Conflict Resolution and Peer Mediation in Middle Schools: Extending the Process and Outcome Knowledge Base

STEPHEN W. SMITH
Ann P. Daunic
Department of Special Education
University of Florida

M. David Miller
Department of Educational Psychology
University of Florida

T. Rowand Robinson
Department of Special Education
University of Florida

ABSTRACT. Many professional educators are implementing school-based prevention focused on conflict resolution (CR) and peer mediation (PM). The authors conducted research on CR–PM in 3 middle schools. Specifically, they surveyed teachers and students, tracked disciplinary incidents across school years, collected mediation data, and compared mediators with a matched sample to determine attitudinal change as a result of PM training and experience. The authors also surveyed peer mediators and disputants about program satisfaction, as well as peer mediators and their parents about the generalization of PM skills. The authors conclude with implications for developing future CR programs, including a focus on mediation-process evaluation as well as schoolwide outcome measures and the use of peer mediation training as an intervention for students at risk.

Key words: attitudinal change, conflict resolution, middle school students, peer mediation

STUDENT VIOLENCE AND AGGRESSION have become major concerns for professional educators. Effective preventive programs to ensure school safety and increase appropriate student social interactions are increasingly important. In response to the problems of disruptive and violent students, teachers and administrators often make punitive decisions that result in frequent student suspension from school, placement in alternative school settings, or both. Yet, few profes-
sionals would agree that punitive, reactive measures to aggressive acts teach appropriate behaviors or that they are effective in the long term.

Horowitz and Boardman (1995) noted that many educators have responded to the need for alternatives by implementing school-based preventive programs focused on conflict resolution (CR) and peer mediation (PM). According to Shepherd (1994), CR–PM is the fastest growing response to school violence. Schoolwide interventions such as CR–PM, which focus on teaching students to manage their own conflicts, represent a move away from programs that depend on punitive, seclusionary methods of behavior control. Effective, student-centered, preventive programs can reduce teacher stress and increase instruction time (Benson & Benson, 1993). Such programs also provide students with multiple opportunities to be responsible for their own actions at a critical developmental period. Moreover, training in negotiation and mediation may increase verbal assertion strategies that aggressive children often lack (Lochman, Dunn, & Klimes-Dougan, 1993). Students who learn to resolve their conflicts verbally and constructively may learn to avoid the destructive escalation that ends in physical harm.

Although CR–PM programs are intuitively appealing, they lack the strong database necessary for subsequent refinement. There is an abundance of descriptive literature and commercially available curricular and training packages; however, researchers know very little about the efficacy of CR–PM programs. Anecdotal reports in which teachers, administrators, parents, and other professionals have claimed highly positive results are widespread (e.g., Bryant, 1992; Carlsson-Paige & Levin, 1992; Lupton-Smith, Carruthers, Flythe, Goettee, & Modest, 1996; Stomfay-Stitz, 1994). To supplement those reports, researchers need substantive data that document improvements in how students resolve their conflicts.

Relatively few research articles on the efficacy of CR–PM have been published to date. However, several program evaluations across diverse elementary, middle, and high school environments suggest that PM programs may, indeed, have some positive outcomes (e.g., Burrell & Vogl, 1990; Crary, 1992; Stevahn, Johnson, Johnson, Green, & Laginski, 1997; Tolson, McDonald, & Moriarty, 1992). In those evaluations, investigators reported (a) that approximately 85 to 95% of the mediated student conflicts resulted in lasting agreements and (b) that referrals to administrative personnel for inappropriate student behavior decreased.

Johnson and Johnson and their colleagues have contributed significantly to the developing research base. Much of their work has been at the elementary school level (e.g., Johnson, Johnson, Cotten, Harris, & Louison, 1995; Johnson, Johnson, & Dudley, 1992), but some of their more recent investigations were conducted with middle and high school students (e.g., Stevahn, Johnson, Johnson, Green, et al., 1997; Stevahn, Johnson, Johnson, & Real, 1996). In a review of CR programs, Johnson and Johnson (1996), reported that (a) CR–PM programs...
appeared to be effective in teaching students integrative negotiation and mediation procedures, (b) students generally tended to use those strategies following training, (c) students’ constructive CR strategies tended to reduce the numbers of conflicts referred to teachers and administrators, and (d) CR–PM programs reduced the number of school suspensions. Johnson and Johnson also found that many of the studies on CR–PM efficacy included small samples of nonrepresentative students selected by teachers to be peer mediators.

Not surprisingly, students have referred a variety of conflicts to mediation. Many mediations involve issues about gossip and rumor or about verbal harassment such as name calling, insults, or threats (Burrell & Vogl, 1990; Crary, 1992; Tolson et al., 1992; Stevahn, Johnson, Johnson, Green, et al., 1997). Other frequently named categories include conflict (physical aggression, fights) over access to or possession of resources (e.g., property or attention) and turn-taking behavior (cf. Johnson et al., 1992; Johnson, Johnson, Dudley, Ward, & Magnuson, 1995). The relative percentage of issues reported for each category varies notably from study to study. Although issue types depend somewhat on the age of the population in question, categorization schemes are not always consistent and, thus, render cross-study comparisons somewhat tentative.

Investigations of strategies that students use to resolve conflict following training (cf. Johnson et al., 1992; Johnson, Johnson, Dudley, et al., 1995) have yielded encouraging results. The preceding researchers asked trained conflict managers or peer mediators which strategies they used in different conflict situations (Johnson et al.) and which strategies they used as disputants in real-life conflicts (Johnson, Johnson, Dudley, et al.). Statistically significant differences indicated that (a) untrained students used none of the negotiation techniques considered constructive in managing conflict but (b) trained conflict managers used constructive negotiation techniques about 34% of the time across simulated and real conditions. Data from reports of types of resolutions reached after peer mediation generally indicate simple, and possibly short-term, strategies, such as promises to stop disruptive behavior or mutual avoidance (see Johnson & Johnson, 1996).

The research base for the effectiveness of school-based PM programs is still meager. We agree with Johnson and Johnson and others (e.g., Stevahn et al., 1997) who contend that researchers need to examine CR–PM program effectiveness more thoroughly through well-designed studies of well-defined programs. Descriptive investigations, however (e.g., Hessler, Hollis, & Crowe, 1998; Long, Fabricius, Musheno, & Palumbo, 1998), can add information concerning program characteristics and identify future research questions.

Finally, the social validity of CR–PM programs for students and teachers needs to be evaluated. Social-validity measures are the perceptions of those who use CR–PM. For example, social validity measures can (a) indicate whether students and teachers think mediation is helpful in resolving disputes and (b) measure the extent of their satisfaction with procedures and outcomes, specifically
the activities, goals, and objectives. Without evidence of social validity, there is little likelihood that the program can be effectively and efficiently implemented and disseminated. In one study (Robinson, Smith, & Daunic, 2000), trained middle school peer mediators said that their peers tended to use mediation to resolve conflicts if they perceived it as socially advantageous—that is, students would access formal peer mediation in school if it helped them escape undesirable alternatives such as suspension or detention. Conversely, the mediators interviewed noted that some students chose not to use mediation because they perceived it as negatively affecting their reputation with peers, or causing them to lose face.

Matloff and Smith (1999) interviewed 21 middle school teachers and administrators to determine the progression of their concerns as they became involved in a schoolwide conflict resolution CR–PM program. Teachers and other school professionals who were inexperienced or unfamiliar with the program initially resisted its implementation; they did not see how the program, especially PM, would benefit students as much as traditional disciplinary tactics did. Positive student, teacher, and administrator attitudes about innovations such as conflict resolution are a prerequisite for programs that become part of school culture (Smith & Daunic, 2002). In light of that assertion, the social validity of any schoolwide CR–PM program is an essential aspect of building a viable and long-lasting program.

In this study, we extended the CR knowledge base in four ways. First, we collected school-climate data by measuring the attitudes of teachers and students before and after program implementation and by tracking disciplinary incidents across school years at each of three schools. Second, we collected information about the conflicts that were mediated, including the disputants’ demographic information (e.g., gender, grade), referring party, issue, and resolution. Third, we compared mediators with a matched control group to determine attitudinal changes resulting from PM training and experience. Finally, we surveyed middle school disputants, peer mediators, and parents to identify their perceptions (i.e., measures of satisfaction and generalization) about the PM process and their views about conflict.

At the outset of this study, our focus was on school climate and outcome measures (e.g., attitudinal change and disciplinary-incident referral rates). As we continued our work, however, we realized more fully that significant change in referral rates and, especially, in student and teacher attitudes results from a process that takes several years to become established in the school culture. Thus, although we continued to examine student and teacher attitudes and to collect data on student behavioral incidents, we broadened our focus to include the mediation process itself and its importance for those directly involved. We looked specifically at the relationships among student characteristics, conflict issues, and types of resolutions. In addition, we examined whether the disputants (a) believed that the mediation steps were followed and (b) were satisfied with the process.
Method

Setting and Participants

We conducted our research in three middle schools in a primarily rural county school district in the northern part of central Florida. Student populations in the three schools ranged from 780 to 1,140 (32 to 61% were receiving free or reduced-price lunches). Students with disabilities constituted 12 to 16% of the total population.

For each year of participation in the program, professionals at each school selected a cohort of 25 to 30 students to be peer mediators. We randomly selected a control group from students in the district matched on school, gender, grade level, race, socioeconomic status (SES), and special program placement. Both groups contained 33 boys and 52 girls (i.e., 85 mediators, 85 matched controls)—14 sixth, 40 seventh, and 31 eighth graders. Of the entire sample, 66 students were White, 9 were Black, 6 were Hispanic, and 4 were of other races. In each group, 15 students received free or reduced-price lunches, 8 were in special education programs, and 14 were in programs for gifted students.

Design

The project was a 4-year study with a 1st-year focus on developing and piloting instruments, data-collection protocols, and curriculum. During the 2nd through the 4th years, we used a delayed-treatment design across the three schools. In the 2nd year, one school began the CR–PM program, and the other two schools served as control groups. In the 3rd year, the two remaining schools began the CR–PM program, and the first school continued the program. In the 4th year, all three schools continued the CR–PM program. The curriculum was taught schoolwide by teachers at each of the three schools. We collected data from (a) all teachers and students, (b) peer mediators and matched control sample, (c) parents of peer mediators, and (d) disputants.

The program consisted of a schoolwide CR curriculum including five lessons. One lesson was devoted to each of the following topics: understanding conflict, effective communication, understanding anger, handling anger, and peer mediation. Our original intent was for a far more comprehensive curriculum than five lessons, to extend throughout the academic year. Competing school priorities (e.g., other district-required curricula, statewide testing mandates) resulted in the abbreviated curriculum, taught in varying schedules ranging from one topic per day for 1 week to one topic per week for 5 weeks.

In addition to the schoolwide CR curriculum, 25 to 30 students in each school received specific and comprehensive PM training in a 2-day workshop conducted by school personnel trained by project staff. The workshop included instruction in understanding conflict, confidentiality issues, effective communication, listening, and steps of the formal mediation process. The PM steps taught to stu-
dents were (a) getting acquainted and establishing the rules, (b) identifying issues, (c) turning issues into choices, (d) choosing a solution, (e) reaching an agreement, and (f) signing an agreement form.

Instrumentation

All program participants were given instruments to monitor use of and satisfaction with the program. We also examined several indicators of program outcome. Experts, including school-based teachers and university faculty, reviewed all instruments for content validity. Along with expert review, we pilot tested each instrument for readability, item clarity, item misinterpretation, and length of administration with a small group of students at two schools. Finally, we conducted a large-scale field study for each instrument to examine item characteristics and internal scale consistencies (Cronbach’s alpha).

Student Attitudinal Survey. The Student Attitudinal Survey, developed for the present study, consists of 42 items on a 5-point Likert-type scale (1 = strongly agree, 5 = strongly disagree). The instrument contains four subscales: Communication, Openness to Differences, School Enthusiasm, and Sense of Control. The Communication subscale ($\alpha = .79$) measures the importance that students place on communication skills, as well as their perceptions of their own ability to communicate effectively, especially when angry (e.g., “I am good at talking about problems with other students”). The Openness to Differences subscale ($\alpha = .70$) measures perceptions about student-to-student and student-to-teacher interactions (e.g., “There are rival groups among students in this school”), as well as student perceptions of existing racial relations at the school and the extent of the value that students attached to the diversity in the school. The School Enthusiasm subscale ($\alpha = .85$) measures student attitudes toward teachers and toward their school in general (e.g., “Teachers care about students in this school”). The Sense of Control subscale ($\alpha = .69$) measures student perceptions of their decision-making ability within the school and of their control over their own lives (e.g., “I participate in making decisions at this school”). We administered the Student Attitudinal Survey to all students in the school, including the peer mediators and a matched sample of students who did not receive PM training.

After the first pre- and postraining administration of the Student Attitudinal Survey to mediators and the matched sample, we noticed a significant difference on the teacher-communication item (i.e., “I feel that teachers are open to hearing my opinions, even when they disagree with them”). To explore that finding, we expanded the survey to include a subscale of 7 items about teacher openness and communication (e.g., “Teachers listen to what I have to say” and “Teachers communicate well with me”). We administered the revised survey to new peer mediators and their matched controls before training and after mediation experience the following year.
Conflict Resolution Scale. This scale originally consisted of a 25-item needs assessment (Conflict Resolution Scale, Part 1) developed for the present study to measure frequency of conflict (including aggression), levels of disciplinary interventions, conflict resolution styles, outside influences, need for help in solving problems, effect of poor communication on conflicts, and group aggression (e.g., “When I have an argument with someone, we end up in a fight”). We estimated Cronbach’s alphas for each subscale; they ranged from .45 (outside influences) to .89 (group aggression). We administered this instrument schoolwide and included the peer mediators and matched sample. We later expanded the instrument (Conflict Resolution Scale, Part 2) to include subscales on efficacy in conflict and nonconflict situations, which we adapted from a scale developed for elementary students by Wheeler and Ladd (1982). The respondents rate particular tasks (e.g., “telling kids who are teasing your friend to stop the teasing”) on a 5-point Likert-type scale (1 = very hard, 5 = very easy). We administered the additional scale to peer mediators and the matched sample only. The reliabilities for the conflict and nonconflict subscales were .91 and .90, respectively.

School Climate Survey. We based the School Climate Survey on an instrument previously developed and currently used in a school district in the southeastern United States (see Smith, Miller, & Daunic, 1997). University faculty familiar with school-climate issues reviewed the adapted survey items (e.g., “Teachers here treat students as if they are responsible and can be trusted”) for content validity. The nine subscales are Collective Identity, Student Cohesiveness, Mutual Respect, Order and Discipline, Community Support, Teacher Efficacy, Racial Harmony, Homework, and Conflict (αs for the nine subscales = .65–.89). We administered the School Climate Survey to all teachers in the participating schools.

Peer mediator generalization questionnaire. We developed this questionnaire to measure the extent to which peer mediators applied learned skills to novel situations (in school, after school, or at home) outside the formal mediation process. The instrument consists of 17 items pertaining to three areas. The first 7 items, rated on a 5-point Likert-type scale (1 = strongly agree, 5 = strongly disagree), measure beliefs about the usefulness of peer mediation as a generalized approach to solving conflicts (e.g., “Peer mediation is good to use when others are in conflict”). For the next 7 items, the respondents indicated the extent to which (i.e., almost always, sometimes, or never) they used specific peer mediation strategies (e.g., “When others are involved in a conflict, I help them see both sides of the conflict”) (a) with friends and (b) with family. The remaining 3 items measure how frequently mediators generally used what they had learned in other contexts (e.g., “How often do you use what you have learned as a peer mediator with other kids when not at school—for example, at the mall, sporting events, etc.?“).

Mediator parent questionnaire. We developed this questionnaire to evaluate parental perceptions of the effect of PM training and program involvement on
the child’s use of mediation skills in the home environment. The questionnaire consisted of 4 items on a 5-point Likert-type scale (1 = strongly agree, 5 = strongly disagree) measuring general outcomes of PM training (e.g., “My child is better able to talk with his/her siblings about a problem”); 1 multiple-choice item asking, in general, how frequently the child used learned mediation skills in the home (0 to 5 or more times per month); 1 yes–no item asking whether the child’s experience as a mediator was positive; and 10 items measuring how frequently (i.e., almost always, sometimes, or never) the child used each of several specific mediation strategies (e.g., “helping others to see both sides of a conflict”) in the home.

Disputant Questionnaire. The Disputant Questionnaire, developed for the present study, was intended to measure program effectiveness, including social validity, for students who participated in PM as disputants. The disputants responded on a 5-point Likert-type scale (1 = strongly agree, 5 = strongly disagree) to questions on three subscales: Satisfaction, Fidelity, and Efficacy. In addition, 12 items directly assess whether procedures taught in training were followed during the mediation process. The Satisfaction subscale (α = .86) measured how satisfied disputants were with the mediation process and the role of the mediators (e.g., “I was satisfied with the peer mediation”). The Fidelity subscale (α = .85) measured the disputants’ perceptions of whether the mediation process was fair (e.g., “The peer mediators did not take sides”), whether the mediators kept the mediation confidential, and whether the process resulted in a solution to the conflict. The Efficacy subscale (α = .81) measured whether mediation was useful for solving problems (e.g., “I think mediation could help others understand conflict”).

Along with the surveys, we examined descriptive data from the mediations, including type of conflict issue and type of solution. We categorized conflict issues through content analysis by using a classification scheme similar to that used by Johnson, Johnson, Dudley, et al. (1995). We also used a content analysis to sort resolution types, noting the degree to which they fostered a continued relationship between disputants. At the school level, we collected data about disciplinary incidents and referrals and recorded the number of incidents per month over a 3-year period for each school.

Results

School-Level Analysis

With an initial focus on the schoolwide impact of the CR–PM program, we looked first at whether the intervention (i.e., schoolwide CR curriculum and PM program) resulted in student attitudinal change or change in school climate, as measured by the Student Attitudinal Survey, the Conflict Resolution Scales, and the School Climate Survey. Results of surveys, administered to approximately
1,800 students and more than 100 teachers per year (student and faculty populations differed slightly for each administration) across the three schools over a 2-year period, indicated that the curriculum and mediation program did not result in significant schoolwide change in student attitudes toward conflict and communication or in teacher attitudes about school climate. Students in all three schools evidenced very similar scores on the measures, and there were no notable changes from fall to spring administrations.

We did find, however, that the total number of disciplinary incidents per month (reported as part of the referral process) and a subset of incidents reflective of social conflict tended to decline at each school following the initiation of the PM program. As shown in Figures 1 through 3, the pattern of disciplinary incidents across months was fairly consistent from school to school (i.e., December has fewer school days and, thus, had a lower number of incidents; the number for January was consistently lower as well). To test the significance of apparent trends, we compared mean incidents per month at each school before and after program initiation by using selected incident data that were directly related to social issues. Because December contained approximately 8 fewer school days than the other months, we excluded it from the analysis.

For School 1, mean differences in numbers of incidents before and after training were not significant, $t(22) = .89, p = .382$. The variability in incidents per month was high (Figure 1), and only 3 months were available to establish base-
line levels for pre- to posttraining comparisons. In addition, School 1 initiated the program at midyear, and mediation opportunities were limited and somewhat inconsistent thereafter.

In Figure 2, School 2 data show a significant pre- to posttraining difference in mean disciplinary incidents per month, \( t(22) = 2.09, p = .047 \). School 2 personnel instituted the CR–PM program with the most integrity, beginning the program early in the academic year, monitoring PM protocols, conducting timely mediations, and debriefing with mediators. Although highly variable before training, the School 2 data suggest a continuous decline in disciplinary incidents after implementation and well into the following year.

At School 3, school personnel initiated the program at the beginning of the spring semester each year. The data were less variable than for Schools 1 and 2 (Figure 3), and the mean number of incidents per month following program implementation was significantly lower than for Schools 1 and 2, despite a less observable trend, \( t(22) = 3.14, p = .005 \).

Mediation Descriptive Data

Students mediated 194 disputes across the three schools during the period of program implementation (3 consecutive years for School 1 and 2 consecutive years for Schools 2 and 3). The sixth graders used mediation more frequently than did the seventh or eighth graders, \( \chi^2(2, N = 194) = 82.4, p < .001 \) (Table 1). As shown in Table 2, verbal harassment was the most common type of dispute negotiated, occurring in 84% of mediations, \( \chi^2(4, N = 192) = 200.94, p < .001 \).
Types of resolutions were fairly evenly divided among avoiding the other party, stopping the offending behavior, and agreeing to get along. We also found significant chi-square relationships between disputant gender and issue type, with boys more likely to engage in physical aggression, $\chi^2(2, N = 192) = 15.51, p < .001$, and girls more likely to engage in conflicts concerning gossip, $\chi^2(2, N = 192) = 6.68, p = .05$, and broken friendships, $\chi^2(2, N = 192) = 7.77, p = .05$. We found further relationships between (a) disputant gender and resolution type, with boys less likely to agree to get along, $\chi^2(4, N = 164) = 17.14, p = .01$; (b) di-

![Figure 3](image-url)

**FIGURE 3.** Total and selected aggressive–disruptive incidents for School 3, by month, before and after mediation program (September 1996–March 1999). Multiple incidents may be reported for each student referral. The letters along the horizontal axis represent alternate months of the school year ($S =$ September, $N =$ November, and so forth).

<table>
<thead>
<tr>
<th>TABLE 1</th>
<th>Descriptive Mediation Data, by Mediator Group</th>
</tr>
</thead>
<tbody>
<tr>
<td>Group</td>
<td>Mediations (%)</td>
</tr>
<tr>
<td>Grade ($N = 194$)</td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>64</td>
</tr>
<tr>
<td>7</td>
<td>24</td>
</tr>
<tr>
<td>8</td>
<td>12</td>
</tr>
<tr>
<td>Gender ($N = 194$)</td>
<td></td>
</tr>
<tr>
<td>Boys</td>
<td>31</td>
</tr>
<tr>
<td>Girls</td>
<td>44</td>
</tr>
<tr>
<td>Mixed pairs</td>
<td>25</td>
</tr>
</tbody>
</table>
The Journal of Social Psychology

putant grade level and issue type, with gossip occurring more frequently among younger students and decreasing as grade level increased, $\chi^2(2, N = 177) = 7.67, p = .05$; and (c) mediator grade level and resolution type, $\chi^2(10, N = 160) = 22.15, p = .01$, with a higher percentage of “agree to get along” resolutions occurring as grade level increased.

**Student-Level Analysis**

*Attitudinal data.* With schoolwide data as context, we compared peer mediators with a matched control group within and across schools (a) with each year’s new mediators at pretraining and posttraining and (b) with first-time and experienced mediators after they had conducted mediations (i.e., at follow-up). The number of new peer mediators differed somewhat each year. Therefore, the number of matched pairs who completed surveys ranged from 59 to 73 for each administration across 2 years. We found no significant changes attributable to PM training or experience for peer mediators as compared with their matched controls on most subscale scores of the Conflict Resolution Scale (Parts 1 and 2) and the Student Attitudinal Survey. We also examined whether the number of mediations (i.e., each mediator’s cumulative experience) was related to subscale scores for either of the preceding measures; we found no significant correlations. We did find, however, a significant change on the Teacher Communication subscale (added after the first pre- and posttraining comparisons) of the Student Attitudinal Survey. On that subscale, mediator ratings of teacher communication (e.g., listening, openness to opinions) became less positive from pretraining to follow-

---

**TABLE 2**

Descriptive Mediation Data, by Type of Conflict Issue and Resolution

<table>
<thead>
<tr>
<th>Variable</th>
<th>Mediations (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Issue (N = 192)</strong></td>
<td></td>
</tr>
<tr>
<td>Verbal harassment</td>
<td>84</td>
</tr>
<tr>
<td>Gossip</td>
<td>36</td>
</tr>
<tr>
<td>Physical aggression</td>
<td>19</td>
</tr>
<tr>
<td>Broken friendship</td>
<td>12</td>
</tr>
<tr>
<td>Other</td>
<td>17</td>
</tr>
<tr>
<td><strong>Resolution (N = 164)</strong></td>
<td></td>
</tr>
<tr>
<td>Avoiding the other party</td>
<td>34</td>
</tr>
<tr>
<td>Stopping the behavior</td>
<td>39</td>
</tr>
<tr>
<td>Agreeing to get along</td>
<td>27</td>
</tr>
</tbody>
</table>

*Note.* More than one type of issue/resolution may be involved in a given mediation.
up (Group × Occasion interaction), $F(1, 290) = 4.37, p < .05$, regardless of the amount of mediation experience.

Pretraining differences. We found significant pretraining differences between peer mediators and the matched control group on subscales of the Conflict Resolution Scale, Part 1 and the Student Attitudinal Survey that measured attitudes about conflict, school, communication, and openness. In each instance, mediators’ scores indicated stronger positive attitudes before training than did scores of the control group (see Table 3 for means, standard deviations, and $t$ values for mediators and the matched controls).

Social Validity

Satisfaction and generalization data. On the peer mediator questionnaire, the mediators ($N = 61$) indicated high satisfaction with the mediation process on such items as “Peer mediation is good to use when others are in conflict” ($M = 1.39$, $SD = 0.67$; $1 = strong$ agreement, $5 = strong$ disagreement). More than $87\%$ of the mediators reported using mediation skills with friends and family members at least one to two times per month, and over $50\%$ reported using mediation skills three or more times a month with classmates in school. The majority of parents completing the peer mediator parent questionnaire ($97\%$, $N = 40$) reported that mediation was a positive experience for their child. Eighty-five percent reported that their child used mediation skills at home at least once a month, and $47\%$ reported that their child used the skills with family members three or more times per month.

<table>
<thead>
<tr>
<th>Variable</th>
<th>Mediators</th>
<th>Controls</th>
<th>$t$</th>
<th>$df$</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>$M$</td>
<td>$SD$</td>
<td>$M$</td>
<td>$SD$</td>
</tr>
<tr>
<td>Aggression</td>
<td>8.45</td>
<td>1.78</td>
<td>10.33</td>
<td>3.80</td>
</tr>
<tr>
<td>Communication</td>
<td>21.60</td>
<td>4.36</td>
<td>26.65</td>
<td>7.10</td>
</tr>
<tr>
<td>Openness</td>
<td>22.14</td>
<td>4.37</td>
<td>24.80</td>
<td>5.22</td>
</tr>
</tbody>
</table>
| School enthusiasm         | 23.73     | 8.06     | 26.55| 10.33| 5.96* 121
| Importance of communication | 13.41    | 3.64     | 19.14| 3.13 |
| Communication skills       | 19.64     | 4.04     | 23.40| 6.42 |
| Importance of openness     | 9.12      | 1.78     | 11.40| 0.79 |
| Openness attitudes         | 12.24     | 2.59     | 14.21| 4.11 |
| Teacher communication      | 11.71     | 4.59     | 17.09| 6.64 |

*Note. Lower means indicate more positive attitudes. $*p < .001.$
Disputant attitudes. Responses to the Disputant Questionnaire, administered to 94 disputants in three schools at least 1 week following mediation, indicated that the students referred to mediation were relatively satisfied with the process ($M = 1.94, SD = 0.87$; $1 = \text{very satisfied, } 5 = \text{not at all satisfied}$). They rated the process as relatively effective ($M = 2.10, SD = 1.00$), and they thought that PM was relatively fair and helpful ($M = 1.72, SD = 0.76$). An average of 82% of the disputants responded yes across all steps to the question of whether peer mediators had followed each step of the process. When disputants were queried approximately 1 week following the mediation, 91% indicated that they had kept their part of the agreement, and 49% reported that the agreement was a solution that “combined our ideas” (i.e., the ideas of both disputants).

Discussion

Program Effects

We found no evidence of schoolwide change in student attitudes or teacher views of school climate following implementation of the CR–PM program within or across the three schools. This was not completely unexpected, given the unplanned, abbreviated curricular intervention and the relatively short duration of program implementation at each school. Although all students were taught the CR curriculum, teacher time and competing priorities resulted in the delivery of only five lessons per academic year—perhaps too few to have a significant impact on student attitudes or school culture. Lindsay (1998) noted that it may take several years for a schoolwide program such as CR–PM to become institutionalized and valued as a school activity. We now believe that a CR–PM program, if instituted for significant periods of time, has promise of affecting school climate positively but that more comprehensive programs with multiple components (e.g., conflict resolution, values education, cultural education, schoolwide positive discipline, effective communication) aimed at teachers, staff, students, and parents would be more powerful in effecting change in a school’s culture.

There was, however, a promising downward trend in disciplinary incidents at two of the three schools following program implementation. At School 2, where the trend was most discernible (see Figure 2), the teachers taught the CR curriculum and began the PM program early in the fall semester (for 2 consecutive years); responsibility for training and support of mediators was clearly assigned; and a homeroom period was available each day for teachers and peer mediators to hold mediations and debriefing sessions. We considered each of those variables critical to effective program implementation, and they are indicative of, and may have contributed to, the general level of commitment and overall support from school administration and faculty. The differences found for School 3 were encouraging, despite the fact that the program was not re-initiated until January of the 2nd year.
Descriptive Data

Our descriptive data indicate that selected cohorts of students learned the process of mediation and used it to mediate disputes among their peers. A mutually agreeable solution between disputants was reached in over 95% of the cases referred to PM. At first glance, the types of conflict referred (e.g., verbal harassment, gossip) appear innocuous and may be considered typical conflicts for middle school students. Teachers, nonetheless, reported that they had spent valuable instructional time handling such disputes, especially in the absence of nonpunitive alternatives. Verbal harassment, a form of verbal aggression, was the most frequently named mediation issue. Researchers (e.g., Coie, Dodge, & Kupersmidt, 1991) have found that verbal aggression (e.g., threatening or ridiculing someone) was highly correlated with negative social status for children of all ages and was predictive of a host of enduring negative outcomes. Alternative ways to resolve disputes, in which the disputants control the outcome through skillful communication, may enable students to defuse negative situations and avert potentially violent ones. Such alternatives may also increase the instructional time available to teachers.

The greater incidence of broken friendships as an issue and the greater likelihood of “agreeing to get along” as a resolution among the girls than among the boys may reflect the girls’ interest in maintaining social relationships. An additional noteworthy finding was the tendency for the girls to be less involved in physical incidents and more involved in verbal ones than the boys were. The present girls’ preference for verbal strategies in negotiating social relationships may have contributed to the appeal of peer mediation as a means of settling disputes, although our data do not suggest that females in general find peer mediation more appealing than do males. Some researchers (e.g., Lochman, Dunn, & Klimes-Dougan, 1993) have pointed out that children who were aggressive tended to generate fewer verbal assertion strategies in handling conflict. Children who frequently use verbal aggression and bullying tend to have a negative social status, which is strongly correlated with the risk of long-term adjustment problems (Coie et al., 1991). Our findings about the prevalence of verbal harassment, therefore, underscore the importance of teaching students, particularly male students, positive verbal negotiation skills and providing abundant opportunities for practice. Middle school PM programs offer one vehicle for developing those important verbal skills during a critical developmental period.

In this study, the middle school students’ resolutions often consisted of avoiding each other or of stopping the offending behavior. Those descriptive data are consistent with findings from other studies of peer mediation at the elementary or middle school level in which researchers examined type of resolution reached (e.g., Johnson & Johnson, 1996). Agreeing to avoid each other or stop the offending behavior may be considered superficial, especially when viewed within the social–psychological context (see Johnson & Johnson; Johnson, Johnson, Dud-
ley, et al., 1995) because these resolutions do not incorporate integrative, relationship-enhancing characteristics. However, if there is an alternative to destructive conflict or aggression, then the mediation process is effective in increasing students’ behavioral repertoires and enabling them to understand the viability of alternative dispute resolution strategies. Our chi-square analyses suggest that the quality of resolution (i.e., degree to which it supports the relationship) improved with the developmental level of mediators. That finding is consistent with the cognitive–developmental perspective of Selman and Demorest (1984), who suggested that students’ use of higher level strategies increases with their levels of adaptive functioning and social competence. Further research is needed to examine these relationships and to determine whether mediators and disputants who participate in CR–PM programs subsequently experience fewer aggressive episodes, and, if so, how much treatment exposure is necessary.

**Student-Level Analysis**

On most of the attitudinal measures, we found no significant changes attributable to mediation training or experience, either within or across schools, for peer mediators as compared with a matched control group. We found consistent pretraining differences, however, between peer mediators and their matched controls on several subscales of the Student Attitudinal Survey and the Conflict Resolution Scale, Part 1 measuring attitudes toward conflict, importance of communication, and openness to differences. In each case, the mediators’ scores indicated more positive attitudes than did the scores of students in the control group, who were matched for school, grade level, gender, race, SES, and placement in special programs. We strongly suggested to staff members at each school that they select mediators who represented a diversity of students, including those who might be at risk for behavioral problems. School-based personnel in charge of selecting mediators, however, seemed generally—and understandably—to prefer students whom teachers and students respected and perceived positively. Although the resulting group of mediators was somewhat diverse demographically, those students held very positive attitudes before mediation training and experience. Thus, they were less likely to show substantial gains following training.

The only significant attitudinal change was in the mediators’ ratings of teacher communication following mediation training and experience (i.e., at follow-up). Their posttraining ratings of teacher communication were less positive than were those of their matched controls. That finding suggests that, after the students were taught the importance of effective listening and openness to others’ ideas, they judged their teachers more harshly. That finding underscores the importance of establishing a school climate that supports the principles of positive conflict resolution through mediation. If teachers themselves are not perceived as models for effective negotiation skills, then the long-term impact of a PM program on students is likely to be compromised.
Despite the general lack of evidence for attitudinal change, the results of the mediator, parent, and disputant surveys indicated that the mediation process was an effective alternative to traditional discipline for handling a variety of conflict situations. We found it noteworthy that (a) the mediators expressed high levels of satisfaction with the process and considered it useful in resolving disputes among peers; (b) the disputants expressed high levels of satisfaction with mediation and reported, at least 1 week following mediation, that they had thus far adhered to the agreement reached; and (c) the mediators and their parents reported that the mediators had generalized the skills learned through PM training to informal situations at school and at home.

Limitations

We intended originally that the CR curriculum, delivered to all students in three schools, be more intensive than five lessons per year. First, although the curriculum served as context for the PM program, we did not expect that such limited exposure to CR concepts would significantly alter student attitudes or school climate. Second, because trained school-based personnel were responsible for delivering the CR curriculum and training in PM, we had less control over treatment fidelity than we would have had if project staff had taught students directly. Third, the implementation of the PM program differed from school to school in efficiency and time of implementation. In only one school were mediators selected and trained early in the fall semester each year. Fourth, we believe that the procedure for selecting mediators in each school, despite our instruction to the contrary, resulted in a biased sample, as evidenced by significant pretraining differences between peer mediators and the matched sample on subscales of the Conflict Resolution Scale and the Student Attitudinal Survey. Across the three schools and across years, mediators were selected generally through teacher and student nominations. Such a nomination process apparently resulted in a sample of relatively skilled communicators whom teachers found reliable, motivated, and committed. Finally, we did not gather data from those students who were engaged in social conflicts but did not participate in the schools’ formal mediation process. We could have broadened our perspective of mediation’s social validity by comparing the experiences and attitudes of disputants who participated in formal mediation with those of students who did not.

Implications

At the outset of our research, we focused on traditional outcome measures for validation of CR–PM program effectiveness. We intended to evaluate program efficacy through measures of school climate, in- and out-of-school suspension rates, and office referrals; yet, the relevant data emerged slowly and were somewhat equivocal. As we examined our descriptive data, including satisfaction and
generalization measures, our focus shifted to “process” data that provided evidence of constructive student conflict resolution. The mediators and the disputants learned and used the mediation process, and they were satisfied with procedures and outcomes. The mediators’ parents were satisfied with their children’s involvement in PM, and they believed that the learned mediation skills generalized to conflict situations outside the school.

We are confident that program developers can gain from focusing on process as well as outcomes. Our data indicate that the present PM programs were an efficient and effective means of allowing students to negotiate their own disputes honestly, reputably, and constructively. The students successfully mediated many conflicts by modeling the concepts and skills taught in the program. Those responsible for schoolwide programs such as CR–PM can still calculate traditional efficacy outcomes (e.g., reduction in office referrals and in- and out-of-school suspensions). In evaluating the present CR–PM programs, however, we believe that evidence of successful process (e.g., successful resolution of conflicts, program satisfaction, generalized skills) was also indicative of effective instructional programming.

We concluded that there are at least two distinct CR–PM programs that can be developed. First, a CR–PM program staffed by mediators with the requisite skills (i.e., leadership qualities, high social status, effective communication skills) can be implemented (a) to ultimately reduce office referrals and teacher time dedicated to resolving student conflicts and (b) to increase student accountability. Those goals have obvious merit and represent a model that is often preferred by school administrators. Such a program targets efficiency first and solicits attitudinal and behavioral change primarily for those who seek mediation (i.e., disputants). If the program contains other components designed to affect school culture, then broader goals may be to positively change school climate and reduce suspension rates for inappropriate student conduct.

A second approach, however, is to implement a program with primary emphasis on remediation of student deficits through basic training in CR and use of PM for the practice of newly learned skills. Students with and without requisite skills in leadership and communication, and those from various levels of the school’s social strata, could collaborate in PM teams to learn, practice and generalize CR skills. Thus, the students most disengaged from the school system, those in special programs, and those with learning or behavioral problems could learn CR by serving as mediators. This program focus seeks efficiency over a longer term and solicits change in referral and suspension rates both for those within the program (i.e., mediators) and for those who use it (i.e., disputants). Although our results indicated positive mediation processes, investigators still need to further understanding of the efficacy of PM in schools through longitudinal studies tracking mediators’ learning and student resolutions over time of both program types. We also believe that, for schoolwide climate to change, constructive CR must be entrenched in school culture. Investigators of the longitu-
dinal effects of CR–PM programs should analyze how school climate is affected by a well-defined, comprehensive, student-based approach that includes infusion of CR principles in school curricula and multiple opportunities for students of all social strata to learn and practice mediation skills. Knowledge may enhance researchers’ understanding of how to help students successfully negotiate the inevitable conflicts that are part of everyday school life.

REFERENCES


Received October 19, 2000
Accepted May 7, 2001