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THE EFFECTIVENESS OF PEER MEDIATION IN A LOW-SES RURAL ELEMENTARY SCHOOL

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Thirty 6th–8th-grade students were trained to serve as mediators for peers in conflict. Student mediators were taught conflict resolution and mediation techniques from the Conflict Resolution Unlimited (1995) manual. Mediation was available to students school-wide ($N = 798$); disputants were given the option to go to mediation or to the principal for resolutions. Mediators' responses to written tests indicated increased knowledge of mediation skills after training, which was maintained at 6-week follow-up. During the 6 weeks following training, 32 of 34 mediations resulted in satisfactory conflict resolution. School-wide suspensions decreased during the intervention year, as compared to 3 years of baseline data. In addition, mediators' own office referrals were lower than a randomly selected matched control group. Further, mediators' current referrals were lower than in the previous year, while there was no such change for the control group. Results and process variables of the implementation are discussed. © 2000 John Wiley & Sons, Inc.

The frequency and severity of conflict in the schools appears to be rising (Elam, Rose, & Gallup, 1994), and children often engage in ineffective or destructive resolution strategies (Johnson, Johnson, Dudley, & Magnuson, 1995). In fact, fighting, violence, and gangs are listed among the biggest problems facing public schools today (Rose & Gallup, 1999). Even students who do not resort to violence report using maladaptive resolution strategies including threats and withdrawal (Johnson et al., 1995). Peer mediation has received much attention as an intervention to address conflict in the schools (Carruthers, Sweeney, Kmitta, & Harris, 1996). Although the number of peer mediation programs in America jumped from 2,000 in 1992 to 8,000 in 1994, the research literature currently lacks sufficient evidence to support their effectiveness (Johnson & Johnson, 1996). Research is needed to determine whether peer mediation results in effective outcomes and what processes influence outcome. This paper presents the outcome and discusses the process of implementing peer mediation in a rural elementary school.

Peer mediation is a method of conflict resolution in which a third party helps disputants resolve a conflict through communication. In school mediation programs, students are taught general diplomacy skills such as recognizing others' perspectives and maintaining respect for others with different opinions (Shulman, 1996). Johnson and Johnson (1996) distinguished between programs in which a select group of students are trained to serve as mediators, the *cadre approach*, and those in which all students are trained to rotate as mediators, the *student body approach*. While there are many versions of peer mediation, programs commonly include curriculums for training students to define problems, explore feelings, and negotiate solutions (e.g., Conflict Resolution Unlimited [CRU], 1995). Outcome objectives for peer mediation include increased agreement, maximized equitable gain, improved academic achievement, improved attitude toward conflict, increased self-reliance in dealing with differences, and decreased discipline problems/suspensions (Johnson & Johnson, 1996).

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Much of the peer mediation literature has qualitatively focused on the implementation process (e.g., Benson & Benson, 1993; Hessler, Hollis, & Crowe, 1998; Levy, 1989). Carruthers et al. (1996) acknowledged that a school setting lends itself more readily to study of the implementation process but maintained that it is important not to forsake outcome evaluation. The lack of outcome studies contributes to the literature's current inability to support fully the effectiveness of peer mediation. Although published studies are limited, recent contributions (e.g., Dudley, Johnson, & Johnson, 1996; Johnson et al., 1995; Soutter & McKenzie, 1998; Thompson, 1996) have offered tentative support for the efficacy of peer mediation in certain settings, largely middle-class suburban schools (reviewed by Johnson & Johnson, 1996). Despite the mounting literature, a number of research questions are yet to be fully addressed. Does peer mediation training result in the maintenance of conflict resolution skills across varied populations? Does the maintenance of these skills impact behavior in dealing with conflict at the individual and classroom levels? Are programs that are efficacious at resolving conflicts in controlled trials at the classroom level effective at improving school-wide conflict management?

A basic question that is essential to establishing peer mediation's efficacy is whether children can learn, maintain, and generalize conflict resolution skills. Addressing this question, Johnson et al. (1995) provided mediation training to elementary students volunteered by their teachers to participate at a suburban mid-western school. Using an experimental design, these authors found that students learned the mediation procedures, explained how they would apply the procedures in conflict scenarios, and maintained the knowledge throughout the school year. Johnson and Johnson (1996) cited this and other work to support their premise that children's knowledge of conflict resolution strategies increases after peer mediation training. However, Johnson et al. (1995) did not evaluate whether knowledge of resolution skills resulted in behavior change in individual conflict situations or change in school-wide behavioral markers (e.g., number of fights, office referrals, or suspensions).

There is only limited research on whether mediation training effects behavior in resolving actual conflicts. Dudley et al. (1996) found that children placed in arranged negotiation situations sought more equitable gains for all involved following conflict resolution training. Johnson, Johnson, Dudley, and Acikgoz (1994) examined the classroom behavior of 3rd through 6th grade students in a predominately middle-class school for 10 days after mediation training. The authors reported that 14 mediations took place, and the students reached a resolution in each case. Thompson (1996) offered further evidence that students can perform successful mediations in an urban middle school. She reported that 90% of the mediations during a 2-year implementation period led to satisfactory resolutions. Other peer mediation outcome studies (e.g., Araki, 1990; Burrell & Vogel, 1990; Crary, 1992; Umbreit, 1991; Schumpf, Crawford, & Usadel, 1991) have reported similar success rates ranging from 67% to 98%. Johnson and Johnson (1996) noted that peer mediation studies, while lacking in methodological rigor, have consistently reported positive outcomes for individual mediations.

In addition to support for its efficacy in resolving individual disputes, evidence that peer mediation improves class- and school-wide behavioral markers of mismanaged conflict (e.g., disruptive arguments) is needed to support its effectiveness. Johnson and Johnson (1996) reported on a series of studies with suburban middle-class elementary and middle school students. These authors found that after students received conflict resolution training, teachers reported that the frequency of student–student conflicts they had to manage dropped by 80%. While there was neither a report of the length of the measurement period for this outcome nor specification of a control group, this finding offers some evidence that peer mediation may have class-wide effects. Likewise, Thompson (1996) reported that suspensions decreased by 18.5% and 50% respectively during the first two years of implementing peer mediation. However, the lack of methodological control limits conclusions that may be drawn from these studies. For instance, no control samples were used for comparison, and sus-

pensions during the intervention year were compared to only one preintervention year. Comparison with several years preceding the intervention (i.e., to determine if the decrease might be better explained by a trend toward fewer suspensions over the past few years) would offer more support peer mediation's role in the decreased suspension.

Despite methodological limitations, the existing literature tentatively supports the efficacy of peer mediation and warrants more investigation. The present study extends the peer mediation literature on a number of dimensions. First, while much of the past peer mediation research has been conducted in middle-class urban and suburban schools, the present study was conducted in a rural school attended predominantly by children from low-socioeconomic status (SES) families. Srebalus, Schwartz, Vaughan, and Tunick (1996) reported that youth violence seems to be on the rise in rural areas, which highlights the need for conflict resolution strategies with this population. Given that rural school counselors are often overtaxed and typically have neither the time nor the training to provide all services needed (Srebalus et al., 1996), it is especially important to identify interventions that may alleviate the burden of dealing with poorly managed conflict in these settings.

Further, this study investigates a cadre approach peer mediation program. Although a few studies (e.g., Thompson, 1996) have investigated this approach, most published studies (see Johnson & Johnson, 1996) implement a school body approach. An important question is whether students selected as mediators in a cadre approach program realize more benefits than do other students in the school. The present study addresses this question by comparing students selected as mediators to a control group.

The final and perhaps most important distinction between the present study and much of the previous peer mediation literature can be defined in terms of *efficacy* versus *effectiveness* as introduced by Seligman (1995). *Efficacy* studies include controlled trials, often in a "lab" setting, where the opportunity to detect an effect is optimized (Chambless & Hollon, 1998). To date, the more methodologically rigorous peer mediation studies (e.g., Dudley et al., 1996; Johnson et al., 1994; Johnson et al., 1995) could be classified as efficacy studies. Only students volunteered by their teachers participated in the intervention, which allowed for random assignment to treatment conditions. Such a study measures whether peer mediation has an effect with optimal circumstances (e.g., teachers are motivated to facilitate, refer students, etc.). However, Seligman (1995) reports on a growing recognition that such controlled trials might not capture the essence of actual practice. Once it is established that an intervention is efficacious, research on how to make it effective in practice is needed. Given tentative support that peer mediation may be efficacious (Johnson & Johnson, 1996), would this intervention be as effective in a school where participation is *not* on a volunteer basis?

In the current study, school administration solicited peer mediation as a service to be implemented in the entire school, and teachers did not have the option to exclude their students from selection to serve as mediators. However, they did have the option to refer student disputants either to peer mediation or to the principal. Given these circumstances, the present study might be viewed as a unique opportunity to investigate the effectiveness of peer mediation in a setting where outcome depended in part on teachers' willingness to refer students to a program for which they had not volunteered. Therefore, the present findings may better generalize to school-wide implementations than would findings from studies based on self-selected participation. Seligman (1995) argued that empirically validated effectiveness can be achieved only by accumulating and surveying numerous studies of live interventions.

Despite the applied nature of this study, certain measures were taken to improve methodology. For instance, the authors used three years of baseline data for trend analysis. Also, this project addressed Carruthers et al.'s (1996) recommendations for planning an evaluation of a peer mediation program. Importantly, the authors adhered to Carruthers' recommendation to consider both process and outcome. The procedure section details the process of adapting the intervention to better suit the

needs of the school. In addition, the study addressed the following outcome questions with a population of predominantly rural low-SES students:

1. Do students become more knowledgeable about conflict resolution and mediation techniques as a result of receiving peer mediation training?
2. Can students facilitate mediations that result in successful resolutions for peers in conflict?
3. Does the implementation of a peer mediation program influence teachers' reports of behavior problems in the classroom?
4. Does the school-wide incidence of conflict related conduct problems change with the implementation of peer mediation?
5. Do students who receive peer mediation training realize behavior improvements above those realized by other students in the school?

Method

Participants

Participants were from a rural public school in western Tennessee. The school included first through eighth grades, with a total of 798 students and 25 homeroom teachers. As evidenced by the fact that almost 70% of students at this school participated in a subsidized lunch program and the per capita income for the school's county was $10,757 (Woods & Poole, 1993), the children largely came from low-SES homes.

A group of children ($N = 30$) from sixth through eighth grades were trained to serve as mediators for other students—the cadre approach. The demographics of the peer mediators were similar to those of the school, as suggested in the Conflict Resolution Unlimited manual (CRU, 1995). Mediators included 10 children from each grade, 16 girls, 14 boys, 14 African Americans, and 16 Caucasians. Parental permission was obtained for peer mediators.

Procedures

Two clinical and two school doctoral students trained the children and program coordinator. The fourth author, a clinical psychologist, supervised all work for this project. The intervention provided in this study was based on the *Student Mediation Training Program–Middle School Edition* published by Conflict Resolution Unlimited (1995). During the previous year, consultants from a neighboring school system had taught peer mediation in this school using the same materials but had not maintained contact with the faculty coordinator. No successful mediations resulted. The school principal reported that faculty members had told her that they were skeptical about the value of peer mediation in their school, especially following this failure.

Skepticism and resistance are common problems that may hinder the effectiveness of school interventions (Ehrhardt, Barnett, Lentz, Stollar, & Reifin, 1996), so the intervention team held a planning meeting with school administrators and faculty. In addition to providing valuable feedback, the planning meeting offered a setting to address the faculty's skepticism. During the meeting, teachers voiced concern that many of their students could not retain and generalize the intervention material. Taking a stance of co-investigators with faculty, the authors developed a list of specific problems with the previous intervention and problem-solved these issues. The faculty and principal agreed that it would be helpful if the trainers continued to be available for technical support following training. In addition, certain revisions were integrated with the CRU (1995) manual to draft the procedures as a result of this meeting. Other than the revisions described below, the trainers adhered to the manual. For brevity, only an abridged version of training procedures including revisions is provided; however, researchers interested in replication can obtain training materials using the address provided in the references.

The first revision involved selection of students to serve as mediators. To select mediators, the authors and teachers agreed on a two-tier nomination procedure in which both students and teachers

played a role in selection. Students selected a pool of candidates, and the faculty selected those they believed to be confident problem-solvers from that pool. This recruitment method deviated from the manual's suggestion to select some students who are socially introverted or have special needs (see CRU, 1995). This change was in response to teacher report that shy children had refused to participate in role-plays during training in the prior year.

The next revision involved the training schedule. The CRU manual advocated for 3-hour weekly training sessions held for 4 consecutive weeks and a 2-hour follow-up session. Given the constraints of the busy school schedule, training occurred every other week across a 2-month period. To compensate for the elapsed time between sessions, the trainers gave brief homework assignments and reviewed previously covered material in the last three sessions. Also, the trainers helped mediators create a laminated cue sheet of procedures to aid in recall. Finally, trainers provided two booster sessions at 2 weeks and 6 weeks instead of only one as suggested by CRU (1995). These sessions included discussion of actual mediations and role-plays aimed at trouble-shooting problem situations.

The trainers presented the core CRU curriculum without revision but added 30 minutes of role-plays to each session. The curriculum began with didactic instruction on age-appropriate conflict resolution skills (e.g., listening, reading body language, perspective taking, and using "I feel" statements). In addition, the manual included formal peer mediation training, consisting of lecture, video demonstration, and role-play. CRU (1995) suggested that mediations should include two mediators working with two disputants. The mediators introduced disputants to the process, stated mediation rules, discussed and explored the problem, and helped negotiate a solution. Resolution contracts were completed by the mediators and signed by all parties.

After training, the program was publicized. Teachers posted times of availability in their classrooms, and the principal had a bulletin board with pictures of the mediators and information about the program posted prominently in the hallway. The training team observed these postings during school visits to monitor treatment integrity. Administration held a school-wide assembly to educate the students about the program and announce the times of availability. The trainers and program coordinator agreed that ready accessibility to peer mediation was important, so the coordinator scheduled daily mediation time blocks.

The faculty program coordinator was important to the life of the intervention, because she scheduled the mediations, provided feedback and counsel as necessary, and monitored the outcomes of mediations. CRU (1995) gave little guidance as to the extent of follow-up contact the trainer should maintain with the coordinator. In the current study, the first author made weekly phone contact with the program coordinator and the principal throughout the intervention.

Dependent Outcome Measures

Mediation Skills Retention Tests. Prior to the peer mediation intervention, immediately following the training program, and 6 weeks after the training, mediators were given two hypothetical student conflict scenarios taken from the CRU (1995) role-play appendix. Mediators indicated in writing what steps they would take to mediate the resolution the conflicts.

Two raters coded responses giving one point for each correct technique appropriately included within each step of the mediation and also calculated an overall score. The researchers assessed mediators' overall skill, as well as differential skills in each of the steps of the mediation process. The steps coded included introducing the peer mediation process, explaining and obtaining agreement to rules of mediation, discussing the problems/related feelings, exploring the problem, and negotiating a solution.

Peer Mediation Outcomes. After implementation of the program, the authors tracked the number and outcome of mediations that occurred on resolution contracts. The mediators completed the contracts, and the program coordinator reviewed the contracts for completeness. Those contracts

that were (a) signed by both disputants and the mediators, (b) indicated an agreement had been reached, and (c) were not later referred to the office were considered to be evidence of a resolved conflict. At the 2-week and 6-week follow-ups, trainers reviewed the contracts for completeness and documentation of outcome and confirmed with the principal that those conflicts recorded as resolved were not later referred to the office.

Teacher Report of Changes in Classroom Behavior. Teachers ($N = 25$) were asked to fill out a questionnaire before peer mediation training and at 12-week follow-up. The questionnaire asked teachers to report the number of office referrals, fights, and conflicts they were having within their respective classrooms for the current and previous year.

School-wide Measure. The administrative staff generated comparative discipline reports on suspensions related to various behaviors between the school years ending May 1995–1998. Pre- and postintervention comparisons were made for suspensions due to various behaviors.

Peer Mediator Behavioral Markers. Disciplinary referrals to the office for the school year ending May 1998 were used as a behavioral marker. The number of office discipline referrals for peer mediators was compared to the number for a random sample of 30 peers matched for grade, sex, and race. Comparisons were made controlling for the previous year's referrals.

Results

Mediation Skills Retention Tests

To assess interrater reliability, the third author and an assistant independently coded responses. Percentage agreement across categories ranged from 61% to 96%, averaging 81%, and coefficient kappa ranged from .27 to .85, averaging .62. According to Fleiss (1981; chap. 13), kappa values above .75 represent excellent agreement above chance, values between .40 and .75 represent fair to good agreement, and values below .40 represent poor agreement. Only one category, exploring the problem ($\kappa = .27$), fell below the fair to good range, so this category was removed from the analysis. With this exclusion, interrater reliability was good on average, and ranged from fair to excellent, with percentage agreement ranging from 71% to 96%, averaging 84.4%, and kappa values ranging from .55 to .85, averaging .69.

While retention measures were initially given to all peer mediators, some mediators were absent for posttesting ($n = 10$) or follow-up testing ($n = 8$). Absences were due to illness or participation in other programs (e.g., sports). Mediator retention analyses were conducted when both pre- and post- or follow-up scores were available. When only one score was available, the student's scores were deleted and were not included in the pretest or the posttest means. Comparisons were conducted to determine the degree to which those who completed follow-up measures, but not posttest measures differed from students who completed both measures. There were no reliable differences between students included and excluded from the analysis in terms of overall scores on the mediator retention tests, [$F = 2.07$, $p > .2$].

After peer mediation training, students reliably reported that they would implement more of the steps of mediation to resolve hypothetical peer conflicts than they did when they were tested before training, $p < .01$ (see Table 1). Likewise, at the 6-week follow-up, students again responded that they would implement more peer mediation steps as compared to their pretest responses, $p < .01$. The mean score at posttest was not reliably different from the mean follow-up score, $p = .14$. Given this similarity of findings between posttest and follow-up, the results presented in the remainder of this section are based only on posttest data.

Test responses were coded for a number of specific mediation skills. As Table 1 indicates, students more consistently reported that they would introduce each disputant to mediation, that they

Table 1
Student Performance on Written Mediation Skills Retention Tests

		Pretest		Posttest		
Area of competence	*n* (students)	*M*	*SD*	*M*	*SD*	*t*
Overall mediation skill	19	1.00	1.25	6.21	4.12	−5.99*
Skill: Introductions	19	0.00	0.00	0.74	0.99	−3.24*
Skill: Stating the rules	19	0.00	0.00	1.00	1.33	−3.27*
Skill: Discussing the problem	19	0.42	0.61	1.74	1.52	−3.75*
Skill: Negotiation of solution	19	0.11	0.32	2.16	1.83	−5.12*

Note. On a 6-week follow-up test, students' performance did not differ significantly from the posttest on any subtest.
*$p < .01$.

would state the rules of the mediation, that they would listen to both sides and discuss the problem, and that they would help negotiate solutions, p's $< .01$.

Peer Mediation Outcomes

By the 6-week follow-up, 34 mediations had been conducted. Thirty-two contracts met criteria for successful mediation, while two documented that disputants were sent to the principal. This result suggests that in 94% of the cases peer mediators successfully mediated the conflict between disputants, and in the other 6% of cases, peer mediators made an appropriate referral. The program director indicated that the mediators referred two conflicts to the office, because disputants repeatedly violated the rules of peer mediation.

Teacher Report of Changes in Classroom Behavior

Teachers' reports of number of in-class disciplinary referrals, suspension, and fights for the year preceding the intervention were compared to those in the year the intervention was introduced. There were no expulsions in any of the classrooms that were assessed either year. As Table 2 indicates, some noteworthy trends emerged, including reduced in-class fights. However, there were no statistically reliable differences between the pretest and follow-up data. The lack of reliable differences may be due to the small number of teachers surveyed ($N = 25$) and the low follow-up response rate ($n = 5$) resulting in low power. The response rate was low primarily because many teachers had left for summer vacation at the second administration.

School-wide Measure

The school-wide incidences of various conduct referral problems resulting in suspensions were compared for previous years and current school year. Table 3 presents comparative data for the three school years prior to peer mediation and the year peer mediation was introduced.

Table 2
Teacher Report of Changes in Classroom Behavior

	Pretest		Posttest		
Area of student behavior	*M*	*SD*	*M*	*SD*	*t*
Disciplinary referrals	16.00	27.41	6.75	8.22	0.96*
Suspensions	2.80	2.17	3.40	1.34	−0.65*
Fights	2.20	2.49	0.00	0.00	1.98*

Note. $n = 5$.
*ns.

Table 3
School-wide Suspensions by Conduct Class as a Percentage of Total Enrollment for Four Years

School year ending:	May 1995	May 1996	May 1997	May 1998
Total enrollment	910	802	725	798
Conduct category	% Enrollment	% Enrollment	% Enrollment	% Enrollment
Immoral behavior	44.4*	8.6	16.1	2.3
Violence (one-way)	1.5	6.2	3.2	5.4
Fighting	18.3	14.8	12.4	11.9
Possession of a gun	0.0	0.0	0.0	0.0
Possession/other weapon	0.0	0.0	0.8	0.2
Theft/Extortion	0.5	0.8	1.9	0.1
Defying authority	*	41.6	24.8	28.7
Disruptive conduct	*	10.4	13.4	4.4
Other	2.3	3.1	1.6	1.3
Total suspensions	67.0	85.5	74.2	54.3

**Note.* According to school administration, the school year ending May 1995 was the first in which behavioral data was archived on computer. During this year immoral behavior (e.g., swearing), defiance, and disruptive conduct were coded together as "immoral behavior."

The percentage of suspensions based on total enrollment decreased from 74% the previous year to 54% during the year peer mediation training was introduced. This change represents the largest decrease in total suspensions as a percent of enrollment across the four years observed. Specifically, suspensions for immoral behavior (16.1% to 2.3%) and disruptive conduct (13.4% to 4.4%) decreased sharply from the prior to the current school year, in contrast with a 2-year trend of increasing. According to school administration, "disruptive conduct" is coded when students get into arguments with peers or teachers that disrupt class or the movement of traffic through the halls. Fighting showed only a modest decrease from the prior to current year (12.4% to 11.9%).

Peer Mediator Behavioral Markers

Chi-square analyses revealed no significant differences for grade, sex, or race between the mediator and a randomly selected control group. An independent samples *t* test indicated that there was no significant difference between the mean office referrals for peer mediators versus the matched control group in the previous school year. Analysis of covariance (ANCOVA) was used to compare office referrals of the peer mediator group to the control group for intervention year, controlling for prior year referrals. ANCOVA revealed that peer mediators had significantly fewer office referrals ($M = 1.07$, $SD = 1.60$) compared to those in the control group ($M = 2.97$, $SD = 4.25$) during the intervention year [$F(1, 57) = 5.76$, $p = .02$]. Analysis of within-group differences revealed a significant decrease in office referrals for peer mediators from the prior school year ($M = 2.17$, $SD = 4.47$) to the intervention year [$F(1, 29) = 14.46$, $p < .001$]. There was no significant difference between the control group's current year referrals and previous year referrals ($M = 2.43$, $SD = 2.65$).

Discussion

Much of the literature on peer mediation has been based on author judgment and opinion (e.g., Benson & Benson, 1993). More recently, investigators (e.g., Dudley et al., 1996; Johnson & Johnson, 1996; Thompson, 1996) have moved toward outcome evaluations of peer mediation. In previous peer mediation studies, methodologically rigorous outcome studies (e.g., Dudley et al., 1996) have tended to address efficacy as opposed to effectiveness of the programs. Effectiveness of peer

mediation are few, and those that exist lack methodological rigor (e.g., Thompson, 1996) due to their applied nature. To add to the empirical literature on peer mediation, the present study is an outcome evaluation of the effectiveness of peer mediation using the cadre approach in a low-SES rural elementary school.

The present results suggest that peer mediation training was successfully delivered and received. Techniques were taught from a manual with multiple trainers to control the integrity of the material presented, and the training was supervised. Moreover, pre-, post-, and follow-up testing evidenced that students achieved and maintained improvements in their written responses to questions tapping their knowledge of conflict resolution and mediation skills after training. This finding suggests that children in a rural low-SES school can learn and express in writing how they would use peer mediation skills to solve hypothetical peer conflicts, as has been found previously with children in less impoverished settings (e.g., Johnson et al., 1995).

Although teachers reported being skeptical when the program began, the students had performed 32 successful mediations out of 34 at the 6-week follow-up. The percentage of successful mediations in the present study, 94%, is consistent with results in previous studies (Carruthers et al., 1996; Johnson & Johnson, 1996). This finding indicates that the students in this rural setting performed mediations with similar effectiveness to those in urban and suburban settings, which have been subjects for much of the previous research in this area (see Johnson & Johnson, 1996).

At the classroom level, there was a trend toward fewer discipline referrals and fights in the current year as compared to the prior year, but there were no statistically reliable differences. The failure to find an effect may have been due to the small number of teachers surveyed and the low teacher response rate. The low response rate was primarily due to the timing of posttest survey administration. The authors administered surveys at a teacher conference soon after the school year ended, and many of the teachers had already left for summer vacation. In addition, some teachers who completed a pretest survey had been replaced when the follow-up measure was administered.

During the intervention year, the school recognized the largest decrease in suspensions as a percentage of total enrollment that it had had in three years. Specifically, suspensions for disruptive conduct, which included disruptive arguments with peers, decreased substantially during the intervention year following two years of increase. In contrast, fighting decreased little during the intervention year—in fact fighting as a percentage of enrollment decreased more in the two years prior to peer mediation than in the intervention year. These contrasting patterns raise important research questions. Future research should address whether peer mediation impacts verbal versus physical conflict differently. Perhaps mediation is more effective in resolving less severe conflicts, or perhaps there are factors that differentiate those who argue versus those who physically fight that make the former better candidates for mediation. It is important to acknowledge that due to lack of experimental control and the relatively small number of observed events in this measurement, conclusions about school-wide effects are limited. While there were no other interventions aimed at disruptive behavior implemented in the school during any of these school years, the reduction in suspensions may have been related to another factor. Rather than conclusive, these results should be taken as a guide for future research.

Finally, mediators may have realized behavioral improvements during this intervention. Controlling for office referrals in the previous year, peer mediators received significantly fewer office referrals during the intervention year compared to a group of matched controls. In addition, peer mediators showed a decrease in their own office referrals from the previous year. Whether this decrease was related to the mediators' ability to apply conflict resolution skills in their own interactions, a sense of responsibility associated with being a peer mediator, or another factor, it appears that the peer mediators realized benefits during their participation in training. While this finding is encouraging, this study lacks sufficient control to infer that peer mediation alone caused the change.

Another factor that could have contributed to decreased office referrals is maturity over the passage of time; however, it is noteworthy that the matched control group's office referrals did not decrease across this time. Despite the lack of direct causal inference, this finding makes a case for further research comparing the cadre and school-wide approaches directly to sort out whether those who receive training receive additional benefits over those who merely attend mediations.

Given that a peer mediation program based on the same training manual failed to produce any successful mediations a year earlier, discussion of the current implementation process is warranted. The initial meeting with teachers seemed important for obtaining feedback to adapt the program and for generating support. Based on the planning meeting, the authors and program coordinator made specific adaptations to meet the needs of the school. As with any system, being sensitive to the relationship between administration and faculty and the effects of previous interventions in the school system provided useful information.

Perhaps the key process factor that emerged from this investigation was the importance of maintaining contact with the faculty program coordinator and principal. During weekly contacts, trainers provided the program coordinator technical support and praise. Further, weekly contact may have levied accountability on the school to hold mediations as the program was being established. Securing the support of administrators and key people who are invested in peer mediation seems to be a vital factor for the longevity of the program. Further, before the consultants withdraw from the system, these key people must have accepted responsibility for the life of the program.

Certain methodological limitations must be considered when interpreting the present findings. First, although random assignment to treatment was not an option in this study, randomization would help control for possible confounding variables such as school resources, demographics, and administrative support. Selection of several schools to be randomly assigned to training versus control would address this limitation, while allowing for assessment of effectiveness in a school-wide implementation. Assignment to treatment condition at the school level rather than within an individual school is important, because assignment of teachers who self-select to receive treatment may not generalize to a school-wide implementation in practice. Further, in the present study's comparison of mediators to a randomly selected group of peers, only demographic variables were selected for matching. Due to limited access to student data, other potentially important covariates (e.g., academic performance, SES, etc.) were not used. Future studies should consider such variables. Obtaining such information would be facilitated by inclusion of an investigator who works within the school being studied.

Johnson and Johnson (1996) noted that dependent measures are not standardized in most peer mediation studies and are therefore not comparable between studies, as is the case with the present investigation. For studies with the individual as the unit of analysis, standardized behavioral checklists could be administered pre- and postintervention to address this weakness. Furthermore, while the skills retention tests in this and other studies (e.g., Johnson et al., 1995) provide an indicator of whether children maintain knowledge of the skills, research on whether this knowledge is generalized to effective peer mediation behaviors at the individual level is needed. In addition to written tests, future research should include observation and coding of steps performed in actual mediations to compare to the steps that students report they would use in responses to hypothetical situations. This measure would not only provide solid documentation of treatment integrity, but also address directly whether knowledge about mediation generalizes to a child's behavior. For investigation at the class level, future studies should include larger numbers of teacher respondents than did the present study. To make causal inferences at the school-wide level, a system-wide investigation matching schools on behavioral markers for random assignment to treatment versus control is needed. Further, this and other investigations in the literature (see Johnson & Johnson, 1996) have evaluated only one program per study. Trials with schools randomly assigned to different interventions are needed to

compare the relative effectiveness between programs (e.g., cadre approach versus school-wide approach).

Finally, the current investigators monitored treatment integrity by providing instruction from a manual by multiple supervised trainers working as a team, observing publicity efforts, reviewing mediation contracts, and confirming outcomes with the principal. To improve treatment integrity, future studies might tape training sessions to code for inclusion of key features.

Despite these limitations, in an area of research that is just beginning to develop, this study contributes to the generalizability of potential promise that peer mediation may hold. Specifically, this study extends research from middle-class suburban populations to a low-SES rural population with a similar rate of success. The present study is consistent with previous literature, offering tentative support for the effectiveness of peer mediation. Given children's tendency to engage in ineffective or destructive conflict resolution strategies in the absence of intervention (Johnson et al., 1995), further methodologically rigorous research including replications and longitudinal studies is warranted to determine the effectiveness of peer mediation in addressing this societal problem.

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