

Evaluation of Responding in Peaceful and Positive Ways (RIPP): A School-Based Prevention Program for Reducing Violence Among Urban Adolescents

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Evaluated Responding in Peaceful and Positive Ways (RIPP)—a 6th-grade universal violence prevention program. Classes of 6th graders at 3 urban middle schools serving predominantly African American youth were randomized to intervention (N = 321) and control groups (N = 305). Intervention effects were found on a knowledge test but not on other mediating variables. RIPP participants had fewer disciplinary violations for violent offenses and in-school suspensions at posttest compared with the control group. The reduction in suspensions was maintained at 12-month follow-up for boys but not for girls. RIPP participants also reported more frequent use of peer mediation and reductions in fight-related injuries at posttest. Intervention effects on several measures approached significance at 6-month and 12-month follow-up. The program's impact on violent behavior was more evident among those with high pretest levels of problem behavior.

In recent years, increasing national attention has focused on youth violence. Although overall homicides in the United States have declined since 1993, homicide and nonfatal violent victimization among youth remain at historically high levels, and the average age of both victims and perpetrators has decreased (Mercy & Potter, 1996; U.S. Department of Justice, 1999). Concern about youth violence is reflected in the national goals identified in *Healthy People 2010* (U.S. Department of Health and Human Services, 2000). These goals focus on reducing behaviors that place youth at risk for violence (e.g., decreasing the rate of weapon-carrying on school property and physical fighting by adolescents in Grades 9–12) and increasing services that protect them from violence. Although implementation of such services may be a good idea, there are limited data to in-

form decision makers about which specific strategies or combinations of strategies work best with which populations (Catalano, Berglund, Ryan, Lonczak, & Hawkins, 1998; Elliott & Tolan, 1999; Samples & Aber, 1998).

This article describes the evaluation of one community-based effort to develop an effective violence prevention program for early adolescents. This project was initiated in 1991 in response to community concern about youth violence in Richmond, Virginia (Farrell, Meyer, & Dahlberg, 1996). As in many urban areas, violence represents a serious problem in Richmond, particularly among youth. Data collected in a previous study of 496 sixth graders in this school system reflect their frequent exposure to violence (Farrell et al., 1996). More than 84% reported having seen someone beaten up, and 37% reported having seen someone get shot. These youth are also frequently victims and perpetrators of violence. Based on self-report, 70% of boys and 44% of girls had been in a physical fight, 8% of boys and 5% of girls had been injured in a fight, 10% of boys and 2% of girls had been threatened by someone with a weapon, and 16% of boys and 5% of girls had threatened someone with a weapon, all in the preceding 30 days.

School-based programs are an important component of comprehensive violence prevention efforts (Farrell, Meyer, Kung, & Sullivan, 2001; Goldstein & Conoley, 1997). Implementing programs within schools is an efficient and effective way of reaching youth that avoids practical problems such as locating a site, recruiting participants, and providing transporta-

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tion. Also, because of the amount of time students spend there, schools are often where conflicts occur (Commission on Violence and Youth, 1993). Access to prevention specialists and peer mediators provides opportunities to help students learn how to address conflicts as they occur and to promote prosocial skills (Van Slyck, Stern, & Zak-Place, 1996). By integrating programs into an existing system, school-based programs have a greater potential for continuation.

The transition to middle school represents an optimal time for violence prevention. According to Anderman and Kimweli (1997), students who attend middle schools or junior high schools report lower perceived school safety and higher levels of victimization in school than students who attend schools with K–8 or K–12 configurations. More generally, opportunities for conflicts increase as youth enter adolescence because of a variety of changes that occur. For example, peers become the primary focus of relationships, power relationships in the family change, the nature of male–female relationships changes, school becomes more difficult, and the need to develop a separate identity emerges (Crockett & Petersen, 1993). According to the human development life-span perspective, the increased number of challenges that occur during transitions makes them optimal times for promoting positive change (Danish, 1981).

Responding in Peaceful and Positive Ways (RIPP), like most universal violence prevention programs, focuses primarily on situational and relationship violence (Farrell et al., in press; Meyer, Farrell, Northup, Kung, & Plybon, 2000). The current version is the end product of a series of studies in which intervention components were developed, implemented, evaluated, and revised based on process and outcome findings. The goal of RIPP is to increase adolescents' capacity and motivation to respond to developmental challenges in ways that facilitate social skill acquisition and acceptance of personal responsibility. The work leading up to the development of the 25-session RIPP intervention and its underlying conceptual model is described in Meyer and Farrell (1998).

RIPP represents an application of theoretical and empirical research on social cognition, aggression, and norms. The social information processing model for understanding social adjustment describes children's behavioral responses as a function of their personal capabilities, their memory of past experiences, and the way they process the social cues of any given situation (Crick & Dodge, 1994; Dodge, 1986). According to this model, children who behave in aggressive ways have deficits in one or more of these areas. In other words, how individuals respond when faced with a conflict depends on their capabilities (e.g., ability to fight, ability to resolve conflicts peacefully), social knowledge (e.g., personal and vicarious memories of the success or failure of various conflict resolution strategies,

relationship history), and ability to process social information accurately (e.g., understand another person's body language). Responses to conflict also may be influenced by normative factors such as the extent to which their school and peer environment promotes attitudes and behaviors that respect and protect the rights of others (Carlo, Fabes, Laible, & Kupanoff, 1999; Remboldt, 1998).

To ensure that the conceptual framework of RIPP was clear to those implementing the program (Gottfredson, 1984), the health promotion framework of Perry and Jessor (1985) was used to translate social cognitive learning principles into 12 clearly articulated objectives. These objectives are addressed by efforts to simultaneously decrease health-compromising factors and increase health-promoting factors in the areas of behavior, intrapersonal characteristics, and environmental characteristics (Perry & Jessor, 1985). For example, two of the environmental objectives are "Develop norms and expectations for nonviolent means of conflict resolution and positive achievement" and "Provide institutional and peer support for conflict resolution and positive achievement" (Meyer et al., 2000, p. 10). Two of the intrapersonal objectives are "Provide knowledge to support the value of nonviolence conflict resolution and positive achievement" and "Diminish stereotypes, beliefs, and attributions that support violence." Two of the behavioral objectives are "Promote self-management through repeated use of problem-solving models" and "Enlarge skills repertoire for non-violent conflict resolution and positive achievement."

This study evaluated the impact of the sixth-grade RIPP curriculum on knowledge, attitudes, and behaviors targeted by the intervention. Gender differences were examined because such effects were found in a previous violence prevention program (Farrell & Meyer, 1997). We also examined interactions between intervention effects and pretest levels of violent behavior. This is consistent with Stoolmiller, Eddy, and Reid (2000), who noted that moderately aggressive children may be more likely to benefit from universal school-based interventions because those who are less aggressive have less room for improvement and the intervention may not be sufficiently intense for those who are most aggressive.

Method

Setting and Participants

RIPP was implemented and evaluated at three public middle schools in Richmond, Virginia. Potential participants included all sixth graders in non–special education classrooms. A random numbers table was used to assign sixth-grade classrooms within each school to the intervention (13 classrooms, $N = 305$) or to a no-inter-

vention control group (14 classrooms, $N = 321$). There were approximately equal numbers of boys and girls in the intervention ($N = 152$ boys and 153 girls) and control ($N = 162$ boys and 159 girls) groups. Students' ages at the start of the school year ranged from 10.2 to 15.3 years ($M = 11.7$, $SD = 0.6$); 75% were between 11.0 and 12.4 years of age. The majority (96%) were listed as African American on school records. There were no differences between intervention and control groups on gender, ethnicity, or age at $p < .05$.

The RIPP Intervention

RIPP uses a prevention specialist to implement a curriculum that teaches knowledge, attitudes, and skills that promote nonviolence, positive communication, and achievement. Students are instructed in the use of a social-cognitive problem-solving model and specific skills for preventing violence (e.g., avoiding potentially violent situations, talking things through; see Meyer & Farrell, 1998; Meyer et al., 2000). Through repeated use of this problem-solving model, the nonviolent options it makes available, and opportunities for reflection, participants learn how to choose strategies most likely to be successful in a given situation. Three basic techniques are used throughout the program (i.e., behavioral repetition and mental rehearsal of the social-cognitive problem-solving model, experiential learning techniques, and didactic learning modalities). By using the problem-solving model in a cumulative fashion, each session builds on previous ones. Early sessions focus on team building and knowledge transmission, and later sessions focus on skill building and critical analysis.

Three trained prevention specialists implemented the sixth-grade RIPP curriculum during the 1995–1996 school year. All were African American men. Each was assigned to one school. All were required to have a commitment to reducing youth violence; a college education in a relevant field; the ability to demonstrate activities in the appropriate fashion; and skills in classroom management, public speaking, and conflict resolution. The curriculum was implemented in twenty-five 50-min sessions that generally were taught during social studies or health education. Sessions were conducted weekly except for 3 weeks in February while school staff focused on achievement testing. A manual (Meyer & Northup, 1995) was used to increase the consistency of implementation across schools.

Checklists completed by research assistants who observed implementation of the curriculum indicated that all essential elements and nearly all key items for each session were completed. Time constraints for conducting discussions after role playing were the primary reason key items were not completed. A few of the final sessions had to be implemented during the same class

period due to inclement weather. Attendance records indicated that students assigned to the intervention missed an average of 3.6 sessions ($SD = 4.8$); 24% had perfect attendance, and 75% missed four or fewer sessions.

The RIPP curriculum was implemented within the context of a school-wide peer mediation program supervised by the prevention specialist. This provides real-life opportunities to apply conflict resolution and access to a trained specialist who attempts to model appropriate behaviors, create a caring community, and support prosocial norms and expectations. Peer mediation was available to all students, including those in the control condition.

School Variables and Disciplinary Code Violations

Demographic data including gender, ethnicity, and age were obtained from the school system. Data also were obtained by school quarter for all reported violations of school disciplinary codes related to violence, including fighting, assault, and possession of weapons (e.g., guns, chemical weapons, knives, razors); the number of in-school and out-of-school suspensions; grade point average; and attendance. Student transfers resulted in the loss of seventh-grade school data for 116 of the 626 students (18%).

Self-Report Measures

Participants were administered a battery that included outcome measures and measures of mediating variables. The primary outcome measures focused on violent behavior. Although the intervention did not address drug use specifically, it shared some common elements with drug prevention programs (e.g., a focus on peer relationships and problem-solving skills). We therefore assessed drug use frequency to determine the program's general effects on problem behaviors. We also assessed several mediating variables we expected to be influenced by the intervention. These included knowledge of the intervention material, attitudes related to violent and nonviolent methods of addressing problems, and endorsement of nonviolent methods of dealing with problems.

Pretest and posttest data were obtained from students at the beginning (October 1995) and end (May 1996) of the sixth grade. Follow-up data were obtained 6 and 12 months after completion of the program by re-administering measures at the schools the following November (1996) and May (1997). Measures were administered by research assistants unaware of treatment conditions during homeroom or a class period scheduled for testing. Students were assured that their re-

sponses would be confidential, and school officials were not involved in handling completed measures. Students choosing not to participate were instructed to return the blank booklets. A makeup day was scheduled to test students absent on the initial testing day. For each scale, the internal consistency (alpha coefficient) was calculated for each of the four time points. Test-retest reliabilities (Pearson correlations) were also calculated based on the two closest adjacent time points (i.e., May and November 1996) for students who did not participate in the intervention.

Self-report data were obtained from 474 of the 626 students (76%) at both pretest and posttest. Data on pretest and follow-up were available from 410 students (66%) at the 6-month follow-up and 359 students (57%) at the 12-month follow-up. Missing data resulted from 116 students (18%) who left the three schools before the follow-up assessments; 88 to 150 (14% to 24%) who were absent, unavailable, or elected not to participate in one or more assessments; and 11 to 18 (3% to 4%) whose pattern of responses met statistical criteria for random responding (Farrell, Danish, & Howard, 1991).

The Problem Behavior Frequency Scales (Farrell, Danish, & Howard, 1992) were used to assess the frequency of violent behaviors and drug use. For all items, students indicated how frequently they engaged in each behavior in the past 30 days by using a 6-point anchored scale ranging from 1 (*never*) to 6 (*20 or more times*). They also were asked if they had ever used the peer mediator at their school.

The seven-item Violent Behavior Frequency Scale includes items from the Centers for Disease Control and Prevention Youth Risk Behavior Survey (Kolbe, Kann, & Collins, 1993; e.g., “been in a fight in which someone was hit,” “threatened someone with a weapon [gun, knife, club, etc.]”). Alphas in the present study ranged from .69 to .75 across the four time points. The test-retest reliability was .60 ($N = 191, p < .001$).

The six-item Drug Use Frequency Scale assesses the frequency of use for specific drugs (i.e., cigarettes, beer, wine, hard liquor, marijuana, and other drugs). Drugs such as heroin and cocaine were not included because of their low prevalence at this age. Farrell et al. (1992) found that items in this scale were significantly correlated with the self-reported frequencies of risk behaviors such as sexual intercourse and delinquent behavior but not with positive behaviors in seventh and ninth graders. This scale was also significantly, negatively correlated with school records of attendance and grade point average. Alphas ranged from .76 to .90. The 6-month test-retest reliability was .64 ($N = 188, p < .001$).

The RIPP Knowledge Test consists of 12 multiple-choice questions that assess knowledge of the material and problem-solving model covered in the curriculum.

The score reflects the number of correct responses based on knowledge or correct application of material in the curriculum. Alphas ranged from .73 to .76. The 6-month test-retest reliability was .61 ($N = 160, p < .001$).

The Problem Situation Inventory presents students with brief descriptions of six conflict situations and asks them to select the choice that best represents what they would do. Situations were based on focus groups of adolescents and analysis of peer mediation data to identify conflict situations relevant to urban adolescents (Farrell, Ampy, & Meyer, 1998). For each situation (e.g., “imagine that you overhear another student telling one of your friends lies about you”) students were presented with at least two non-violent responses (e.g., “walk away and talk to my friend later”) and two aggressive responses (e.g., “walk up to the student and hit them”). The total score represents the number of situations for which nonviolent responses were selected. Alphas ranged from .71 to .73. The 6-month test-retest reliability was .57 ($N = 170, p < .001$).

Two scales were combined to assess attitudes expected to be influenced by the intervention. The Beliefs Supporting Aggression Scale (Slaby & Guerra, 1988) is a six-item scale designed to assess normative beliefs about physical aggression. The test-retest reliability and construct validity of this measure were established in a study of 15- to 18-year-olds in juvenile correctional facilities (Dahlberg, Toal, & Behrens, 1996). The Attitude Toward Conflict Scale (Lam, 1989) is an eight-item scale that asks respondents how they feel about various violent and nonviolent methods of resolving conflicts. For both scales, students rated their agreement with each item by using a 4-point scale ranging from 1 (*strongly agree*) to 4 (*strongly disagree*). Factor analyses suggested separate factors reflecting favorable attitudes toward violence (e.g., “a guy who doesn’t fight back when other kids push him around will lose respect”) and favorable attitudes toward nonviolence (e.g., “Even if other kids would think I’m weird I would try to stop a fight”). We therefore sorted these items into a six-item Attitudes Supporting Nonviolence Scale ($\alpha = .70-.73$) and an eight-item Attitudes Supporting Violence Scale ($\alpha = .73-.74$). The associated 6-month test-retest reliabilities were .45 ($N = 181, p < .001$) and .56 ($N = 184, p < .001$).

Analysis

Analyses were designed to address several problems commonly encountered in evaluations of universal school-based interventions (Farrell et al., 2001). We addressed attrition by examining its impact on the resulting sample, and we maximized the use of all available data by using a generalized linear model approach (Aitkin, Anderson, Francis, & Hinde, 1989) to

conduct separate outcome analyses at each time point. All data were analyzed by using an intention-to-treat approach in which students assigned to the intervention were included in the intervention group whether or not they actually participated (Kendall, Flannery-Schroeder, & Ford, 1999). For each analysis, pretest scores on the outcome measure, age, and gender were used as covariates to control for any pre-existing differences. Age was entered in years; dummy coding was used for treatment condition (0 = RIPP; 1 = control group) and gender (0 = girls; 1 = boys). During Year 2, seventh-grade classes were selected randomly to participate in the pilot test of a seventh-grade RIPP program ($N = 99$ in the control group and 73 in the intervention). Although no significant effects were found for the pilot implementation, participation was included as a covariate in analyses of the 12-month follow-up data.

Analyses varied as a function of the distributions of each outcome variable. Disciplinary code violations were represented by counts (e.g., number of in-school suspensions). The distribution of such data resembles a Poisson distribution in which the majority of individuals have responses of zero. Disciplinary counts therefore were analyzed by using Poisson regression (Aitkin et al., 1989). Several items on the Violent Behavior Frequency Scale had a low base rate (e.g., fight-related injuries, carrying weapons). Because of their seriousness they were recoded as dichotomous outcomes (e.g., whether the student reported having brought a weapon to school) and were analyzed using logistic regression (Long, 1997). All quantitative scales (e.g., attitude measures) were analyzed using a standard regression approach (Cohen & Cohen, 1983). For each set of analyses, Gender \times Intervention interactions were tested and significant interactions were examined by conducting separate analyses by gender to identify gender-specific intervention effects.

Approaches such as standard regression analysis that treat individuals as the unit of analysis were not appropriate because clusters of students (i.e., classrooms) rather than individual students were assigned to treatment conditions. We used generalized estimating equations (GEE) to address this problem (Norton, Bieler, Ennett, & Zarkin, 1996). The GEE approach is extremely flexible in that it uses standard regression estimates but calculates robust estimates of standard errors that account for intercluster correlations. This approach makes fewer assumptions than other approaches and is well suited to prevention studies of outcomes such as violent behavior because it does not require that outcomes be normally distributed and can be used with almost any type of dependent variable (Norton et al., 1996). Data within this study were analyzed with the SAS GENMOD PROC to estimate models by using the GEE-Independent approach (Liang & Zeger, 1986).

Results

Attrition Effects

Sixth-grade data on disciplinary code violations were available for all students; seventh-grade data were not available for students who transferred out of participating schools. The impact of attrition on follow-up disciplinary data was examined by using sixth-grade data to compare students who remained at the three schools ($N = 510$) to those who did not ($N = 116$). Attrition rates did not differ significantly for the intervention and control groups ($Z = -0.68$) and were not related to gender ($Z = -0.52$), ethnicity ($Z = -0.075$), disciplinary violations for violent behaviors ($Z = 0.77$), or in-school suspensions ($Z = 1.28$). However, those who dropped out tended to be older ($M = 12.0$ vs. 11.6 years; $Z = 3.73$, $p < .001$) and to have lower grade point averages ($M = 1.8$ vs. 2.2; $Z = -3.48$, $p < .001$), lower school attendance ($M = 88\%$ vs. 93%; $Z = -3.80$, $p < .001$), and more out-of-school suspensions ($M = 0.6$ vs. 0.3; $Z = 3.87$, $p < .001$). No significant Treatment Group \times Attrition effects were found, indicating that attrition influenced both groups similarly.

Although efforts were made to test all students in non-special education classrooms, some data were lost due to absences and students who elected not to complete the measures. School data were used to compare the 474 students with complete pretest and posttest self-report data to the 152 students with missing data. The two groups did not significantly differ in participation in the intervention ($Z = -0.46$), gender ($Z = -0.95$), ethnicity ($Z = -1.03$), or in-school suspensions ($Z = 1.87$). Those from whom data were not obtained tended to be older ($M = 12.0$ vs. 11.6 years; $Z = 4.12$, $p < .001$) and to have lower grade point averages ($M = 1.6$ vs. 2.2; $Z = -7.07$, $p < .001$), lower school attendance ($M = 87\%$ vs. 93%; $Z = -4.56$, $p < .001$), higher rates of disciplinary code violations for violent behavior ($M = 0.4$ vs. 0.1; $Z = 2.90$, $p < .01$), and more out-of-school suspensions ($M = 0.8$ vs. 0.2; $Z = 4.24$, $p < .001$). No significant Treatment Group \times Attrition effects were found, indicating that attrition influenced both groups similarly.

Intercorrelations Among Measures

Correlations among the outcome dimensions at pretest and posttest are reported in Table 1. Correlations between self-report variables and school disciplinary data were low; none exceeded .15 in magnitude. These low correlations may reflect the fact that disciplinary violations have a low base rate and are limited to serious incidents that occur within the school and are witnessed by school authorities. The correlation between self-report measures of violent behavior and drug use were fairly high ($r_s = .50$ and $.54$). As expected, measures

Table 1. Intercorrelations Among Outcome Measures at Pretest (Below Diagonal) and Posttest (Above the Diagonal)

Variable	1	2	3	4	5	6	7	8	9
1. Disciplinary violations for violence	—	.29	.53	.08	.05	-.08	-.02	-.07	.06
2. In-school suspensions	.16	—	.08	.08	.07	-.12	-.07	-.05	.07
3. Out-of-school suspensions	.56	.05	—	.09	.07	-.15	-.09	-.05	.08
4. Violent behavior frequency	.04	.01	.01	—	.54	-.12	-.36	-.23	.24
5. Drug use frequency	.05	.06	.01	.50	—	-.14	-.30	-.22	.13
6. RIPP knowledge test	-.08	-.06	-.06	-.10	-.10	—	.24	.08	-.16
7. Problem situation inventory	.00	-.04	.00	-.38	-.28	.18	—	.47	-.46
8. Attitudes toward nonviolent behavior	.00	.04	.00	-.29	-.23	.06	.41	—	-.16
9. Attitudes toward violent behavior	.05	.12	.05	.26	.19	-.25	-.39	-.10	—

Note: *N* ranged from 433 to 620 due to missing data across measures. *r*s .09 or higher are significant at $p < .05$. *r*s .12 or higher are significant at $p < .01$. *r*s .15 or higher are significant at $p < .001$.

representing mediating variables were moderately intercorrelated and had significant correlations with frequency measures of violence and drug use.

Pretest Differences

Generalized linear model analyses with GEE were used to test for pretest differences between the intervention and control groups after controlling for age and gender. Disciplinary data representing the first quarter of the school year were analyzed by using Poisson regression. Rates of disciplinary violations and in-school and out-of-school suspensions by treatment condition are reported in Table 2. Event ratios associated with treatment condition ranged from 0.2 to 0.6; none were significant at $p < .05$. Significant age effects were found across all disciplinary code variables, with event ratios ranging from 1.7 to 2.0. These indicate that a 1-year age difference was associated with a nearly twofold difference in rates of disciplinary violations. Gender was also significantly associated with pretest suspension rates, with boys having pretest rates over four times as high as girls.

Data on the reported prevalence of specific violent behaviors at pretest were analyzed by using logistic regression. The percentage of students in the intervention and control groups reporting each behavior (adjusted for age and gender) and odds ratios reflecting the prevalence in the control group relative to the intervention group are reported in Table 2. These behaviors were sometimes higher in the intervention group and sometimes higher in the control group. None of the differences were significant at $p < .05$. No significant differences were found for age. Reported rates among boys were significantly higher on all but one of the variables, with odds ratios ranging from 2.0 to 3.5.

Intervention and control group means adjusted for age and gender, and effect size estimates (*d* coefficients; Cohen, 1988) based on regression analyses of the self-report scales, are reported in Table 3. Effect sizes associated with treatment condition ranged from 0.06 to 0.22. Only one was significant—control group

students reported more positive attitudes supporting nonviolence than those in the intervention group. Age was significantly related to two pretest variables, with older students tending to score lower on the RIPP Knowledge Test and on Attitudes Favoring Nonviolence (d s = .14–.41). Gender differences were found on the majority of variables, with boys reporting higher levels of violent behavior and attitudes favoring violent behavior and lower scores on the RIPP Knowledge Test and the Problem Situation Inventory.

Impact of the Intervention

Results of Poisson regression analyses of posttest and follow-up data for disciplinary code violations are reported in Table 4. Statistically significant intervention effects were found for two of the three disciplinary code variables at posttest. Rates of disciplinary violations for violent behaviors were 2.2 times greater in the control group compared with the intervention group, and rates of in-school suspensions were 5.0 times greater. With one exception, event ratios for the 6- and 12-month follow-ups were in the expected direction, ranging from 1.1 to 1.4. None, however, were statistically significant. Follow-up analyses of a Gender \times Intervention interaction ($Z = 1.90, p < .06$) indicated that the rate of in-school suspensions at the 12-month follow-up for boys in the control group was 3.0 times greater than in the intervention group ($Z = 1.99, p < .05$). This difference was not significant for the girls.

Logistic regressions examined intervention effects on self-reported prevalence of specific violent behaviors (see Table 5). Odds ratios for all but one behavior at posttest were in the expected direction. Two effects were significant at $p < .05$. Compared with the intervention group, the odds for those in the control group were 2.5 times greater for reporting that they had been injured in a fight and required medical treatment in the past 30 days and were 0.6 times lower for reporting they had participated in peer mediation. The majority of odds ratios were also in the expected direction at both follow-ups. Two of the 6-month follow-up effects approached sig-

Table 2. Baseline Differences in Event and Prevalence Rates Associated With Treatment Condition, Age and Gender

Variable	Adjusted Rates ^a		Event/Odds Ratios ^b		
	Control	RIPP	Treatment	Age	Gender
Event rates per 100 students for first-quarter disciplinary code violations					
Violent behavior ^c	1.3	3.1	0.4	2.0**	2.2
In-school suspensions	0.2	1.1	0.2	1.7***	4.6*
Out-of-school suspensions	2.0	3.2	0.6	1.8*	4.3***
30-Day prevalence rates (%) for self-reported behaviors on pretest					
Threatened to hurt/harm a teacher	4.1	6.9	0.6	1.6	3.5**
Brought a weapon to school	4.6	3.2	1.5	1.3	3.4*
Threatened someone with weapon	8.9	10.6	0.8	0.7	2.0*
Injured in a fight and required medical treatment	7.2	7.3	1.0	1.4	3.0**
Ever used peer mediation ^d	14.9	10.8	1.4	0.8	1.0 ^a

Note: RIPP = Responding in Peaceful and Positive Ways.

^aRates were adjusted for differences associated with age and gender. ^bRepresents ratio of rate/odds for control group to rate/odds for intervention group. ^cIncludes weapons, fighting, and assaults. ^dBased on lifetime rather than 30-day prevalence.

p* < .05. *p* < .01. ****p* < .001.

Table 3. Pretest Differences on Self-Report Scales Associated With Treatment Condition, Age, and Gender

Variable	Adjusted Means ^a		Effect Size Estimates ^b		
	Control	RIPP	Treatment	Age	Gender
Violent behavior frequency	10.1	9.8	0.06	0.17	0.42***
Drug use frequency	6.6	6.9	-0.12	0.25	0.13
RIPP knowledge test	6.1	6.1	0.01	-0.41***	-0.34***
Problem situation inventory	4.2	4.1	0.06	-0.10	-0.32**
Attitudes supporting nonviolence	15.5	14.6	0.22**	-0.14*	-0.04
Attitudes supporting violence	18.9	19.5	-0.10	0.14	0.35***

Note: RIPP = Responding in Peaceful and Positive Ways.

^aTreatment means were adjusted for differences associated with age and gender. ^b*d* coefficients.

p* < .05. *p* < .01. ****p* < .001.

Table 4. Event Rates For Disciplinary Code Violations (per 100 Students) by Treatment Condition at Posttest and Follow-Up Assessments

Variable	Adjusted Rates ^a		Event Ratio ^b	95% CI	
	Control	RIPP		Lower Limit	Upper Limit
Posttest					
Violent behavior ^c	8.4	3.8	2.2**	1.2	4.2
In-school suspensions	5.0	1.0	5.0**	1.5	17.1
Out-of-school suspensions	14.3	15.6	0.9	0.5	1.8
6-Month follow-up					
Violent behavior ^c	6.0	4.4	1.4	0.7	2.8
In-school suspensions	5.6	4.2	1.4	0.7	2.8
Out-of-school suspensions	18.3	17.0	1.1	0.6	2.0
12-Month follow-up					
Violent behavior ^c	5.5	5.1	1.1	0.6	2.1
In-school suspensions	6.1	4.4	1.4	0.6	3.0
Girls	5.3	6.4	0.8	0.3	2.1
Boys	6.6	2.2	3.0*	1.0	9.1
Out-of-school suspensions	21.3	23.7	0.9	0.6	1.4

Note: Posttest represents last quarter of sixth grade, 6-month follow-up represents average per quarter for the first semester of the seventh grade, and 12-month follow-up represents the average per quarter for the second semester of the seventh grade. RIPP = Responding in Peaceful and Positive Ways; CI = confidence interval.

^aRates were adjusted for differences associated with pretest differences, age and gender. ^bRepresents ratio of rate for control group to rate for intervention group; 95% CI also provided. ^cIncludes weapons, fighting, and assaults.

p* < .05. *p* < .01. ****p* < .001.

Table 5. Comparison of 30-Day Self-Report Prevalence Rates for Intervention and Control Groups at Posttest and Follow-Up Assessments

Variable	Adjusted Rates ^a		Odds Ratio ^b	95% CI	
	Control	RIPP		Lower Limit	Upper Limit
Posttest					
Threatened to hurt a teacher	12.0	11.4	1.1	0.5	2.2
Brought a weapon to school	8.2	6.4	1.3	0.7	2.6
Threatened someone with a weapon	12.1	13.0	0.9	0.6	1.4
Been in a fight in which you were injured and had to be treated by a doctor or nurse	6.5	2.7	2.5***	1.4	4.7
Ever participated in peer mediation ^c	30.2	41.5	0.6**	0.4	1.0
6-Month Follow-up					
Brought a weapon to school	8.6	7.4	1.2	0.6	2.3
Threatened to hurt a teacher	21.0	13.4	1.7*	0.9	3.3
Threatened someone with a weapon	15.6	15.5	1.0	0.6	1.7
Been in a fight in which you were injured and had to be treated by a doctor or nurse	4.2	3.9	1.1	0.4	2.8
Ever participated in peer mediation ^d	32.9	43.4	0.6*	0.4	1.0
12-Month follow-up					
Brought a weapon to school	10.6	9.9	1.1	0.5	2.5
Threatened to hurt a teacher	22.2	20.0	1.1	0.7	1.9
Girls	25.6	12.2	2.5**	1.1	5.3
Boys	18.8	28.6	0.6	0.3	1.3
Threatened someone with a weapon	22.4	20.9	1.1	0.6	1.9
Been in a fight in which you were injured and had to be treated by a doctor or nurse	5.3	7.9	0.7	0.3	1.7
Ever participated in peer mediation ^d	37.4	40.0	0.9	0.6	1.4

Note: RIPP = responding in peaceful and positive ways; CI = confidence interval.

^aRates were adjusted for differences associated with pretest differences, age, and sex. ^bRepresents ratio of odds for control group to odds for intervention group; 95% CI also provided. ^cBased on lifetime rather than 30-day prevalence.

* $p < .10$. ** $p < .05$. *** $p < .01$. **** $p < .001$.

nificance (i.e., $p < .10$). The odds for students in the control group were 1.7 times greater for reporting they had threatened to hurt or harm a teacher and 0.6 times lower for reporting participation in peer mediation. None of the 12-month follow-up effects were statistically significant. Follow-up analyses of a Gender \times Treatment interaction ($Z = 2.64, p < .01$) indicated that for girls in the control group, the odds were 2.5 times greater for reporting they had threatened to hurt a teacher than the odds for girls in the intervention ($Z = 2.31, p < .05$).

Effect size estimates representing differences between the intervention and control groups based on regression analyses of the self-report scales were generally small and not significant at posttest ($ds = .02-.14$), 6-month follow-up ($ds = .01-.10$), and 12-month follow-up ($ds = .03-.13$). The exception was the RIPP Knowledge Test. As expected, RIPP participants scored significantly higher at posttest ($d = .64$) and at 6-month ($d = .59$) and 12-month follow-ups ($d = .37$).

Intervention Effects Moderated by Pretest Level of Violence

A series of models investigated the possibility that students differed in their response to the intervention as a function of their pretest level of violence. The first set

of analyses assumed a linear relation between scores on the pretest and scores at each subsequent time point (i.e., posttest and follow-ups). The models included main effects for pretest frequency of violent behavior, age, Gender, and treatment condition, and Pretest \times Age, Pretest \times Gender, and Pretest \times Treatment Condition interactions. A significant Pretest \times Treatment Condition interaction term in this analysis indicates that the slope of the regression lines representing the relation between pretest and posttest scores differed across treatment conditions. A second series of analyses added quadratic terms to determine if the relation between pretest and posttest levels of violence could be better explained by a curvilinear relation and whether the shape of the curves differed across treatment groups.

No significant Pretest \times Treatment interactions were found at posttest. At 6-month follow-up, significant Pretest \times Treatment Condition interactions were found for both the linear ($Z = 2.73, p < .01$) and quadratic ($Z = 2.52, p < .05$) models. The significance of both models indicated that the relation between pretest and 6-month follow-up scores differed when this relation was represented by a straight line and when it was represented by a curved line. The quadratic interaction was also significant at the 12-month follow-up ($Z = 3.14, p < .01$). Because such analyses may be sensitive to outliers, data were reanalyzed after reducing the influence of outli-

ers. In these analyses, scores that exceeded a z -score of 3.29 were recoded to a score equivalent to a z -score of 3.29 (Tabachnick & Fidell, 1996). These analyses replicated the findings of significant linear ($Z = 2.09, p < .05$) and quadratic ($Z = 2.57, p < .05$) models at the 6-month follow-up and a significant quadratic effect at 12-month follow-up ($Z = 2.88, p < .01$).

Regression lines representing the relation between pretest and follow-up scores on the Violent Behavior Scale for students in the intervention and control groups were examined to facilitate the interpretation of these effects (e.g., see Figure 1). These plots indicated that predicted scores on the follow-up measures for students with low initial levels of violent behavior were similar across treatment conditions. As pretest scores increased, however, the differences between predicted follow-up scores between these groups become evident. Specifically, participants in the intervention who reported relatively high pretest levels of violence had lower predicted follow-up scores compared with control group students with similar pretest scores. A similar effect was found for 12-month follow-up data. This suggests that the treatment was more likely to benefit those who had high levels of violent behavior before starting the intervention.

Discussion

This study evaluated the sixth-grade RIPP intervention—a school-based program developed to reduce vi-

olence among middle-school students in an urban school system. Mixed support was found in analyses of the impact of RIPP on selected mediating variables. Consistent intervention effects were found on an intervention knowledge test but not on measures of attitudes or the use of nonviolent strategies for addressing hypothetical situations. Several significant treatment effects were found on primary outcome measures. RIPP participants had fewer disciplinary violations for violent offenses and in-school suspensions at posttest compared with the control group. The reduction in suspensions was maintained at 12-month follow-up for boys but not for girls. RIPP participants also reported more frequent use of a peer mediation program and reductions in fight-related injuries at posttest. Intervention effects on several other behaviors approached significance at 6-month and 12-month follow-ups. Analyses of self-report scales assessing the frequency of violent behavior and drug use did not reveal any significant intervention effects. However, analyses of interactions with pretest scores indicated that intervention effects on violent behavior were moderated by initial levels. Students who benefitted from the intervention tended to be those who reported high pretest rates of violent behavior. In contrast, RIPP had little effect on the self-reported frequency of violence among students who reported low pretest levels. These effects were evident at both the 6-month and 12-month follow-up assessments.

The RIPP intervention produced mixed effects on measures of several social-cognitive variables ex-

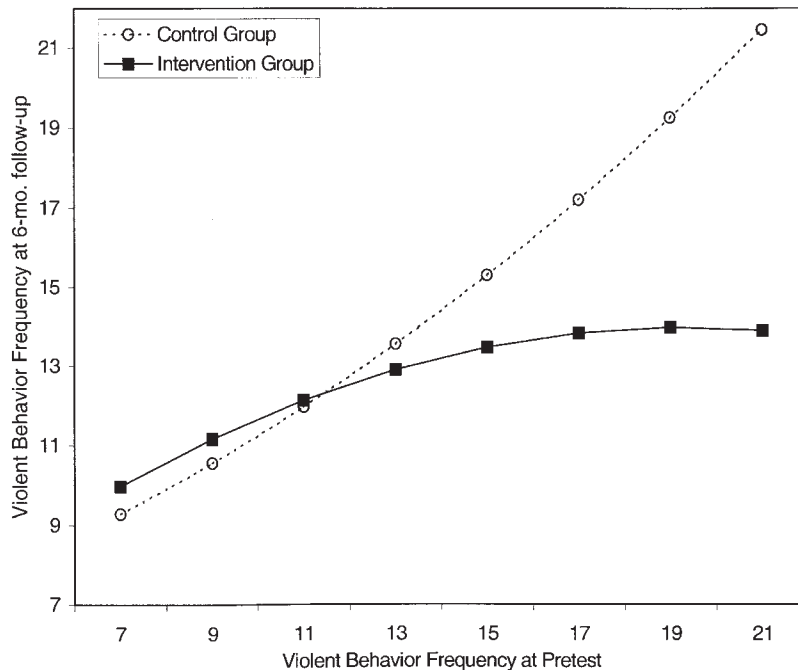


Figure 1. Quadratic regression line representing predicted scores on the Violent Behavior Frequency Scale at 6-month follow-up as a function of pretest scores for students in the control group (dashed line) and intervention group (solid line). Note that pretest scores ranged from 7 to 33 with a mean of 10.0 ($SD = 3.6$) and a median of 9; 95% of the scores were below 17.

pected to mediate its impact on violent behavior. The only consistent effect was on a knowledge test. As expected, RIPP participants demonstrated greater knowledge of effective problem-solving strategies and other skills addressed by the intervention than students in the control group and maintained this effect across follow-up assessments. Similar effects were not found on measures of attitudes or on a measure assessing the use of nonviolent responses to hypothetical problem situations.

Examination of the attitude scales suggested that many items reflected perceptions of school-wide norms and were thus more reflective of environmental characteristics than of personal attitudes (e.g., "If I back down from a fight, everyone will think I'm a coward"). Our within-school design, in which about half of the students at each school participated in the intervention, may have been adequate to produce changes in norms within individual classrooms but not within an entire school. If it had, such changes also would have influenced students in classrooms assigned to the no-intervention control group. Either way, we would not expect to find treatment effects on such variables. In other words, our use of a within-school design may have reduced the potential impact of our intervention by limiting its ability to influence school norms—an important target of the intervention. This notion is consistent with the findings of a more recent study that used a between-school design in which RIPP was implemented on a school-wide basis in several counties in rural Florida (Farrell, Valois, Meyer, & Tidwell, 2000). Compared with students at four no-intervention comparison schools, students at four intervention schools showed significant changes in the expected direction on mediating variables, including the same attitude measures used within the present study. Effect sizes were $d = .19$ for approval of nonviolence and $.12$ for approval of violence at the end of the seventh grade.

The fact that the intervention showed significant effects on a measure assessing knowledge of the skills taught in the intervention but not on a measure assessing use of those skills (i.e., the Problem Situation Inventory) suggests that there may not have been adequate support for those skills within the school environment. Such support would be expected to decrease further the following school year when classrooms of students who participated in the intervention during the sixth grade were scattered into new seventh-grade classrooms. This may partially explain the presence of stronger program effects at posttest compared with follow-up. The situations described in the measure also may have been too generic. For example, they did not specify the history of the relationship between the individuals in the situation, the social context, or whether supportive adults were available. In other words, although students may

have learned ways to respond effectively in specific situations, when asked about general situations they may have deferred to the normative standards of the environment. Measures that included more detailed descriptions of situations or examined adolescents' perceptions of the situations may have provided a better basis for examining intervention effects in this important area. More generally, measures of mediating variables included in this study represented a limited sample of the domain of skills the intervention was designed to teach. Further work examining the impact of RIPP on other social-cognitive skills targeted by the intervention—such as the ability to appraise situations accurately, self-efficacy for using nonviolent strategies across situations, use of multiple methods of conflict resolution, and optimum selection of responses to conflict situations—is needed to clarify whether changes in these skills provide the mechanism through which positive outcomes are obtained.

The overall pattern of findings suggests that RIPP may have been most effective with adolescents already showing high rates of aggressive behavior. This may, in part, be a function of a floor effect in that many students reported low levels of violence across all four time points. This finding is also consistent with the significant intervention effects found for variables such as disciplinary code violations related to weapons, fighting, assault, in-school suspensions, and fight-related injuries. Within the control group, disciplinary code violations related to violent behaviors showed a dramatic increase from 1.3 incidents per 100 students for the first quarter of the sixth-grade school year to 8.4 for the last quarter, and 5.5 to 6.0 per quarter for the first and second semesters of the subsequent school year. Increased efforts clearly are needed to reduce the occurrence of these serious incidents within schools.

These results replicate those of other studies that have found universal prevention programs to be more effective among adolescents with higher pretest levels of aggression (Stoolmiller et al., 2000). However, these findings should not be construed as support for the popular notion that small groups of high-risk peers should participate in social-cognitive programs such as RIPP while the remainder of students continue with academics. Social-cognitive programs rely on the establishment of school norms supportive of nonviolence. Without all students participating, such norms would not be facilitated. Moreover, many studies have shown that strategies grouping aggressive students together can produce unintended outcomes whereby students in such groups become better friends and more skilled in delinquency (Dishion & Andrews, 1995; Tolan & Guerra, 1994).

In contrast to our earlier evaluation of a more didactic curriculum in which positive effects were more evi-

dent for boys than for girls (Farrell & Meyer, 1997), RIPP produced a more consistent pattern of findings across genders. Indeed, the relatively small number of gender-specific effects we did find need to be interpreted cautiously, given the large number of significance tests that were conducted. Overall, these findings suggest a fairly consistent pattern of effects across boys and girls. Several changes were incorporated into the RIPP intervention in an effort to increase its positive effects on the girls. These included changes in the teaching style of the program as well as its content. Although it is not possible to isolate the factors that contributed to the program's similar impact on boys and girls, it appears that information concerning gender differences in learning, moral orientation, and aggressiveness from developmental and educational psychology may have facilitated positive changes in program design and training (Meyer & Farrell, 1998).

As previously noted, an important limitation of this study was its use of a within-school design. Intervention effects on several outcome measures may have been attenuated by this design. Having students within the same schools assigned to intervention and control groups introduces the possibility of diffusion effects (Farrell et al., 2001). The potential impact of the program also may not be as evident because of the interpersonal nature of aggression. Because students from different classrooms within the same school interact with each other, any reduction in fighting among students in the intervention group also would reduce their rates of fighting with students in the control group. Because of these problems, research designs in which entire schools rather than classrooms or individuals are randomly assigned to conditions can provide a clearer test of program effects and provide a better basis for examining effects on environmental variables such as school norms (Farrell et al., 2001). Unfortunately, such designs require resources far beyond those that are typically available.

Implementing the sixth-grade curriculum within the context of a more comprehensive intervention that included a peer mediation program available to all students also made it difficult to isolate its influence. Nonetheless, implementing such a program in isolation seems counter to conceptual frameworks that support comprehensive strategies to violence prevention (e.g., Meyer & Farrell, 1998). Van Slyck et al. (1996) described how classroom curricula can provide educational opportunities to learn communication skills whereas peer mediation provides real-life opportunities to try out those skills. They contended that the impact of either program in isolation (i.e., a conflict resolution curriculum or a peer mediation program) is so minimal that it is not worth the effort; in contrast, the simultaneous implementation of such programs provides a synergistic relation that enhances the impact of each.

Several other methodological factors also may have attenuated potential program effects, particularly on the follow-up measures. The intention-to-treat approach included all students assigned to the intervention condition even though about 8% missed more than one-third of the sessions. This reflects the reality of implementing programs in school settings. Students who tend to be more aggressive are likely to have lower rates of attendance and consequently may have less exposure to an intervention than those with higher attendance rates. This suggests the need for additional efforts to reach students who miss the opportunity to participate fully in interventions because of poor attendance or disciplinary-related suspensions. A second limitation concerned potential attrition effects. Students for whom follow-up or self-report data were not available tended to have poorer school performance and higher rates of problem behaviors. These are the students who stood to benefit most from the RIPP intervention, yet the effect of the intervention on the self-reports and long-term impact on disciplinary code violations could not be assessed for them. These findings highlight the importance of obtaining outcome data from as many participants in outcome studies as possible and the value of supplementing self-report data with other types of measures.

The overall results of this evaluation of the sixth-grade RIPP curriculum are encouraging, but more importantly they provide some clear directions for future efforts. The absence of significant effects on variables related to attitudes and norms underscores the need for implementing interventions on a school-wide basis as well as for incorporating more activities into RIPP that focus on changing norms and promoting self-efficacy to generalize the problem-solving model to multiple social contexts. The effectiveness of RIPP and other similar interventions also might be improved by research to establish the relevance of the skills they teach and to identify possible barriers to the effective use of these skills. Further research also is needed to assess the impact of programs across other student populations, school, and community settings. Interventions targeted only at students may not be adequate to produce system-wide changes. Additional components, for example, those that focus on teachers (e.g., Newman, Horne, & Bartolomucci, in press), may be needed to build on and enhance the impact of interventions. Efforts to design developmentally appropriate interventions that extend beyond a single grade also may be needed to ensure that intervention effects are maintained and to promote changes on a school-wide basis (Meyer et al., 2000). Comprehensive school-based efforts by themselves may not be enough. Because violence occurs in multiple contexts (e.g., home, school, workplace), it is essential that violence prevention strategies be comprehensive in focus and address multiple risk factors across significant contexts (Samples & Aber, 1998;

Satcher, Powell, Mercy & Rosenberg, 1996; Tolan & Guerra, 1994). Such efforts must extend beyond school-based efforts to include community-level strategies such as parenting programs, job training, and increased police presence in communities.

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