning of the year. Although this pattern was not replicated for females, the authors suggest that the range of

behaviors provided in their survey as possible responses to victimization was too limited and not well suited for relational victimization.

Notably, Kochenderfer and Ladd (1997) note that peer support may take many forms. Some peers may offer emotional support in private, whereas others may encourage retaliation or engage in malicious gossip about the original perpetrator. Observations made during construction of the coding system showed that friends sometimes escalated conflicts by jumping into the fray on behalf of an initially victimized child. More recently examined is the influence of peers on victim behavior. Terranova (2009) found that students with supportive friends may be more likely to retaliate against an aggressor, a behavior associated with continued victimization (Kochenderfer & Ladd; Schwartz et al., 1998; Snyder et al., 2003). The *Steps to Respect* program emphasizes the potentially positive role of friends by teaching assertiveness, conflict resolution, and other friendship skills. Despite the limited research base, some researchers (e.g., Kochenderfer & Ladd; Smith & Talamelli, 2001) point to the importance of facilitating the skills to not only make friends, but also teaching them how to elicit effective support, much like is done in the *Steps to Respect* program.

We hypothesize that having supportive peers at the beginning of the year will serve as a buffer to victimization for those in the intervention group, given that the program also teaches constructive methods of defending or supporting victimized students (Kochenderfer-Ladd, 2004). Peers in the control group, however, may stand up for victimized students using aggressive strategies that exacerbate ongoing conflicts and may encourage revenge-seeking among victims (Kochenderfer-Ladd, 2004; Terranova, 2009).

## Gender and Grade

Previous examination of *Steps to Respect* program effects did not find evidence that boys and girls responded differently to the intervention. We therefore hypothesize no differences, but examine this possibility in all

analyses. We also look for evidence that results are modified by grade.

### Method

Six elementary schools in the Pacific Northwest participated in the study. Conditions for inclusion were that (a) 80% of all staff voted to participate, (b) staff agreed to random assignment to intervention or wait-list control conditions, and (c) principals agreed to refrain from introducing similar interventions during the study. Schools within two suburban districts were matched for district, size, ethnic breakdown, and percentage of students receiving free and reduced-price lunch (range = 21% to 60%). One of each pair was randomly assigned to the intervention and one to the wait-list control group.

### Participants

**Students.** Although all students in Grades 3–6 received *Steps to Respect*, their involvement in measurement activities required parental consent. Active parental consent was obtained for 64% of students in Grades 3–6, yielding an original sample of 1126 students. Written child assent was obtained from fourth- to sixth-graders during survey administration at pretest. Approximately 10 students from each class in Grades 5 and 6, and 12 students from each class in Grades 3 and 4, were randomly selected to be observed on the playground. We collected pretest observations for 610 students. Of those, 93.4% ( $n = 570$ ) remained at their schools through spring observations. Students who missed recess because of illness (5.2%) accounted for failures to attain the a priori minimum of 40 min of observation during each observation period. The remainder were included in this study ( $n = 544$ , 50.7% male and 49.3% female).

Student ethnic background and English proficiency were reported by teachers to minimize missing data from parents. The student sample was 9% African American, 12.7% Asian American, 7.0% Hispanic American, 1.3% Native American, and 70.0% European American. The proportion of students speaking English as a

second language (11.5%) did not vary by condition,  $\chi^2(1) = 0.36$ , *ns*, nor were there differences in ethnic makeup between conditions,  $\chi^2(4) = 4.88$ , *ns*.

**Teachers.** Teachers in 36 experimental and 36 control classrooms completed consent forms. The majority of teachers (84.9%) were female. All teachers agreed to complete study measures, for which they received \$100 in the fall and spring. Experimental teachers also agreed to periodic observation of program lessons. None had previous experience with *Steps to Respect*.

### Program Implementation

**Implementation sequence.** School teams in the intervention group developed antibullying policies and systems to handle bullying reports in September and October. Committee for Children trainers conducted standard professional development activities for intervention school personnel in November after school on 2 days. The first day, intended for all school personnel, provided definitions and background information, policies and procedures, and classroom lesson objectives. The second day was devoted to the classroom curricula. Classroom lessons were implemented from January through March. Ten weeks were devoted to skill lessons and rule clarification. Two weeks of literature-based lessons emphasized empathy.

**Implementation fidelity.** Teachers' ratings of school-wide implementation on a 4-item scale (1 = *poor*, 4 = *excellent*) indicated that by the end of the school year, program policies and procedures were well institutionalized ( $M = 3.25$ ,  $SD = 0.44$ ,  $n = 29$ ). Grade 3–6 teachers reported teaching 99.2% of classroom skill lessons. Program consultants recorded bimonthly ratings of observed classroom lesson quality and completion of learning objectives. Based on 50 observational sessions, kappa values were .62 for lesson quality and .81 for completion of objectives. On a scale of 1 (*poor*) to 3 (*good*), mean lesson quality was rated at 2.24. Observed completion of classroom learning objectives

was rated at 91%. Thus, adoption and dosage were good to very good and lesson quality was slightly above average.

### Overview of Data Collection Procedures

Student playground behavior was observed approximately once a week for 2.5 months in the fall (October to December), and in the spring (April to June). The 5-min focal-child sampling with continuous recordings were collected in a randomly determined order. Surveys of student beliefs were administered in class at two time points: mid-November and early May. Items were read aloud to students by one research assistant. A second assistant was on hand to assist individual students. Between the pretest and post-test, program consultants collected data on implementation fidelity.

#### Development of the coding system.

The coding manual and specific behavioral descriptors (Snell & Frey, 2000) were created following many hours of observing videotapes of playground behavior in Toronto and in vivo observations on Pacific Northwest playgrounds. The latter indicated that gossip could be coded relatively easily because of the length of the episodes. Our coding system defined slander/malicious gossip as derogatory talk or labels applied to a third party (e.g., "Is the cootie girl in your class?" "Did you hear Dan cheated on the exam?"). Neutral or positive talk about a third party is not included in this category.

**Observer training.** Descriptions were refined in collaboration with observers during the 240-hr training period. The coding manual was used in conjunction with custom-programmed PDAs. A touch-screen format automatically opened multiple screens in a response-contingent order, thereby reducing operator error. Paid coders all had bachelor's degrees, and anticipated or were enrolled in graduate study. They were masked to condition and to the purpose of the study. An initial 240-hr training in a mutually exclusive and exhaustive coding system was followed by 60-hr "refresher" courses prior to post-tests.

At each time point, coders had to agree with a master coder (minimum of  $\kappa > .70$ ) on playground videotapes, followed by a minimum kappa of .70 for in vivo coding.

To prevent observer drift, random agreement checks were made by master coders throughout data collection. Agreement was calculated on a second-by-second basis for 15% of the sessions ( $N = 210$ ). We evaluated inter-rater reliability using kappa, which corrects for chance agreement. Values for relatively low-frequency events, such as aggression, tend to be heavily discounted, because coders have a high probability of agreeing that the behavior *did not occur* in any one second. Kappa values for gossip,  $\kappa = .69$ , were adequate (Pellegrini, 1996). Kappa values for the *analyzed* behaviors may be higher than these values suggest, because they were aggregated over 10 sessions for each time period, rather than computed on an event-by-event basis (Hubbard, Dodge, Cillessen, Coie, & Schwartz, 2001).

Coders were minimally responsive to students while coding on the playground and students generally appeared nonreactive. This may be attributed to a careful and lengthy habituation process in which coders spent time on the playground in the fall prior to beginning data collection. Although we did not specifically measure reactivity, students were overheard to tell each other that "they (the observers) don't do anything." This could help explain why coders were able to observe behaviors apparently not accessible to teachers. Teachers could accurately identify students who were insulting or physically aggressive, but they could not identify students whose aggression was primarily expressed as gossip (Frey et al., 2005).

**Student survey of beliefs and behavior.** Two 4-point scales (0 = *not true*, 3 = *very true*) from the Student Experience Survey: What School is Like for Me (Frey et al., 2005) were used in the current study. Supportive Friends is a 3-item scale ("I have friends at school," "I have friends who will help defend me if I get picked on," and "At school, I have friends who really care about me") with an internal reliability of  $\alpha = .76$  at the pretest and

.80 at post-test. Beliefs Endorsing Retaliation is a 7-item scale of children's normative beliefs related to overt and relational retaliation (e.g., "If you're angry at someone, it's okay to keep them out of your group of friends" and "It's okay to say something mean to a kid who really makes you angry") with an internal reliability of  $\alpha = .86$  at pretest and  $.88$  at post-test.

## Results

First, a description of who is involved in gossip as a target and/or perpetrator is provided. Then, baseline differences in rates of gossip as a function of group, gender, and grade are examined. Means show participation in playground gossip as rate per hour, a meaningful metric, given that total time on the playground (recesses and lunch break) was close to an hour a day in these schools. The frequencies were not normally distributed, with more severe deviations from normality in the post-test data. We examined several possible transformations and found that change scores, calculated by subtracting the spring rate of gossip participation from fall rates, provided the most acceptable distributions and residual values. Statistically comparable to a repeated-measures analysis, these analyses provided unbiased estimates of true change regardless of baseline levels (Zumbo, 1999). Previous investigations of playground aggression have used change scores to address distribution problems typical of low-frequency behaviors (e.g., Grossman et al., 1997; Reid, Eddy, Fetrow, & Stoolmiller, 1999).

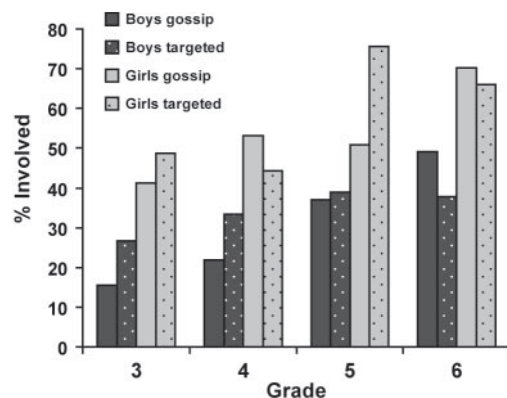
Both pretest and longitudinal data were analyzed using hierarchical mixed models (SPSS 14.0) to adjust for shared error among classmates: individual students (random effect, Level 1) nested within classrooms (random effect, Level 2). The number of schools was too small to provide sufficient power for analyses at the school level. Other school-based research on aggressive behavior (Gottfredson, Gottfredson, Payne, & Gottfredson, 2005; Reid et al., 1999) has found intraclass correlations at the school level to be quite small, in contrast to relatively large intraclass

correlations at the classroom level. Further, variations between classrooms are more closely linked to victimization than variations between schools (Bonnet, Goosens, Willems, & Schuengel, 2009). We used standardized mean differences (Cohen, 1988) to estimate the relative magnitude of the significant group differences. Strength of the associations between dimensional variables and outcomes are indicated by parameter estimates.

### Yearly Involvement as a Function of Grade and Gender

Over the school year, girls were more likely than boys to be involved as gossips,  $\chi^2(3) = 30.01, p < .01$ , and as targets of gossips,  $\chi^2(3) = 27.02, p < .01$ . As shown in Figure 1, older students were also more likely to become involved as gossips,  $\chi^2(3) = 25.05, p < .01$ , or targets,  $\chi^2(3) = 16.71, p < .01$ , than younger students.

Being involved as a gossip was not independent of being a target of gossip,  $\chi^2(1) = 37.36, p < .01$ . Students who were involved only as targets (20.4%) or perpetrators (15.8%) were underrepresented compared to students involved in both roles (24.4%) or not involved at all (39.3%). This pattern was found among boys and girls and among younger and older students (all values of  $p < .01$ ).



**Figure 1.** Yearly percentages of students involved in gossip as a function of gender and grade.

**Table 1**  
**Means (and Standard Deviations) for Hourly Rates of Gossip (Perpetrated and Experienced) as a Function of Group Assignment and Involvement at the Fall Pretest**

Victimization Status	Intervention Group		Control Group	
	Baseline Involvement	No Baseline Involvement	Baseline Involvement	No Baseline Involvement
Perpetrator of gossip	<i>n</i> = 71	<i>n</i> = 225	<i>n</i> = 70	<i>n</i> = 178
Fall	1.99 (1.26)	0	1.76 (1.04)	0
Spring	0.55 (1.06)	0.32 (.84)	0.84 (1.57)	0.38 (.84)
Target of gossip	<i>n</i> = 71	<i>n</i> = 225	<i>n</i> = 72	<i>n</i> = 176
Fall	1.70 (1.18)	0	1.73 (0.93)	0
Spring	0.51 (0.91)	0.37 (.78)	0.70 (1.57)	0.49 (.97)

### Rates of Baseline Gossip as a Function of Gender, Grade, and Group

We examined fall data for gender, grade, and group differences. Gender and grade were entered as fixed Level 1 variables, group as a fixed Level 2 variable. Analyses of gossip showed no group differences during the fall baseline ( $t < 1$ ). Parameter estimates revealed significant contributions of gender (estimate =  $-0.33$ ,  $t = 4.96$ ,  $p < .01$ , effect size [ $ES$ ] =  $0.36$ ) and grade (estimate =  $0.33$ ,  $t = 3.09$ ,  $p < .01$ ,  $ES = 0.32$ ) in baseline gossip. Gossip was perpetrated by girls and older students more than boys and younger students. Gossip also varied by classroom, Wald  $z = 3.50$ ,  $p < .01$ .

There were also no significant group differences in the rates at which students were targeted for gossip during the fall baseline ( $t = 1.08$ ,  $ns$ ). Girls (estimate =  $-0.30$ ,  $t = 4.48$ ,  $p < .01$ ,  $ES = 0.31$ ) and older students (estimate =  $0.19$ ,  $t = 2.59$ ,  $p < .05$ ,  $ES = 0.30$ ) were more frequently targeted for gossip than boys and younger students. Targeting did not vary by classroom, Wald  $z < 1$ .

### Group Changes Over the School Year

Means and standard deviations for hourly rates of gossip in fall and spring are presented in Table 1. Our analyses first provide student retention rates over 6 months,

comparing retained students to those lost to attrition. We then tested intervention efforts using mixed models. Covariates for gender and grade were entered as fixed Level 1 variables and retained in the models if they contributed at significant or near significant ( $p < .10$ ) levels. Preliminary analyses showed no interactions between group and covariates. Pretest involvement in gossip was entered as a fixed Level 1 variable and group was entered as a fixed Level 2 variable. A final set of analyses tested whether beliefs that students held at the beginning of the school year (endorsement of retaliatory aggression, perceived friend support) added to our ability to predict gossip at the end of the year. These were entered singly as fixed Level 1 variables.

### Retention Analyses

Retention rates (92.4%) did not differ by group  $\chi^2(1, n = 620) = 1.72$ ,  $ns$ . Pretest behaviors of students for whom we had 40 min of fall and spring data ( $n = 540$ ) did not differ on any measure from those for whom we had incomplete data ( $n = 620$ ).

### Changes in Playground Gossip

**Intervention effects.** Changes in the rate of exclusionary gossip varied as a function of group assignment (estimate =  $-0.56$ ,  $t = 2.67$ ,  $p < .01$ ), and the interaction of group

**Table 2**  
**Summary of Mixed Model Analyses for Changes in Gossip Victimization**

Parameter	Parameter Estimate	<i>t</i> Value
Gender	0.28	3.32**
Grade level	0.36	3.62**
Pretest victimization	1.16	5.88**
Group	-0.49	1.98*
Group × pretest victimization	0.51	1.83 <sup>†</sup>
Beliefs	-0.07	3.47**
Beliefs × pretest victimization	0.10	3.43**
Beliefs × group	0.08	2.46*
Beliefs × group × pretest victimization	-0.10	2.90**

<sup>†</sup>  $p < .10$ .

\*  $p < .05$ .

\*\*  $p < .01$ .

and pretest involvement (estimate =  $-0.55$ ,  $t = 2.45$ ,  $p < .05$ ). Changes in rates per hour did not differ by group among those who did not gossip during pretest observations ( $t < 1$ ). Involved students in the intervention group showed significant declines relative to their peers in the control group (see Table 1). Calculating the standardized mean difference indicated a moderately large change,  $d = 0.53$ . Classrooms also varied in the rate of change observed over the year (estimate =  $-0.15$ , Wald  $z = 2.66$ ,  $p < .01$ ).

Changes in rates of victimization were not related to group (estimate =  $0.15$ ,  $t < 1$ ) nor the interaction of group and pretest involvement (estimate =  $-0.06$ ,  $t < 1$ ). Targeting of girls increased over the school year ( $M = 0.06/\text{hr}$ ) compared to boys ( $M = 0.01/\text{hr}$ ).

**Contribution of beliefs supporting retaliation.** Separate analyses examined the contribution of students' fall retaliatory beliefs on levels of gossip in the spring. There were significant interactions of beliefs by group (estimate =  $0.15$ ,  $t = 4.13$ ,  $p < .01$ ) and group by pretest involvement (estimate =  $-0.14$ ,  $t = -3.38$ ,  $p < .01$ ). Pretest beliefs supporting retaliation did not predict changes in gossip among students not involved in gossip in the fall. For involved students, the directions of association between pretest beliefs and change

in gossips were in line with predictions for the control (estimate =  $0.04$ ,  $t = 1.27$ , *ns*) and intervention groups (estimate =  $-0.05$ ,  $t = 1.61$ , *ns*). Neither relationship was significant, however.

Retaliation beliefs were strongly related to changes in victimization by gossip (see parameter estimates in Table 2). Examination of within-cell relationships indicated that beliefs supporting retaliation were strongly associated with increasing victimization among previously targeted students in the control group (estimate =  $0.66$ ,  $t = 2.55$ ,  $p < .05$ ), but not in the intervention group (estimate =  $-0.34$ ,  $t = -1.20$ , *ns*). Retaliation beliefs were not related to changes among students who were not targeted at pretest (estimate  $< 0.01$ ).

**Contribution of supportive friends.** Students' perceptions of friends' support in the fall was examined with respect to later victimization. Although supportive friends did not add to the model overall (estimate =  $0.05$ ,  $t < 1$ ), we found a significant contribution for the interaction of group assignment and supportive friends (estimate =  $-0.07$ ,  $t = 1.99$ ,  $p < .05$ ). Having supportive friends at baseline predicted significant declines in victimization for students in the intervention group (estimate =  $-0.16$ ,  $t = 2.02$ ,  $p < .05$ ), but not

in the control group (estimate = 0.10,  $t = 1.02$ , *ns*).

Because previous research has indicated that supportive friends may sometimes encourage aggressive retaliation on the part of victims (Terranova, 2009), we undertook exploratory analyses changes in *gossip* among the 143 students who were *targets* of gossip during baseline observations. We hypothesized that having supportive friends would predict declines in year-end gossip within the intervention group. Among victimized students in the control group, we predicted that having supportive friends would precede increases in year-end gossip. Although parameter estimates were in line with our predictions for intervention (estimate =  $-0.14$ ,  $t = 1.76$ ,  $p < .10$ ) and control groups (estimate =  $0.15$ ,  $t = 1.37$ , *ns*), the group by friend support interaction was not significant (estimate =  $0.22$ ,  $t = 1.67$ ,  $p < .10$ ).<sup>1</sup>

### Discussion

The current study is one of only a handful that examines the effect of a universal prevention program on reducing a specific form of relational aggression. The paucity of such studies is the product of both failure to discriminate between various forms of aggression, as well as the failure of many prevention programs to specifically address relational aggression. This innovative randomized control trial examined malicious gossip, an important type of relational aggression, as it occurred on elementary school playgrounds, as recorded by trained observers who were masked to condition.

Even though this study examined only a 1-year implementation of a program that is designed to have a cumulative effect over 3 years, current findings show considerable promise for universal interventions in producing declines in malicious playground gossip. Group differences in gossip reduction were substantial, amounting to projected reductions of approximately 234 fewer instances of gossip (per class of 25) over the spring observation period and 270 fewer instances of being targeted for gossip, even though reductions in

victimization were limited to intervention students with more supportive friends.

The benefits of intervention on gossip were not limited by an individual's beliefs about retaliation. Fall beliefs supporting aggressive retaliation did not contribute substantially to the prediction of springtime gossip above and beyond the contributions of fall gossip levels and group assignment. Despite significant interactions in the model, neither the increase in the control group nor the decrease in the intervention group was significant. We had expected a significant link for the control group at least, given that other observations have found a link between aggressive attitudes and subsequent increases in physical and verbal aggression (Huesmann & Guerra, 1997). There is evidence, however, that the link between norms and aggression are specific to the subtype of aggression. Therefore, norms about relational aggression are predictive of relational aggression, but not physical aggression (Werner & Nixon, 2005). Because our beliefs scale included physical, overt verbal, and relational aggression, it may have lacked the precision required to predict gossip. A child who gossiped at high levels, for example, might endorse the use of relational aggression but not physical and direct verbal retaliation. Another possibility is that only some of the gossip we observed was retaliatory, and that other instances were motivated by instrumental goals such as maintaining status.

In contrast to overall intervention effects on gossip, victimization rates did not decline among intervention group targets unless they perceived themselves to be supported by friends. We noted in earlier research that playground victimization declined when intervention students received individual support from teachers (Hirschstein, Edstrom, Frey, Snell, & MacKenzie, 2007). Victimized students may be in particular need of support from others to gain confidence and to learn how to respond assertively to aggression.

Students' reports of friends' supportiveness did not significantly change over the school year (values of  $t < 1$ ), but this does not negate the possibility that *Steps to Respect*

may potentiate the protective effects of supportive friends. Rather, it points to the underlying theory of social-ecological models, in which peer- and school-level factors work in concert in shaping behavior.

For example, one possible explanation may be that participation in *Steps to Respect* helps children use supportive friends in more effective ways, or be more confident asking for help. Contextual factors may also influence students' definition of what it means to be a supportive peer. The program lessons teach multiple ways for peers to express positive norms. Support may represent an action on behalf of the victim or even a withdrawal of passive support from aggressors. For example, previous research has shown that students felt more assertive after participation in *Steps to Respect* (Frey et al., 2005, 2009), a quality linked to prosocial behavior (Midlarsky & Hannah, 1985). The program was also extremely successful in reducing the audience for aggression (Frey et al., 2005, 2009). Given that the program identified the ways that even passive behaviors provide power to aggressive peers, students who did not support the victimization of friends may have felt empowered to reject or avoid the bystander role.

Contrary to some research (e.g., Hodges & Perry, 1999), but consistent with our hypotheses, we did not find that supportive friends were linked to reductions in victimization in the control group. Not all friendships are protective (Hodges et al., 1999) and not all expressions of support may be constructive. One possibility is that supportive friends in the control group often responded aggressively to their friends' victimization. Our informal observations suggest that this led to "tit-for-tat" exchanges and more prolonged bouts of aggression. Similarly, Terranova (2009) found that victims with supportive friends may be more likely to retaliate against aggressors, a behavior associated with continued victimization (Kochenderfer & Ladd, 1997; Snyder et al., 2003). Because retaliation is often delayed, our observations could not link gossip occurring within our coding window with earlier provocations or later responses. Our exploratory analyses of changes in aggression among

victimized students provide limited support for the hypothesis that victims with supportive friends may have responded less frequently with aggression if they were in the intervention group than if they were in the control group.

A final consideration is that the actions of supportive friends may have different influences on overt aggression than they might on gossip. Whereas the friendship of an aggressive or popular peer might discourage overt aggression (Hodges et al., 1999), it might *invite* covert aggression (Eder, 1985). Several questions seem ripe for further investigation. Do different types of support vary in their influences on overt and covert aggression? What kinds of behaviors do supportive peers foster in their friends? Does intervention change the types of support offered and the types of support desired by victims? Future work providing detailed information about the types of support children receive (and whether these vary by gender or age) would be instrumental in tailoring prevention curricula. Also worth examining are classroom differences in social support. Previous work suggests that specific teaching practices can influence aggressive norms and social support in both intervention and control classrooms (Frey, Jones, Hirschstein, & Edstrom, in press; Hirschstein et al., 2007).

Results support the hypothesis that norms supporting aggressive retaliation may be a potent risk factor for repeated victimization, but only among the control-group children. Even if students personally believe that retaliation is justified, they may be less likely to do so if they develop greater confidence in their ability to respond assertively and effectively (Frey et al., 2005). Norms represent motivational schemas that may lead to aggressive responses if not accompanied by skills for responding to feelings of anger or direct threats appropriately. The current data support the program approach of addressing both motivational factors and performance skills (Frey & Nolen, 2010).

Observations indicated that boys were active participants as initiators and as targets of gossip, albeit at lower levels than girls.

Both boys and girls showed increased participation at the end of elementary school. Contrary to observations of overt aggression (Grossman et al., 1997; Reid et al., 1999), we did not find an overall increase (or decrease) in gossip across the school year in the control group. This finding awaits replication and a consideration of how gossip may influence other forms of aggression. Rumors may contribute to later social tensions, and even overt aggression, for example, by creating “He said...She said” types of controversies.

The current study integrated rigorous observational methods within the larger context of a randomized control efficacy trial. One significant benefit of this approach was a greater understanding of nuanced and often unexpected social processes among school-aged children. Although some of the gossip we observed was truly covert, the semipublic type of gossip that we observed has not been described in previous research with this age group. Until making our preliminary observations, we had assumed that all gossip would be covert, performed without the knowledge of the targeted individual or third-party observers. However, much of the behavior we observed had qualities of being nonconfrontational, but also overt, suggesting that boundaries between aspects of relational aggression may not be clearly delineated. Descriptions of similar behavior are found in workplace ethnographies (Foster, 2004) and in Williams’ seminal book on ostracism (2001). Individuals may make derogatory comments to a third party as though the targeted person were not in the room. In our observations, gossiping students sometimes appeared to want the targeted student to know that derogatory statements were being made, by looking in the direction of the student and conspicuously laughing, for example. We have not seen this type of behavior described in previous accounts of relational aggression in the intermediate grades, and suggest that there may be developmental differences in the forms of relational aggression (e.g., children may be less sophisticated in using more subtle mechanisms of aggression).

Although there are benefits of studying one social ecology in depth, there are several methodological limitations to this approach that should be taken into consideration. Because of the observational approach, we could not capture patently covert forms of relational aggression that weave through social networks. Without an assessment of student reactivity, we do not know whether students simply became more covert when in the presence of observers. Nor do we know how person-to-person gossip on the playground related to electronic methods of spreading rumors and attacking relationships. Rather, we were confined to one specific social context, observable gossip, which may be more common in locations in which there is an audience for the victim’s humiliation, such as the school bus or the lunchroom. We also were not able to discern whether the victims felt humiliated or otherwise offended by the actions of the gossipers. However, making this distinction may not be critical, as these behaviors erode the overall perceived safety and trust in the school environment (Goldstein, Young, & Boyd, 2008). Finally, our survey did not provide important information about the types of support provided by friends.

Despite these limitations, the current study makes a significant contribution to the prevention literature by using a rigorous design and observational methods. Although prevention methodologists have argued for greater use of observation methodology in randomized control trials (Snyder et al., 2006), we know of no other school-based program evaluation that has observed playground gossip. The results provide important information for school psychologists and highlight the importance of both ecologically based and developmentally informed prevention practices. It is important for psychologists to identify the various forms of aggression, but as these findings suggest, the topography of aggression may differ over the course of development, something that should be taken into account during program development. The program we evaluated, *Steps to Respect*, was effective at reducing victimization among those who endorsed retaliatory aggression in the fall. Re-

tialiation places students at risk for continued victimization (Kochenderfer & Ladd, 1997; Snyder et al., 2003)—suggesting the efficiency of intervening earlier in the course of development.

School psychologists may also need to educate teachers about the negative consequences of relational aggression for the learning environment. Whereas educators view relational aggression as less severe than physical aggression, children rate them as equally painful (Newman & Murray, 2005). Further, teachers are unlikely to respond to problems if they do not feel they have effective tools (Mishna, Scarcello, Pepler, & Wiener, 2005). We found significant classroom variation in gossip and changes in gossip. Our earlier reports on implementation factors in this intervention suggests that teacher variation in less scripted elements of program implementation (e.g., individual coaching of victimized students, classroom support of student empathy) may be a more important predictor of student outcome than more conventional measures of implementation (e.g., lesson dosage and fidelity), at least when such measures indicate fairly high levels (Frey et al., in press; Hirschstein et al., 2007). Even simple efforts on the part of teachers to encourage student empathy and assertiveness outside of formal lessons were associated with reduced student support for retaliatory aggression, less retaliatory aggression, less victimization, and less bystander support of aggression. School psychologists can support teachers by providing encouragement and information about practical, effective programs and practices that can reduce relational aggression at school.

### Footnotes

<sup>1</sup>Having supportive peers at pretest did not predict later gossip within the group as a whole (values of  $t < 1.03$ ).

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Sabina Low, PhD, is an assistant professor of psychology at Wichita State University. Her research activities and interests include health risk behavior prevention, peer relations, dating aggression, and program evaluation. She recently served as the co-principal investigator on a cluster randomized control trial of an elementary bullying prevention program, and is principal investigator on a large-scale randomized middle school bullying prevention trial.

Karin S. Frey, PhD, is a research associate professor of educational psychology at the University of Washington. Her research interests include bullying and retaliatory aggression, bystander behavior, empathy development, and the contribution of teachers to the success of intervention programs. She specializes in direct observations of children's aggressive and prosocial behavior.

Callie Brockman is a graduate student in the clinical psychology program at Wichita State University. Her dissertation research is focusing on electronic aggression: prevalence, risk and protective factors; and the effect of a violence prevention program.