ARTICLES

# Unlocking the Learning Potential in Peer Mediation: An Evaluation of Peer Mediator Modeling and Disputant Learning

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*This research used modeling theory to test peer mediator modeling and disputant learning during peer mediation. The results demonstrated that peer mediators effectively modeled, and disputants effectively learned, conflict resolution knowledge, attitudes, and skills that contributed to a significant improvement in conflict attitudes and behaviors, and a significant reduction in disputant discipline problems following mediation.*

Extensive evaluation research on peer mediation programs has verified that they are successful in (1) resolving conflict between students; (2) teaching peer mediators conflict resolution knowledge, attitudes, and skills; (3) reducing suspensions and discipline referrals; and (4) improving school climate (Carstarphen, Harris, and Schoeny, 1999; Crawford and Bodine, 1996; Jones, 2004; Jones and others, 1997; Jones and Bodtker, 1998; Jones and Carlin, 1994; Long, Fabricius, Musheno, and Palumbo, 1998). These studies show that most schools report high mediation agreement rates, of 85 percent or more, and that disputants are highly satisfied with the mediation process at the end of mediation.

Yet little is known about the impact these programs have on disputants. In particular, no studies directly investigate whether or not disputants—students who are having a conflict and who agree to participate in mediation—learn anything during mediation that can help them resolve future conflict without

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needing third-party intervention. In other words, is there an educational side effect to peer mediation? Early research (for example, Volkema, 1986) in this area examined the degree to which disputants received training or education in mediation and recommended that mediators consider integrating some form of training, education, and modeling into their practice to help disputants respond to future conflicts. Additional studies (Jones, 1999; Kolan, 1999; Marcinko, 2001; Lane-Garon, 1997, 1998; Krochak, 1997) suggested that disputants gained some new conflict resolution knowledge, attitudes, and skills during the mediation process.

## Research Questions

This article examines disputant learning in mediation by investigating the relationship among peer mediator modeling, disputant learning, and conflict reduction. The sparse research on disputant learning led to development of two main questions for this study. Regarding *peer mediator modeling,* what conflict resolution knowledge, attitudes, and skills do peer mediators model in mediation? In regard to *disputant learning,* what conflict resolution knowledge, attitudes, and skills do disputants learn from participating in mediation, and does any learning result in behavioral change? A third area that was explored in the study considered moderating variables that might influence peer mediator modeling and disputant learning.

## Modeling Theory

This research drew upon Albert Bandura's social cognitive theories and research (1969, 1973, 1977, 1986), which suggest that it is possible to learn from observing the actions of others. According to this school of thought, learning does not necessarily have to be practiced at the time it is observed; it can be recalled at a later time. He suggested that through *modeling* (the behavioral, cognitive, and affective changes derived from observing one or more people) and *observational learning* (acquisition of new behaviors demonstrated by a model) people can learn new behaviors as well as understand the consequences of their actions (Schunk, 2000).

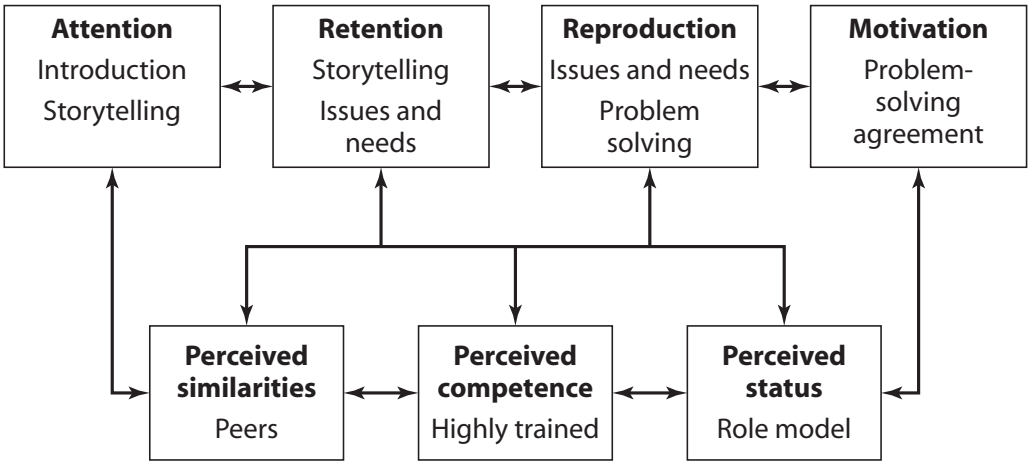
Modeling is made up of four main processes that have application to conflict resolution education and the present study: attention, retention, reproduction, and motivation (Bandura, 1977, 1986, 1997). The process of *attention* involves the learner attending to the behavior of the model. The

learner needs to adequately observe what the model is intending the learner to observe. Once the learner attends to the critical aspects of the model's behavior, the learner needs to *retain* or transfer that information to memory to be accessed later. *Reproduction* refers to the learners' ability to use the behaviors on their own. The fourth process, *motivation,* involves the learners forming expectations about getting positive reinforcement when they reproduce the model's behavior. As learners receive reinforcement and see themselves making progress, they are motivated to use the model's behaviors (Bandura, 1986, 1997; Eggen and Kauchak, 1999; Schunk, 2000; Driscoll, 2000; Ormrod, 2000).

These four processes are inherent in the peer mediation model examined in this study. Peer mediators seek to gain the acceptance and attention of the disputants during the welcome and introduction. The storytelling and issues or needs stages allow retention and reproduction with the guidance of the mediators. Throughout the whole process the mediators model and reinforce appropriate behavior for the disputants. They model cooperation, teamwork, and collaboration while using effective communication and problem-solving skills to help disputants resolve the conflict. During the whole mediation process, they help to motivate the disputants to resolve the conflict. If the peer mediators model appropriately and the disputants observe them model, then observational learning theory hypothesizes that disputants will learn knowledge, rules, skills, strategies, beliefs, and attitudes that lead to a change in behavior (Schunk, 1987, 1998, 2000; Berger, 1977; Rosenthal and Bandura, 1978; Zimmerman, 1977; Ormrod, 2000).

Research shows that the effectiveness of models depends on three factors. First, people are more likely to imitate models that are similar to themselves (Schunk, 1987, 1998, 2000; Eggen and Kauchak, 1999; Bandura, 1977, 1986, 1997). Second, models that are perceived as highly competent are more likely to be imitated (Schunk, 1987, 1998, 2000; Eggen and Kauchak, 1999; Bandura, 1977, 1986, 1997). Third, the level of perceived status of the model has an impact on the degree to which learners imitate it. These three factors are built into the mediation programs in Fairfax County (Virginia) public schools. Mediators are matched, when possible, for gender, age, grade, and ethnicity with the disputants, to enhance the peer aspect of the process. They are highly trained and skilled at mediating and strive to demonstrate credibility and expertise to the disputants. They are also viewed as role models and are generally respected in their schools. These four processes and three factors of effective modeling are operationalized in peer mediation as seen in Figure 1.

Figure 1. Interrelationship Among Attention, Retention, Reproduction, Motivation, and the Perceived Effectiveness of Models




There are no studies evaluating peer mediator modeling during mediation. Peer mediation program staff (personal interviews with J. Bradshaw, peer mediation teacher, Feb. 2001; S. Turner, peer mediation program coordinator, Feb. 2001; F. Lowden, peer mediation program coordinator, Feb. 2001; L. Barb, peer mediation teacher, Feb. 2001; L. Mooney, peer mediation program coordinator, Feb. 2001; E. McNeil, peer mediation teacher, Feb. 2001) reported during the study that they teach their peer mediators about the importance of modeling during mediation. They teach peer mediators to model cooperation, teamwork, and collaboration while using effective communication, analytical, and problem-solving skills to help disputants resolve conflict (Bradshaw, Turner, Lowden, Barb, Mooney, and McNeil interviews, Feb. 2001). Peer mediator modeling is arguably more implicit than explicit; the stated goal of mediation is to reach resolution of the conflict.

## Defining Terms

In this study, *peer mediator modeling* was defined as modeling conflict resolution knowledge, attitudes, skills, and behaviors during mediation. *Disputant learning* referred to disputants' learning conflict resolution knowledge, attitudes, skills, and behaviors from observing peer mediator modeling.

## Research Methodology

The study was designed to be exploratory because no prior research had been conducted on peer mediator modeling, and even though a handful of studies mention disputant learning none directly investigated conflict resolution knowledge, attitude, skill, and behavioral learning as a result of mediator modeling. A multisource, multimethod design was used to triangulate and enhance the validity and reliability of the data. Data were collected from peer mediators, peer mediation program staff, disputants, and the peer mediation observer in three Fairfax County high schools using a pretest and posttest instrument, evaluation and assessment forms, interviews, observations, and administrative records.

## Participating Schools

Three Fairfax County Public Schools (FCPS) high schools agreed to participate in the study. Each high school had a peer mediation program for ten years prior to the study and a medium-to-high level of program institutionalization (the criteria used to determine program institutionalization are found in the section on moderating variables). All three schools also provided 160 hours of conflict resolution education to peer mediators and certified them before they were allowed to mediate. Collectively, the three schools made available fifty-one disputants, thirty-seven peer mediators, and six program staff. These three schools were selected according to the strength of their peer mediation program, the ongoing administrative support the peer mediation program received each year, and their past participation in program evaluation conducted by FCPS.

### *Participants*

All disputants involved in mediation from February 1 to June 12, 2001, were asked to voluntarily participate in the study. Fifty-one out of fifty-nine participants finally participated. All peer mediators who mediated cases from February 1 to June 12, 2001, were asked to voluntarily participate in the study. Thirty of thirty-one peer mediators participated.

Twelve among the original thirty peer mediators who participated were also observed mediating cases from May 15, 2001, to April 1, 2002. Seven additional peer mediators who had not previously participated in the study but who co-mediated with a participating peer mediator were observed during that time period. Peer mediator and disputant data were collected

from peer mediation program staff and the mediation observer in an effort to triangulate findings.

### *Mediation Case Data*

The evaluation included thirty-seven active peer mediators and fifty-one disputants who were involved in nineteen mediation cases. Seventeen of the cases in the evaluation (89 percent) involving forty-six disputants (90 percent) reached agreement, demonstrating a high success rate. The data show that disputants in the study and the number of cases dealt with in the evaluation represented approximately one-fourth of the total number for the entire school year. Nearly two-thirds of the total peer mediator population, in the three schools, took part in mediating the nineteen cases represented in the study.

### *Instruments*

This study developed new instruments and adapted preexisting ones to test peer mediator modeling and disputant learning. Harris and Carstarphen (1998) adapted six instruments from the Comprehensive Peer Mediation Evaluation Project (Jones, 1995; Jones and Kmitta, 2002). Harris developed the other four instruments. All instruments used during the study were pilot-tested multiple times with high school students in order to increase construct validity. Five of the instruments underwent interitem reliability analyses, which demonstrated that the majority of the subscales had a very high level of internal consistency. In addition, the use of multiple instruments to test modeling and learning led to convergent validity that in turn increased the overall validity and reliability of the findings.

Ten instruments[1] (five surveys, three interview schedules, an observation form, and a summary report form) were used to collect data to answer the two research questions. Data were also collected from administrative records.

### *Procedure*

The data collection protocols were developed in consultation with school staff to minimize students' loss of core instructional time. When a conflict between students was referred to mediation, staff were instructed to conduct case intake. and if they determined the situation could be mediated they were asked to review the purpose of the evaluation, ask for student

consent, give a parental permission form, and administer the pretest. They next reviewed the evaluation with the peer mediators, asked for their consent, gave them parental permission forms, and scheduled the mediation. At the end of the mediation, both peer mediators and disputants were asked to complete evaluation forms. Approximately two months after the mediation ended, an interview was conducted with each disputant during which time the person also completed the posttest, a second evaluation form, and skills assessment forms. Interviews were conducted as well with peer mediators and program staff. At the end of the school year, discipline records were downloaded from school system databases. Mediation observation took place from May 2001 to March 2002.

### *Limitations of the Study*

There are three main caveats that must be considered in assessing the trustworthiness and credibility of the study. The first reflects the difficulty in maintaining data collection fidelity. For example, even though fifty-one disputants agreed to participate in the study, only forty-three filled out a pretest, and of those only twenty-four filled it out completely. The other nineteen either did not fill out individual items or missed complete subscales. The second caveat involves the self-reported nature of the bulk of the data collected. Although it is true that triangulation can help minimize subject bias and error, it is difficult to conclusively state that peer mediators modeled and disputants learned conflict resolution knowledge, attitudes, and skills. Replication of this study should include teacher and parent observation of disputants, if possible, trying to objectively determine if disputants actually learn conflict resolution knowledge, attitudes, and skills and use them in other conflict situations. The third caveat of the study must consider alternative possibilities for disputant learning and discipline reduction other than mediator modeling.

## Findings

Table 1 outlines some of the key findings from this study. The summary is broken down into four categories to reflect the specific findings for peer mediation programs, peer mediators, disputants, and additional areas that bear further attention. The sections that follow summarize the key findings of the study in terms of the three research areas: peer mediator modeling, disputant learning, and moderating variables.

Table 1. Summary of the Findings

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| Peer mediation programs | Resolved 94 percent of disputant conflicts |
| | Effectively taught peer mediators conflict resolution knowledge, attitudes, and skills |
| | Effectively prepared peer mediators to mediate conflict |
| | Significantly reduced discipline problems |
| | Contributed to keeping schools safe |
| Peer mediators | Effectively helped disputants resolve their conflicts |
| | Effectively modeled peer mediation knowledge, attitudes, and skills |
| Disputants | Effectively resolved their conflicts in mediation |
| | Recognized peer mediator modeling |
| | Learned peer mediation knowledge, attitudes, and skills, and successfully used them in other conflict situations |
| | Significantly reduced discipline problems after participating in mediation |
| Additional findings | Demonstrated a high positive correlation between modeling and learning: the more modeling disputants remembered, the more learning they reported |
| | Indicated that the degree of peer mediator modeling and disputant learning can serve as outcome indicators of mediation effectiveness in addition to agreement rate and degree of satisfaction |
| | Identified key factors (such as experience of mediator, length of mediation, degree of voluntariness, ability to remember agreement and recall stages of mediation process) influencing the amount of modeling and learning reported by disputants |
| | Highlighted the usefulness of social learning theory to peer mediator modeling and disputant learning theory development |
| | Suggested the potential transferability of results to other conflict resolution processes |

### *Research Question One*

What conflict resolution knowledge, attitudes, and skills do peer mediators model in mediation?

***Knowledge.*** Data from survey instruments demonstrated that peer mediators effectively used mediation skills and followed the stages of the mediation

process (mean = 1.49 on a Likert scale of 1 = excellent to 4 = needs improvement; N = 54). Their use of the mediation process constituted their learning of what mediation was and how it worked. This knowledge base allowed them in turn to model for the disputants what they learned, whether explicitly or implicitly. The lack of any significant difference between peer mediator and observer ratings ($t = .61$, $df = 52$, $p = .54$) validated use of the instruments as an accurate assessment of mediator learning and potential modeling.

***Attitudes and Beliefs.*** This section sought to learn about the peer mediators' attitudes and beliefs that guided them in mediation. Program staff data were included in order to learn whether or not their attitudes and beliefs influenced peer mediators. Peer mediator and program staff generally agreed that most students became peer mediators for two reasons: (1) they wanted to help people, and (2) they wanted to learn skills to help themselves in the future.

Peer mediators expressed four main goals during the interview: (1) creating a safe and respectful mediation environment, (2) helping disputants have a constructive and meaningful conversation, (3) helping disputants come up with agreed-on solutions that resolve the conflict, and (4) wanting disputants to learn some of the skills used by mediators. Peer mediators and program staff also expressed two main reasons for supporting peer mediation programs. First, a high rate of mediation agreement demonstrated that most conflicts were successfully resolved. Second, they believed that disputants learned skills to help them resolve future conflicts without third-party assistance.

***Skills.*** The section on skills was operationalized in terms of the skills that peer mediators used during mediation. The data were triangulated using two survey instruments to demonstrate that peer mediators modeled, and disputants remembered, the skills used in mediation. The survey results indicated that (1) peer mediators used the sixteen skills during mediation, and (2) disputants were cognizant of the skills. Three clusters of skills emerged from multidimensional scaling analysis:

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| Cluster one: Effective communication skills | Talking calmly |
| | Asking questions |
| | Clarifying information |
| | Listening actively to let the other person know you hear and understand |
| | Encouraging disputants to talk directly to each other |
| | Showing empathy (understanding) |

| | |
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| Cluster two: Process management skills | Restating, paraphrasing, summarizing information heard from the other person |
| | Helping disputants take turns talking |
| | Helping disputants stay calm |
| | Defusing anger or other strong emotions |
| | Providing positive feedback |
| | Being nonjudgmental, impartial, neutral |
| Cluster three: Relationship building and resolution skills | Helping disputants better understand what caused the conflict |
| | Helping disputant better understand the other person |
| | Helping disputant better understand the other person's perspective |
| | Helping disputants brainstorm solutions to resolve the conflict |

On a scale of 0–10 (0 = no use of skills; 10 = used skills ten times or more), disputants rated peer mediator's use of communication skills the highest (mean = 7.76, N = 51). The skills used second most frequently were in process management (mean = 6.67, N = 51), followed by relationship-building and resolution skills (mean = 6.40, N = 51). This order made sense because communication skills are needed during the entire mediation, process management skills help keep communication possible and are necessary when difficult situations arise, and relationship and resolution skills helped resolve the conflict. From an evaluation standpoint, this order also made sense because communication skills should be the easiest to observe, process skills somewhat more difficult, and relationship-building and resolution skills most difficult because disputants are not initially focused on resolving the conflict or (re)building the relationship; thus these skills are harder for them to observe and remember.

Peer mediators, program staff, the observer, and disputants also rated the most and least helpful or useful skills that mediators use. Overall the most helpful skill was being nonjudgmental, impartial, and neutral; other helpful skills included listening actively, talking calmly, and clarifying information. The least helpful was encouraging someone to talk directly to

the other person, and the only skill of little help mentioned was providing positive feedback. A comparison was also made with the most and least helpful or useful skills rated by mean score. The results of the comparison showed that peer mediator, program staff, observer, and disputant ratings closely matched the actual mean scores they assigned to the most and least helpful or useful skills. Disputants highly rated peer mediators' use of mediation skills and the mediation process both directly following mediation (mean = 1.33 on a Likert scale of 1 = strongly agree to 5 = strongly disagree; N = 33) and again an average of two months later (mean = 1.61, N = 33).

The data collected and analyzed in this description are sufficient to answer in the affirmative that peer mediators modeled knowledge, attitudes, and skills during mediation. What knowledge, attitudes, and skills disputants learned from participating in mediation was the focus of the second research question.

### *Research Question Two*

What conflict resolution knowledge, attitudes, and skills do disputants learn from participating in mediation, and does any learning result in behavioral change?

***Knowledge.*** Although 83 percent of respondents were able to choose the correct definition of *mediation* on the pretest, correct responses on the posttest increased to 94 percent. Disputants were also asked during the interview to recall how the mediation process worked. One hundred percent recalled at least one stage of the mediation process, and 20 percent remembered all five stages even though the mediation occurred on average two months earlier. The stage most often recalled was storytelling. These findings suggested that disputants had learned the definition of *mediation* and how the mediation process worked.

***Attitudes and Beliefs.*** Survey instruments were used to gain insight into the attitudes and beliefs disputants learned or improved as a result of the mediation. There was no significant difference in disputants' attitudes and beliefs between the end of the mediation (mean = 1.80 on a Likert scale of 1 = strongly agree to 5 = strongly disagree; N = 33) and the interview (mean = 1.93, N = 33), an average of two months later. The lack of significant difference ($t = -1.06$, $df = 32$, $p = .297$) suggested that disputants maintained a positive attitude about mediation and remained very satisfied with their mediation experience.

***Disputants Liked Participating in Mediation.*** During interviews, each disputant was asked to talk about what he or she liked and disliked about participating in mediation. Three times more answers were furnished about what they liked than about what they disliked. The three things disputants liked most were (1) being able to talk to the other disputant(s) and clarify misunderstandings; (2) getting the chance to tell one's side of the story and being heard by the mediators; and (3) participating in a safe, controlled, and confidential environment. The largest response for what disputants disliked most was "nothing." The second highest response was that mediators were not helpful because they did not let disputants talk directly to each other.

***Disputants Improved Relationships and Attitudes About Mediation Helpfulness.*** Two questions during the disputant interview also focused on attitude change. The first looked at a disputant's relationship to the other disputant(s) before and after the mediation took place. The Wilcoxon Signed Ranks test reported that disputants' view of the relationship significantly improved ($z = 3.58$, $N = 51$, $p < .001$). The second change looked at disputants' expectation of the helpfulness of mediation before and after it took place. Once again, the Wilcoxon Signed Ranks test reported a highly significant finding ($z = 4.49$, $N = 51$, $p < .001$), demonstrating that disputants' attitudes and beliefs about the helpfulness of mediation improved. These changes in attitudes and beliefs may help disputants the next time they get into conflict, in one of two ways: (1) by reassuring them that they can still maintain relationships with people even when they are involved in a conflict or (2) by reinforcing for them that using mediation or mediative skills can help them resolve conflict.

***Disputants Improved Attitudes About School and Conflict Styles.*** On survey instruments, participants demonstrated significant improvement on two of the four attitude subscales. Disputant ratings significantly improved for (1) attitudes toward school climate ($t = 2.86$, $N = 24$, $p = .009$) and (2) attitudes toward using collaborative conflict styles ($t = 2.31$, $N = 24$, $p = .030$). These results supported the contention that disputants learned new (or improved) attitudes as a result of the mediation.

***Skills.*** Survey instruments asked disputants to rate whether or not they believed they learned the skills, and if so the degree to which they had used them in other conflict situations since the end of the mediation. Peer mediators, program staff, and the observer were also asked to rate the degree to which they believed disputants would learn the skills. All four data sources

believed disputants learned skills during mediation that could be used in other conflict situations. Disputants further believed they used the skills in other conflict situations since the mediation.

Disputants rated their learning and use of skills highest for cluster one (effective communication skills), next for cluster three (relationship-building and resolution skills), and lowest for cluster two (process management skills). These results may indicate that it was easier for disputants to observe and learn effective communication skills, which may be more explicitly used during mediation, than process management skills. Peer mediators and program staff, by contrast, believed disputants would learn cluster three skills the most, followed by one and two. The mediation observer ratings were generally similar to those of the disputants.

The three most helpful or useful skills that disputants reported using since the mediation ended were talking calmly, clarifying information, and listening actively. These three skills match the overall most helpful or useful skills reported by all four sources. The disputants reported that the least helpful or useful skill was restating, paraphrasing, and summarizing information, which differed from the overall skills of providing positive feedback and encouraging the other person to talk directly to the respondent. There are two possible explanations for why disputants chose restating, paraphrasing, and summarizing: the high level of difficulty involved in restating as a skill, and disputants possibly perceiving this skill as being too repetitive.

The most and least helpful or useful skill for disputants to learn was also compared to a list generated from the actual mean ratings given by the four sources. The majority of skills identified by the sources matched their actual mean scores, with two exceptions. The first included two additional skills that the mean scores showed were most helpful or useful: (1) helping one or the other person better understand the other's perspective, and (2) helping one or the other person better understand what caused the conflict. The second included one additional least helpful or useful skill: defusing anger and other strong emotions. One possible explanation for including better understanding the other person's perspective and what caused the conflict as most helpful or useful skills are their importance in helping to build relationships and resolve conflict. There are two possible reasons for including defusing anger and other strong emotions as a least helpful or useful skill: the skill may prove too difficult for disputants to use without specific training, and the skill is very difficult to use when the disputants themselves are angry or emotional.

Pearson correlation analyses were run on disputants' total and cluster ratings for peer mediator modeling and their own learning to determine if

a relationship existed between peer mediator modeling and disputant learning. The results demonstrated that modeling and learning were highly correlated ($r = .61$, $N = 51$, $p < .001$). Furthermore, the analyses showed that the two variables were positively related, which meant that an increase in observation of peer mediator modeling led to an increase in reported learning. The opposite was also true, that a decrease in observation of modeling led to a decrease in reported learning. The results from the correlation analyses strongly suggested that peer mediator modeling led to disputant learning.

On survey instruments, 81 percent of disputants strongly agreed or agreed at the end of the mediation that they had learned skills. That number increased slightly to 84 percent by the time the interview occurred approximately two months later. Eighty-six percent of disputants believed they learned their new skills from watching and observing the peer mediators.

In addition to identifying the sixteen skills listed on the assessment form, during interviews 14 percent of disputants proposed one or more additional skills used by peer mediators (for example, managing emotions, providing examples of similar situations and how they were resolved, asking disputants to restate the other's story). This lent additional support to the findings that disputants were observing and learning new skills. Disputants were also asked during the interview to rate the effectiveness of their skill acquisition and use. Ninety percent of disputants rated the mediators effective at helping them learn new skills, and 88 percent reported using the skills effectively in other conflicts. Disputants attributed the high degree of effectiveness to peer mediators' modeling of skills and help in resolving the conflict.

***Behaviors.*** Subscale ratings from survey instruments reported significant improvement from the pretest to posttest for two of the three behavior subscales: disputants reduced their personal conflict behavior ($t = 2.26$, $df = 23$, $p = .034$), and they used more collaborative behaviors to respond to conflict ($t = 4.19$, $df = 23$, $p < .001$). The overall average rating demonstrated that disputants significantly improved their conflict attitudes and competence in resolving conflict ($t = 4.24$, $df = 23$, $p < .001$). These significant findings suggested that disputants learned new behaviors or improved existing ones.

Discipline referral data yielded an objective outcome measure to compare to disputants' self-reported data. Two possible indicators were presented, one including all discipline categories (cheating, forgery, tardiness,

and so on) and the second focusing on only those categories program staff thought might be affected by mediation (disobedience or defiance, disrupting school activity, fighting, and so forth). Both indicators reported a 60 percent drop in discipline referrals after the mediation took place. A paired t-test on each indicator reported a statistically significant reduction in discipline referrals for disputants participating in the study (first indicator: $t = 2.16$, $df = 50$, $p = .036$; second indicator $t = 2.83$, $df = 50$, $p = .007$). The second indicator might be considered a more accurate assessment of discipline referral reductions because it involved only those categories that might feel a direct impact from peer mediation.

## Moderating Variables

The data presented here furnished evidence that peer mediators modeled and disputants learned conflict resolution knowledge, attitudes, and skills during mediation that led to behavioral improvement. To determine if any variables moderated these findings, three sets of moderating variables were tested against several of the overall average ratings: (1) level of program institutionalization, (2) factors affecting peer mediator modeling, and (3) factors affecting disputant learning. The results from these tests are presented in this section.

### *Level of Program Institutionalization*

The level of peer mediation program institutionalization was tested to determine if the results from the research questions were moderated by this variable. The level of institutionalization was determined by evaluating eight areas using a scale of low, medium, and high: (1) school and coordinator background, (2) type and amount of staff training, (3) type of program and training for students, (4) history and goals of the program, (5) content and pedagogy of the program, (6) level of publicity, (7) amount of program coordination, and (8) degree of school support for peer mediation and the role of the program in the school. All three programs received a high institutionalization rating during the 1998–99 program evaluation conducted by FCPS. A program institutionalization rating instrument used in that evaluation was also employed to determine their rating for 2000–01. All three schools received a medium-to-high rating, which indicates that the level of program institutionalization was not an effective moderating variable in this study.

### *Factors Affecting Peer Mediator Modeling*

After a review of all peer mediator interviews, three possible moderating variables emerged: (1) length of time as a peer mediator, (2) number of cases mediated by the peer mediator, and (3) length of the mediation. The overall mean for each variable was used to divide the responses into two categories to allow an independent t-test to be run; length of time as a peer mediator was rounded to two years, the number of mediation cases was rounded to ten cases; and the length of mediation was rounded to ninety minutes. In terms of frequency distribution, 76 percent of peer mediators had mediated two years or less and 24 percent over two years, 63 percent had mediated one to ten cases and 37 percent mediated eleven to twenty-five cases. Eighty-two percent of mediations lasted ninety minutes or less, while 19 percent lasted longer than ninety minutes. Here, the data from the independent t-test are reviewed for each moderating variable separately. A discussion of the results is found at the end of the section.

The three moderating variables tested showed mixed results. All three reported significant differences when tested against the results from survey instruments. Peer mediators with three to eight years of experience received significantly better ratings for their use of the mediation process and mediation skills than peer mediators with two years' experience or less ($t = 2.43$, $df = 28.16$, $p = .022$). Peer mediators who had mediated eleven or more cases received significantly better ratings for their use of the mediation process and mediation skills than peer mediators who had mediated one to ten cases ($t = 2.36$, $df = 52$, $p = .022$). Peer mediators who participated in mediations that lasted more than ninety minutes received significantly better ratings for their use of the mediation process and mediation skills than those lasting ninety minutes or less ($t = 6.60$, $df = 51.33$, $p < .001$).

These findings make intuitive sense since one might expect peer mediators with more experience to achieve better ratings than peer mediators with less experience, and furthermore longer mediations made it more likely that the mediators would be able to use all of the stages and skills of the mediation process. Analysis of these three variables, however, did not report any significant differences in moderating skills assessments. One possible reason these variables did not moderate the sixteen skills but did affect mediators' use of the process may be the narrowness of the skills assessed by the survey instruments. Further testing should be done to determine the degree to which these three variables serve as moderating variables in similar situations.

*Factors Affecting Disputant Learning*

This section reviews seven moderating factors that affected results on dependent variables of overall average scores for peer mediator modeling, disputant learning, disputant satisfaction with mediation, disputant conflict attitudes and competence, and disputant discipline referrals: (1) the length of the mediation, (2) disputants' willingness to participate in mediation, (3) disputants' ability to remember what the agreement said, (4) their ability to remember the stages of the mediation process, (5) the method by which disputants learned skills, (6) the level of effectiveness for their use of skills learned in mediation, and (7) their assessment of mediation effectiveness in helping them learn skills.

The moderating variable *length of mediation* indicated that disputants who participated in mediations lasting longer than ninety minutes reported (1) a significantly higher rating for peer mediator modeling ($t = 2.50$, $df = 49.00$, $p = .016$), (2) a higher level of mediation satisfaction, and (3) a significantly reduced number of discipline referrals following the mediation ($t = 2.43$, $df = 16.00$, $p = .027$), compared to disputants who participated in mediations lasting ninety minutes or less. Both groups of disputants reported significantly improving their conflict attitudes and competence.

The moderating variable *willingness to participate in mediation* indicated that disputants who were willing to participate in mediation reported (1) a significantly higher rating for peer mediator modeling ($t = 3.46$, $df = 49.00$, $p = .001$), (2) a significantly higher rating for disputant learning ($t = 5.10$, $df = 49$, $p < .001$), (3) a higher level of mediation satisfaction, (4) significantly improved conflict attitudes and competence ($t = 5.03$, $df = 15.00$, $p < .001$), and (5) a significantly reduced number of discipline referrals following the mediation ($t = 2.32$, $df = 37.00$, $p = .026$), compared to disputants who were not willing or did not care if they participated in mediation.

The moderating variable *remembers what agreement said* indicated that disputants who could remember what their agreement said reported (1) a significantly higher rating for disputant learning ($t = 2.42$, $df = 44.00$, $p = .020$), (2) a higher level of mediation satisfaction, (3) significantly improved conflict attitudes and competence ($t = 2.89$, $df = 14.00$, $p = .012$), and (4) a significantly reduced number of discipline referrals following the mediation ($t = 2.81$, $df = 32.00$, $p = .008$), compared to disputants who could not remember what their agreement said.

The moderating variable *How many parts of the mediation process do you remember?* indicated that disputants who could remember three to five

parts of the mediation process reported (1) a significantly higher rating for peer mediator modeling ($t = 2.44$, $df = 49.00$, $p = .018$), (2) a significantly higher rating for disputant learning ($t = 3.18$, $df = 49.00$, $p = .003$), and (3) a significantly reduced number of discipline referrals following the mediation ($t = 2.83$, $df = 24.00$, $p = .009$), compared to disputants who could remember only one or two parts of the mediation process. Both groups of disputants reported significantly improving their conflict attitudes and competence.

The moderating variable *How did you learn during the mediation?* indicated that disputants who learned by watching and observing reported (1) a significantly higher rating for disputant learning ($t = 2.12$, $df = 49.00$, $p = .039$), (2) significantly improved conflict attitudes and competence ($t = 3.76$, $df = 19.00$, $p = .001$), and (3) a significantly reduced number of discipline referrals following the mediation ($t = 2.30$, $df = 43.00$, $p = .026$), compared to disputants who learned through some other means.

The moderating variable *How effective has your use of skills been?* indicated that disputants who believed their use of skills learned during mediation has been effective reported (1) a significantly higher rating for peer mediator modeling ($t = 3.23$, $df = 49.00$, $p = .002$), (2) a significantly higher rating for disputant learning ($t = 4.048$, $df = 49.00$, $p < .001$), (3) significantly improved conflict attitudes and competence ($t = 4.00$, $df = 22.00$, $p = .001$), and (4) a significantly reduced number of discipline referrals following the mediation ($t = 3.27$, $df = 44.00$, $p = .002$), compared to disputants who believed their use of skills learned during mediation was not effective.

The moderating variable *How effective were the mediators at helping you learn new skills?* indicated that disputants who believed the mediators were effective at helping them learn new skills reported (1) a significantly higher rating for peer mediator modeling ($t = 2.11$, $df = 49.00$, $p = .040$), (2) a significantly higher rating for disputant learning ($t = 8.17$, $df = 49.00$, $p < .001$), (3) significantly improved conflict attitudes and competence ($t = 4.00$, $df = 22.00$, $p = .001$), and (4) a significantly reduced number of discipline referrals following the mediation ($t = 2.70$, $df = 45.00$, $p = .010$), compared to disputants who believed the mediators were not effective.

These seven variables directly relate to the four processes that make up modeling: attention, retention, reproduction, and motivation. The process of *attention,* or disputants attending to the behavior of the model, related to (1) disputants' willingness to participate in mediation, and (2) the method

by which disputants learned skills. The second process, *retention,* involving disputants' ability to retain or transfer information to memory to be recalled at a later point, related to three variables. Two of them, (1) disputants' ability to remember what the agreement said and (2) ability to remember the stages of the mediation process, directly tested their memory. The third variable was the *length of the mediation.* Disputants who participated in mediation longer than ninety minutes were exposed to more of the mediation process and skills than were those in shorter mediations.

The third process, *reproduction,* reflects disputants' ability to use the learned behaviors on their own. Two of the variables, (1) the level of effectiveness for disputants' use of skills learned in mediation and (2) disputants' assessment of mediation effectiveness in helping them learn skills, gave them an opportunity to report on the degree to which they learned skills in mediation and used them in other conflict situations.

The fourth process, *motivation* (or disputants' forming of expectations that they would get positive reinforcement if they reproduced the model's behavior), was seen in peer mediators' efforts to motivate disputants during the entire mediation process. These seven variables moderate the degree of peer mediator modeling recalled and disputant learning reported. The findings suggest that disputants who recalled significantly more peer mediator modeling and who also reported significant learning for knowledge, attitudes, and skills were more highly motivated to resolve the conflict than disputants who had not significantly recalled peer mediator modeling and reported disputant learning.

## Implications

This research is one of the few studies to consider the impact of peer mediation on the learning of disputants, as well as the degree of modeling of peer mediators. As such, it offers insights for how schools implement peer mediation programs, train peer mediators, and increase disputants' learning in the mediation experience.

### *Peer Mediation Programs*

The findings from this study hold a number of implications for school peer mediation programs as well as for the individual students and staff members who participate in them. More than 90 percent of mediation cases were resolved and disputants reported a high level

of satisfaction with the outcomes of the mediation. Approximately two months after the mediation ended these outcomes continued; there were no further conflicts between the disputants, and they remained highly satisfied with their participation in mediation. This finding, by itself, is important because it confirms findings from other studies on peer mediation effectiveness (Jones and others, 1997; Jones and Bodtker, 1998; Jones and Carlin, 1994; Kmitta, 1999; Carstarphen, Harris, and Schoeny, 1999; Crawford and Bodine, 1996) and supports continued use of peer mediation as an effective intervention program in these schools.

### *Peer Mediators*

This study presented evidence that peer mediators were not only following the peer mediation process but were also modeling the knowledge, attitudes, and skills associated with it. This finding demonstrated that peer mediators were well trained by program staff, and it suggested that the degree of peer mediator modeling can serve, in future evaluations, as an additional criterion for evaluating and improving the effectiveness of program staff's training and program implementation. Thus the findings on peer mediator modeling can lend reassurance and affirmation to the peer mediators who participated in this study that they were effectively implementing the mediation process and modeling knowledge, attitudes, and skills for disputants. It also supports previous research on peer modeling (Schunk, 1987, 1998).

### *Disputants*

The results of the study highlighted disputants' ability to learn what peer mediation was, how it worked, and how to use the skills they acquired to effectively resolve future conflict. This potential educational benefit of mediation raises an important question that must be considered. If one of the unstated (or understated) goals of peer mediation is transfer of knowledge, attitudes, and skills from peer mediators to disputants, should disputants be made aware of this new goal? This transparency might help them consciously learn knowledge, attitudes, and skills during mediation, and more students might participate in mediation as disputants if they knew that in addition to resolving their conflict they would also learn new knowledge, attitudes, and skills to help them in the future.

### *Schools*

The results of this study support previous research (Burrell and Vogl, 1990; Johnson and Johnson, 1995, 1996; Lam, 1989; Lindsay, 1998; Jones and others, 1997; Jones, 1998; Tolson, McDonald, and Moriarty, 1992) by demonstrating that peer mediation is and remains an effective program to reduce discipline problems and suspension, prevent violence, and improve school safety. They further indicated that disputants not only resolved their conflicts more than 90 percent of the time but also learned valuable knowledge, attitudes, and skills to help them prevent future conflict. Finally, the results demonstrated positive behavioral change for disputants who improved their conflict behavior and significantly reduced their discipline referrals.

### *Theory*

This research integrates the theory of modeling into an expanded understanding of peer mediation in an effort to strengthen existing conflict resolution theory and practice (Opotow, 2000; Sandy, Boardman, and Deutsch, 2000; Diamond, 1997; Heitler, 1990). Modeling as an educational theory of learning underscores the learning potential of conflict resolution and mediation techniques not only for future conflict resolution and mediation professionals but also for people who participate in conflict resolution processes. The idea of including learning indicators in evaluating conflict resolution makes more sense after realizing that modeling is inherent in mediation (and perhaps in any conflict resolution process). This realization illuminates the important contribution that the field of education makes in developing a capacity for disputants and other parties to conflict to acquire the knowledge, attitudes, and skills associated with conflict resolution. It also helps describe the mechanisms that allow mediators and disputants to play an active role in resolving current and future conflict.

## Note

1. The Peer Mediator Feedback Form focused on peer mediators' self-assessment of their role in mediation. The Mediator Observation Form was identical to the feedback form and allowed the observer to assess peer mediators' actual use of the mediation process. The Peer Mediation Summary Report collected monthly and yearly program statistics. The Peer Mediation Program Institutionalization Form gave information to rate the level of institutionalization. The Disputant Evaluation of Mediators Form provided feedback from disputants about their

experience in mediation. The Conflict Opinion Pretest/Posttest Survey looked at changes in conflict attitudes and competence. The Disputant, Peer Mediator, and Peer Mediation Staff Interview Schedules allowed semistructured interviews with open-ended responses to questions. The Disputant and Peer Mediator Skills Assessment Forms asked participants to rate the use of sixteen specific mediation skills. All the instruments may be found in the dissertation (Harris, 2002).

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