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Conflict Resolution and Peer Mediation Programs in Elementary and Secondary Schools: A Review of the Research

David W. Johnson and **Roger T. Johnson**
University of Minnesota

Concern about violence in schools has been increasing, and, correspondingly, conflict resolution and peer mediation training programs have been proliferating. These programs have been developed by researchers in the field of conflict resolution, advocates of nonviolence, anti-nuclear-war activists, and members of the legal profession. It is unknown, however, whether the programs are needed and whether or not they are effective. While there are numerous methodological and conceptual problems with the research on conflict resolution and peer mediation programs, the current evidence indicates that (a) conflicts among students do occur frequently in schools (although the conflicts rarely result in serious injury); (b) untrained students by and large use conflict strategies that create destructive outcomes by ignoring the importance of their ongoing relationships; (c) conflict resolution and peer mediation programs do seem to be effective in teaching students integrative negotiation and mediation procedures; (d) after training, students tend to use these conflict strategies, which generally leads to constructive outcomes; and (e) students' success in resolving their conflicts constructively tends to result in reducing the numbers of student-student conflicts referred to teachers and administrators, which, in turn, tends to reduce suspensions.

Classroom teachers spend an inordinate amount of time and energy managing classroom conflicts (Amsler & Sadalla, 1987), which are often not managed well by students (McCormick, 1988; S. Miller, 1988) or by faculty (Schumpf, Crawford, & Usadel, 1991). The frequency and severity of conflicts seems to be increasing, so that for the first time ever, the category *fighting, violence, and gangs* has been found to be tied with *lack of discipline* for the biggest problem confronting local public schools (Elam, Rose, & Gallup, 1994). There are potentially numerous negative outcomes of poorly managed conflicts, including lower achievement and detrimental effects on individual students such as stress and challenges to self-esteem and self-efficacy. Partly in response to the increased conflict, there has been an increase in the number of conflict resolution and peer mediation programs in schools. The National Association for Mediation in Education (1994) estimated that there were approximately 2,000 conflict resolution programs in United States schools in 1992, but 5,000 to 8,000 such programs in 1994. In order to review what is known about the impact of such programs, it may be helpful to examine how they originated, the types of programs implemented, and the current state of the evidence validating their effectiveness.

Origins of Conflict Resolution Programs

Conflict resolution and peer mediation programs have their roots in four sources (D. W. Johnson & R. Johnson, 1995c): researchers in the field of conflict resolution, advocates of nonviolence, anti-nuclear-war activists, and members of the legal profession.

The research-based peer mediation programs began in the 1960s with the Teaching Students to Be Peacemakers Program (D. W. Johnson, 1970, 1991, 1997; D. W. Johnson & F. Johnson, 1997; D. W. Johnson & R. Johnson, 1979, 1995b, 1995c; D. W. Johnson, R. Johnson, & F. Johnson, 1976). It was derived from social interdependence theory (Deutsch, 1949; D. W. Johnson & R. Johnson, 1989; Lewin, 1951) and focused on teaching all students in a school the nature of conflict, how to use an integrative negotiation procedure, and how to mediate peer conflicts. All students then took turns being a class and school mediator. A similar program was initiated by Morton Deutsch (1992) in the 1990s.

Nonviolence advocates, represented primarily by the Quaker Church, began a conflict resolution program in 1972, when Priscilla Prutzman directed a Quaker educational project in New York City with the purpose of teaching nonviolence to children. This project, known as the Children's Creative Response to Conflict, taught all students that the power of nonviolence lies in justice, caring, and personal integrity. Anti-nuclear-war activists are represented by the Educators for Social Responsibility, who in 1985 began the Resolving Conflict Creatively Program. The program includes (a) a 10-unit curriculum with lessons on intergroup relations, cooperative learning, and dispute resolution procedures, and (b) 20 hours of training in how to be a peer mediator. Finally, the legal profession became involved in President Carter's Neighborhood Justice Centers in the 1980s. Helena Davis wrote a conflict manager curriculum for training a cadre of peer mediators in elementary schools that was later extended and modified by Gail Sadalla (Sadalla, Holmberg, & Halligan, 1990). The training lasted for two days and focused on the role of mediator and basic communication skills. The program is known as the San Francisco Community Boards Conflict Managers Program.

Classifying Conflict Resolution Programs

There are at least three ways to describe conflict resolution and peer mediation programs in schools. First, the programs can generally be described as either cadre or total student body programs (D. W. Johnson & R. Johnson, 1995c). The cadre approach emphasizes training a small number of students to serve as peer mediators. The total student body approach emphasizes training every student in the school to manage conflicts constructively. Second, Levy (1989) and Maxwell (1989) divide conflict resolution programs into (a) curriculum-based programs that are designed to teach students about conflict and alternatives to violent conflict resolution and are preventive in nature (social skills, empathy training, stress and anger management, attitudes about conflicts, bias awareness) and (b) peer mediation programs.

Finally, Opotow (1991) divides conflict resolution and peer mediation programs into (a) skills-oriented approaches in which students are taught the interpersonal and small-group skills needed to resolve conflicts constructively (D. W. Johnson, 1997; D. W. Johnson & F. Johnson, 1997); (b) academically oriented

approaches in which students can be taught the intellectual procedures and cognitive skills for managing conflicts such as academic controversy (D. W. Johnson & R. Johnson, 1979, 1995a), violence prevention (Prothrow-Stith, Spivak, & Hausman, 1987), and critical thinking (Paul, 1984; Seigel, 1988); and (c) structural change approaches which emphasize changing the school structure from a mass-manufacturing to a team-based, high-performance organizational structure (D. W. Johnson & R. Johnson, 1994) and providing a cooperative context for the management of conflict (Deutsch, 1973; D. W. Johnson & R. Johnson, 1994).

Lack of Evidence Supporting Use

The popularity of conflict resolution and peer mediation programs has resulted in numerous articles reporting claims about the programs' impact. The articles tend to provide (a) purely descriptive, anecdotal accounts of the programs' impact on various dependent variables (Davis & Porter, 1985; Edleson, 1981; Levy, 1989) and (b) descriptions of curriculum design and guidelines for developing a conflict resolution or peer mediation program. Broad claims such as "School mediation programs have proven themselves beneficial to students, the school community and the community as a whole" (Davis & Porter, 1985, p. 28) and "The obvious beneficial results of conflict resolution programs will ensure future expansion" (Levy, 1989, p. 80) are presented but not supported by actual research data. Anecdotal reports such as quoting a student as saying, "Mediation pulled me out of the hole I was in; I'm a better person" (Davis & Porter, 1985, p. 26) are inspiring, but do not illuminate what peer mediation programs are doing, how they are doing it, and how broadly their effects can be generalized. Other articles describe what mediation looks and sounds like (Koch & Miller, 1987).

Given (a) the popular and widespread use of conflict resolution and peer mediation programs and (b) the frequent testimonials about their effectiveness, a current assessment is needed of the quality and quantity of knowledge about their effectiveness. Directions for future research in this important but understudied area can then be determined. The purpose of this article is to provide such an assessment by reviewing (see Figure 1)

(1) the nature of conflict in schools,
(2) the need to establish a cooperative context for conflict,
(3) the strategies students use to resolve their conflicts before and after conflict resolution and peer mediation training, and
(4) the outcomes that result when untrained and trained students resolve their own conflicts.

Finally, a critique of the research and a discussion of the state of the area will be presented.

The Nature of Conflicts in Schools

Conflict resolution and peer mediation programs are often promoted as a way to reduce violence (and destructively managed conflicts) in schools. There is, however, disagreement over how much in-school violence actually occurs. One position is that schools are a microcosm of society and that the violence in society is brought into the schools. Another position is that schools are safe havens from the violence in society and that, in fact, very little violence occurs in schools. The resolution to this controversy lies in understanding the nature of conflict of

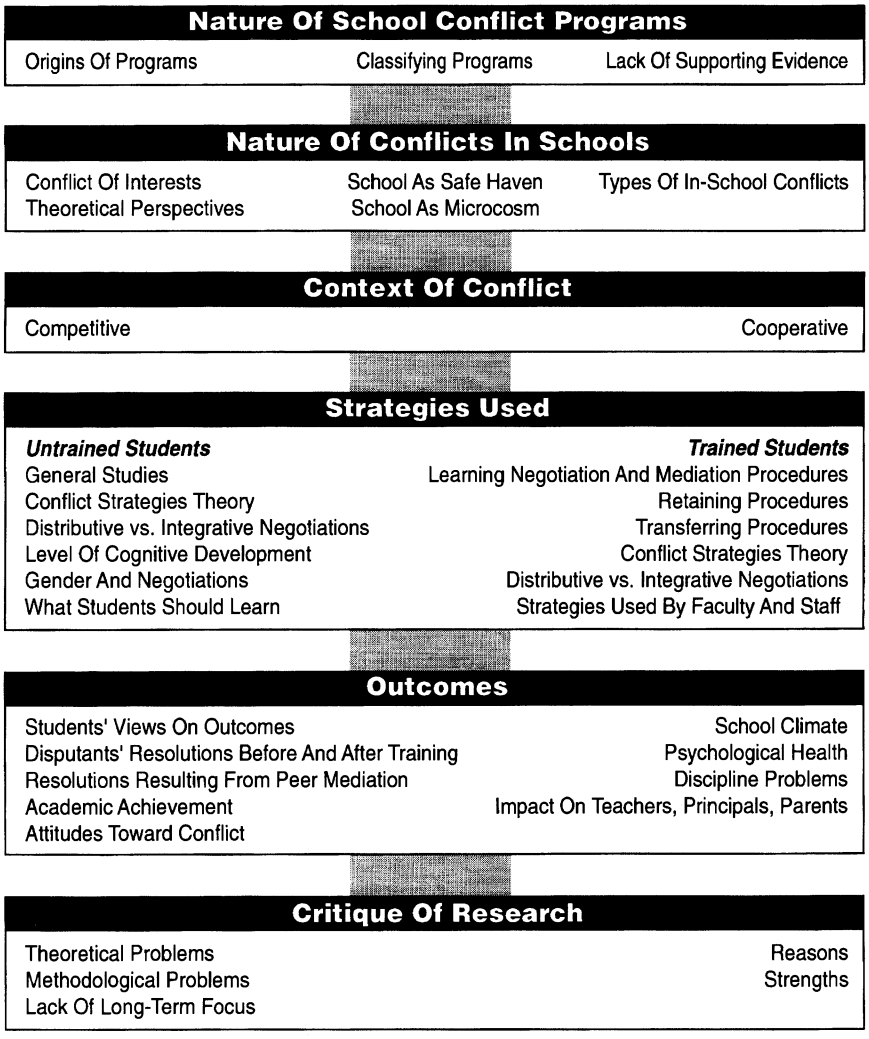

FIGURE 1. *School conflict resolution and peer mediation programs*

interests, the theoretical perspectives on conflict in school settings, the logic of two positions (school as microcosm of society versus school as safe haven), and the data on the types of conflicts that actually occur in schools.

Nature of Conflict of Interests

The better educators and students understand the nature of conflict, the better able they are to manage conflicts constructively. *Conflict* is a relationship variable, involving two or more sides. There are various types of conflict, including controversy (D. W. Johnson & R. Johnson, 1979), conceptual conflict (D. W.

Johnson & R. Johnson, 1995c), and conflict of interests (Deutsch, 1973). While all conflict may be defined as a state of incompatible behaviors (Deutsch, 1962, 1973; D. W. Johnson, 1970), a conflict of interests occurs when the actions of one person attempting to reach his or her goals prevent, block, or interfere with the actions of another person attempting to reach his or her goals (Deutsch, 1973). This review focuses on how students resolve conflicts of interests in school settings.

Deutsch's (1973) definition of conflict of interests makes it possible to distinguish conflict from a number of related concepts such as competition, aggression, influence, and dominance. While *competition* (which involves working against other individuals to achieve a goal that only one or a few can attain) and *aggression* (which involves behaviors aimed at harming another person) produce conflict, not all instances of conflict reflect competition or aggression. *Influence* deals with affecting others in desired ways, and *dominance* deals with one-way influence from, for example, teacher to students. When conflict is confused with these related concepts, it is associated with extreme behaviors present in only a small fraction of actual disputes.

In addition to conflict, a few related terms need to be defined. *Negotiation* is a process by which persons who have shared and opposed interests and want to come to an agreement try to work out a settlement (D. W. Johnson & F. Johnson, 1997). There are two major approaches to negotiation: distributive and integrative (D. W. Johnson & F. Johnson, 1997; Walton & McKersie, 1965). The *distributive* approach is based on the belief that gains for the other can be achieved only at one's own expense and that a person's actions are therefore aimed at maximizing one's own gains at the expense of the other. The *integrative* approach is aimed at maximizing the gains of both oneself and the other. In cooperative contexts in which relationships are ongoing, such as families and schools, the integrative approach results in the most constructive outcomes. When a third party helps disputants negotiate, it is known as *mediation*. Mediation is a structured process in which a neutral and impartial third party (known as the *mediator*) assists two or more people in negotiating an integrative resolution to their conflict (D. W. Johnson & R. Johnson, 1995c).

Theoretical Perspectives on Conflicts in Schools

The use of conflict resolution and peer mediation programs in the schools is a classic example of practice being developed largely separate and apart from the relevant theory and research. The programs originated by nonviolence advocates, anti-nuclear-war activists, and lawyers were developed on models other than the theories of conflict. This separation from theory makes it difficult to assess the effectiveness of such programs.

While most educators are concerned about the potentially destructive outcomes (such as violence) from conflicts in schools, most theories of conflict posit that conflict is a necessary and positive aspect of human development and relationships. There are numerous theoretical perspectives on conflict, but most of them can be represented as either human development theories or social psychological theories.

Developmental theories include psychoanalytic theory and cognitive developmental theory. Psychoanalytic theory posits that conflicts with and detachment

from parents are a healthy necessity for encouraging individuation, realigning relationships, and reducing anxieties (Blos, 1979; Freud, 1958). A person develops in a family characterized by loving and committed relationships with parents. As the person matures, family relationships are disrupted, conflicts ensue, and the person withdraws and establishes alternative caring and committed relationships with peers that replace the close ties with parents. Cognitive developmental theory posits that conflicts resulting from intellectual maturation spur revisions in understanding of the self and relationships (Piaget, 1932/1965). Conflict is the mechanism by which children and adolescents acquire new cognitive structures, developing new perspectives and stagelike shifts in patterns of reasoning which result in changes in behavior toward parents and peers. The new behavior patterns create new conflicts, as roles and normative expectations are renegotiated. Negotiation is thus viewed as requiring advanced stages of reasoning and being the most cognitively sophisticated conflict resolution strategy (Selman, 1981; Smetana, 1989; Youniss, 1980).

Three social psychological theories are social interdependence theory, structure-process-attitude/behavior theory, and dual concerns theory. Social interdependence theory posits that conflicts are inherent in all social relationships, and the way in which they are managed depends on the nature of the social interdependence existing in the situation (Deutsch, 1949, 1962, 1973; D. W. Johnson, 1970, 1974; D. W. Johnson & R. Johnson, 1979, 1989; Tjosvold, 1986). Structuring a situation cooperatively (individuals working together to achieve mutual goals) results in promotive interaction (individuals acting to promote each other's goal achievement), which creates constructive and healthy resolutions of conflicts. Structuring a situation competitively (individuals working against each other to achieve an exclusive goal) results in contrient or oppositional interaction (individuals acting to obstruct each other's goal achievement), which creates destructive and unhealthy resolutions of conflicts. In individualistic situations, where individuals work in isolation to achieve personal goals, no interaction tends to occur, and there are therefore no conflicts, as individuals ignore each other's goal achievement and see it as irrelevant to their own success. These causal relationships are bidirectional (a cooperative structure results in promotive interaction, and promotive interaction tends to create a cooperative structure). The structure and the interaction patterns tend to be consistent. What determines whether promotive or oppositional patterns of interaction occur is the perception of the context of the conflict, not the actual context (two individuals can perceive themselves to be in competition and act accordingly when in fact they are not). Conflicts are resolved constructively when they (a) result in an outcome that all disputants are satisfied with, (b) improve the relationship between the disputants, and (c) improve the ability of disputants to resolve future conflicts in a constructive manner (D. W. Johnson, 1970; D. W. Johnson & R. Johnson, 1995c).

Closely related to but somewhat broader than social interdependence theory, structure-process-attitude/behavior theory, based on Kurt Lewin's (1948, 1951) field theory, posits that the structure of a situation determines the processes of interaction, which determines the attitudes and behaviors of the individuals involved (Watson, 1966; Watson & Johnson, 1972). The structure of the situation contains the role definitions and normative expectations that define what are appropriate and inappropriate ways for individuals to interact with each other in

the situation, as well as other situational influences, such as the number of people involved, spatial arrangements, hierarchy of prestige, social sanctions, power, and nature of activities to be conducted. Changes in any or all of these factors lead to changes in the processes of the system and the interactions of the members, which subsequently change the attitudes and behavior of the individuals involved. Patterns of behavior that lead to constructive or destructive resolutions of conflicts, therefore, result from the way the situation is structured.

Finally, dual concerns theories, such as conflict strategies theory (D. W. Johnson, 1991; D. W. Johnson & F. Johnson, 1997), posit that there are two major concerns in conflict resolution: (a) concern about reaching one's goals and (b) concern about maintaining an appropriate relationship with the other person. Both goals and relationships can range from unimportant to very important. The degree of importance determines which of five strategies a person uses to resolve a conflict: (a) integrative, problem-solving negotiations (used when both the goal and the relationship are highly important), by which an agreement is sought that ensures that both parties fully achieve their goals and that any tensions and negative feelings are resolved; (b) compromise (when both the goal and the relationship are moderately important, and it appears that the disputants cannot get what they want), in which the disputants give up part of their goals and sacrifice part of the relationship in order to reach an agreement; (c) smoothing (used when the goal is of no importance but the relationship is of high importance), in which the disputant gives up his or her goals in order to maintain the relationship at the highest quality possible); (d) withdrawing (when neither the goal nor the relationship is important), in which the disputant gives up both the goal and the relationship and avoids the issue and the other person; and (e) forcing or distributive, win-lose negotiations (used when the goal is very important but the relationship is not), in which the disputant seeks to achieve his or her goal by forcing or persuading the other to yield). There are situations in which each strategy may be appropriately used. In any conflict, constructive outcomes depend on the individuals' ability to diagnose the importance of their goals and relationship and act accordingly. The most complex and constructive strategy for individuals to learn is integrative negotiation. Dual concerns theory, which has its origins in Blake and Mouton's (1964) managerial grid, has been adapted by various authors (Filley, 1975; D. W. Johnson & F. Johnson, 1997; Rahim, 1983; Thomas, 1976).

The various theories of conflict posit that conflict is a necessary and positive condition for development and growth of children and adolescents, and schools should therefore encourage and promote conflict and be conflict-positive rather than conflict-negative organizations (D. W. Johnson & R. Johnson, 1995c). Yet the fear of conflict resulting in violence is widely present. The sources of anxiety may include the knowledge that (a) the level of violence and destructively managed conflict in communities seems far greater than the positive impact of schooling, (b) so little is known about the types of conflicts that occur in schools and how they are managed, and (c) very few of the conflict resolution and peer mediation programs being implemented in schools are directly based on a theoretical model.

School as a Microcosm of Society

The proponents of the position that schools have become violent places point to the increase of violence among children and adolescents in society. The

Carnegie Quarterly reported that between 1985 and 1994, nearly one million adolescents between the ages of 12 and 19 were victims of violent crimes each year. Youth are more often the victims of violence, and intentional injuries to youth are more frequent and more lethal than for any other age group (Centers for Disease Control, 1992). The adolescent homicide rate has more than doubled in the last 7 years, and youth violence is currently the leading preventable cause of death for adolescents (Elliott, 1994). The Centers for Disease Control reported that from 1982 to 1992, juvenile arrests for homicide increased 228% and that the homicide rate among males aged 15 to 19 more than doubled between 1985 and 1991. Teenage males are now more likely to die from gunshot wounds than from all natural causes combined. The violence in many communities is so frequent that they have become what criminologists have described as criminogenic communities—places where the social forces that create predatory criminals are far more numerous and overwhelmingly stronger than the social forces that create virtuous citizens. Children in these (usually inner-city) communities typically grow up surrounded by teenagers and adults who are themselves deviant, delinquent, or criminal. Even in the safest upper-middle-class suburban schools, extreme incidents of sexual assault or use of a gun occasionally happen and must therefore be treated as possibilities. The reasoning of many individuals is that schools reflect what is occurring in our culture and that because certain communities are filled with violence and almost all communities are touched by violence, both physical and verbal violence (in the form of name calling, insults, pushing, shoving, and fighting) will be a common daily occurrence in schools (Stop the Violence, 1994).

Schools as Safe Havens

Another view is that the frequency of violence in schools is overstated and that, in fact, schools represent somewhat safe havens from the violence in the community. Opotow (1991) interviewed 40 inner-city seventh graders (50% male; 52% Hispanic, 43% Black, 5% White) and found that when asked about conflicts with peers, more than two thirds of the students described conflicts that occurred in school, and the in-school conflicts were described as being violent. However, Opotow also found that in fact the fights were most often infrequent scuffles that caused no or only minor injury and that the fights were neither frequent nor routine occurrences (fewer than one quarter of the conflicts occurred within a month of the interview, another quarter occurred during the present school year, and half were 2 to 4 years old). The Joint Commission on Integrity in the Public Schools conducted an undercover investigation in select New York City schools that was expected to yield high rates of violence and found that essentially all violence and drug use ascribed to students occurred after school or was initiated by nonstudents (Lee, 1990). Garofalo, Siegel, and Laub (1987) analyzed the National Crime Survey for school-related victimizations among adolescents and found scuffles, threats, and disagreements rather than calculated assaults or violence, even though the data were skewed toward extreme incidents reported to the criminal justice system. Forty percent of the weapons used in conflicts were available items grabbed on the spur of the moment, such as rocks, baseball bats, metal bars, spray paint cans, scissors, or screwdrivers. Resulting injuries were relatively minor bruises, black eyes, cuts, scratches, and swellings. The overall picture of school violence may be one of teasing, bullying, and horseplay that gets out of hand.

What these researchers suggest is that violence is overemphasized in school conflicts because there is a negativity bias (conflicts that involve anger and violence are more salient and more likely to be remembered) in reporting conflicts in schools. While negative affect may or may not be present in a conflict, when students are asked to complete questionnaires, interviewed, or asked to recall past conflicts (from 2 weeks to months), they tend to confuse anger, fighting, and quarreling with conflict (Hill, 1988; Hill & Holmbeck, 1987; Prinz, Foster, Kent, & O'Leary, 1979; Robin & Foster, 1984; Silverberg & Steinberg, 1990; Smetana, 1989; Steinberg, 1987, 1988). Conflicts that involve anger and violence, furthermore, are more salient and more likely to be remembered, and the incidence of actual conflict therefore tends to be underestimated (Collins & Laursen, 1992). Because of the negativity bias, the frequency of violence in schools may be overestimated and overemphasized. In fact, schools may be relatively safe havens in criminogenic communities. In addition, most school-age children perceive their conflicts as neither noxious nor harmful to their relationships (Laursen, 1993; Laursen & Collins, 1994).

The answer to the question of whether schools are increasingly violent places or somewhat safe havens from community violence lies in the data on the nature and frequency of conflicts in schools.

Types of Conflicts in Schools

The controversy over whether schools are becoming increasingly violent places or whether the violence in schools is overstated points out how little documentation exists about the nature and frequency of actual conflicts in natural settings such as schools. Over 15 studies have examined the nature of conflict in schools, either by documenting the types of conflicts reported in the student body as a whole or by documenting the types of conflicts brought to peer mediation. In this section, these studies will be reviewed and critiqued.

D. W. Johnson, R. Johnson, Mitchell, et al. (in press), in a study of a peer mediation program in an inner-city, lower-class, minority primary (prekindergarten through 4th grade) school during the 1990–1991 academic year, found that violence seems to occur frequently among the young children. Eighty-five percent of the conflicts referred to peer mediation involved physical fights and verbal insults. D. W. Johnson, R. Johnson, Cotten, Harris, and Louison (1995), in a study of the same school during the 1991–1992 academic year, found that 81% of the conflicts involved relationship problems characterized by physical aggression (hitting, kicking, scratching, and pushing) and verbal aggression (name calling, insults, and threats).

Jones and Carlin (1994) evaluated a peer mediation program in which 719 students in Grades 5 through 12 and adults from 29 Philadelphia schools received training. The majority of the conflicts referred to mediation involved verbal disagreements, physical fighting, and rumors. The duration of the conflicts ranged from very short to longer than 1 month. Roush and Hall (1993), in a study on peer mediation, found that of the 52 conflicts brought to peer mediators, over 50% were pending fights (8% of which could not be resolved through mediation), and the other 50% were (a) arguments and harassments or (b) gossip and name calling. Burrell and Vogl (1990) conducted an evaluation of a peer mediation program at the middle school and high school levels in the Milwaukee public school system.

The types of cases referred to mediation were rumors, stolen property, or boyfriend-girlfriend disputes. In one high school during the 1986–1987 school year, the 69 conflicts mediated centered on threats of physical force (30), harassments (21), rumors (7), minor assaults (7), property loss or property disputes (3), and racial incidents (1).

Araki (1990), in a 2-year study on a peer mediation project implemented in a high school, an intermediate school, and an elementary school in the Honolulu school district in Hawaii, found that the types of conflict with the highest occurrences were gossip/rumor (27%), harassment (27%), arguments (20%), and classroom behavior (9%). For female disputants the most frequent conflicts involved gossip/rumors, while the most frequent conflicts for male disputants involved harassment. In Ohio schools the most frequently reported conflicts involved friends, name calling, dating, rumors, and disrespect (Ohio Commission on Dispute Resolution and Conflict Management, 1993). Stern and Van Slyck (1986) found frequently occurring conflicts in middle school to be gossip and rumors, dating/friendship relationship issues, and harassment. Frequently mediated conflicts also included arguing and fighting (Conbere, 1994). Schumpf et al. (1991) reported that of 245 conflicts referred to peer mediators in a Midwestern middle school of approximately 1,000 students (25% African American, 70% Caucasian, 5% Asian), 26% involved name calling, 23% involved rumors, 16% involved hitting and fighting, and the other 35% involved a wide variety of issues. Cameron and Dupuis (1991), at a high school in New Zealand, found that 36% of the conflicts brought to mediation primarily were hassling, name calling, hitting, and teasing, 11% involved fighting and bullying, 11% involved student misbehavior in class, 10% involved rumors and misunderstandings, and 8% involved property damage or loss. The other 24% were scattered among a variety of other issues. Overall, 53% of the conflicts occurred among eighth graders.

There are a series of studies on the conflicts occurring in the student body as a whole in suburban, middle-class schools. D. W. Johnson, R. Johnson, and Dudley (1992), in a study in an elementary school (Grades 1–6), found that the most frequent conflicts involved put-downs and teasing (36%), followed by playground conflicts (22%) and access or possession conflicts (19%). Only 12% of the conflicts involved physical aggression. D. W. Johnson, R. Johnson, Dudley, and Acikgoz (1994), in another elementary school, studied third- through sixth-grade students and found that the most frequently occurring conflicts involved physical aggression (33%), playground disputes (25%), and access or possession conflicts (18%). D. W. Johnson, R. Johnson, Dudley, Ward, and Magnuson (1995) conducted a study of second- through sixth-grade students' conflicts in school and in their homes. The total number of conflicts reported was 783, with 209 conflicts in school and 574 conflicts at home. More types of conflicts were reported at school than at home. Conflicts over preferences or values and possession or access were more frequent in the home than in school. Physical fights and verbal insults made up 25% of the conflicts at school but only 8% of the conflicts at home. Very few conflicts occurred over academic work in either setting.

MacDonald and da Costa (1996) surveyed 231 seventh-, eighth-, and ninth-grade students from five central Alberta junior high schools. They found that the conflicts reported, in order of frequency, were (a) teasing, swearing, name calling; (b) verbal threats; (c) things damaged or stolen; (d) pushing, hitting, grabbing; (e)

physical fights; (f) bullying; (g) being spat upon; (h) ethnic conflict; (i) sexual harassment; and (j) threats with weapons. They concluded that students may be increasingly accepting violence as part of their schooling experience, and the data reported was largely based on observation, not personal experience.

At least 15 studies on the types of conflicts that students face in schools have been conducted. The studies involved both self-reports from students and documentation of the conflicts that were brought to peer mediators. Although the studies occurred in elementary, middle, and high schools and in a variety of inner-city and suburban school districts, the results are fairly consistent. Common types of conflicts in schools are verbal harassments (name calling, insults), verbal arguments, rumors and gossip, physical fights, and dating or relationship issues. There may be more physical and verbal aggression in urban than in suburban schools. The physical violence that was documented almost never involved serious altercations or violations of law. The alarm about violence in schools, therefore, does not seem to be fully justified, but educators should be concerned about the frequency with which students manage their conflicts in destructive ways.

There are at least four major problems with these studies. The first problem is that while the studies do identify various types of conflicts, the findings are atheoretical and therefore are hard to summarize and have limited meaning. One of the few typologies of conflict that allow for theoretical analysis was created by Morton Deutsch (1973), who differentiated among conflicts based on (a) control over resources, (b) differences in preferences, (c) differences in values and beliefs, and (d) differences in goals for the relationship. In an inner-city primary school, over 85% of the conflicts referred to peer mediation involved relationship issues (D. W. Johnson, R. Johnson, Cotten, et al., 1995; D. W. Johnson, R. Johnson, Mitchell, et al., in press); in a suburban elementary school (Grades 1–6), by contrast, only 20% of the conflicts involved relationship issues, and the majority of conflicts were over control of resources (37%) and preferences (31%) (D. W. Johnson, R. Johnson, Dudley, Ward, & Magnuson, 1995). Value conflicts were almost never reported by these elementary-age children.

The second problem is that studies based on a broad and representative sample of students are clearly missing. Most of the existing studies recorded only the conflicts that were brought to mediation. The few studies that focused on a broader sample used only the classes participating in a conflict resolution and peer mediation training program. The third problem is the lack of recording all conflicts that occurred in school. When students recall their conflicts over an expansive period of time (1 week or more), the report of typical disputes diminishes, and only a few more dramatic conflicts are reported.

The fourth problem is that while the nature of conflicts has been documented, more helpful analyses of the triggering events that spark conflict and the barriers that prevent it from occurring have yet to be conducted (D. W. Johnson & F. Johnson, 1997). None of the studies, for example, examined factors that influence aggressive behavior, such as arousal, situational cues, and modeling. There is general agreement that the psychological experience of arousal contributes strongly to aggression (Berkowitz, 1989). Arousal typically accompanies frustration and anger, but also results when individuals misattribute arousal resulting from extraneous and irrelevant factors such as crowding, temperature, erotica, and exercise to an interpersonal event and engage in aggressive behavior. The physical and

psychological conditions of many schools may provide fertile ground for such misattributions. Researchers studying the impact of situational cues on aggression conclude that the presence of cues typically associated with aggressive behavior (such as weapons) elevate the propensity for violence (Berkowitz & LaPage, 1967; Carlson, Marcus-Newhall, & Miller, 1990). Research on modeling indicates that in any situation, individuals look for cues about appropriate behavior, and if they see others acting aggressively, they are likely to engage in aggression themselves (Bandura, Ross, & Ross, 1961). While educators need to know what types of conflicts actually occur in schools, the in-depth analysis of triggering events and barriers to destructive or constructive behavior would be far more interesting and valuable.

Although the alarm about violence in schools may be overstated, serious concern is justified about how students manage their conflicts. In the community, violence has been known to occur as a result of a look, comment, or random event. As social interdependence theory states, the type of conflict may not be nearly as important as the way in which the conflict is perceived and interpreted (Deutsch, 1973). As long as a look is interpreted as disrespect and disrespect is considered a serious enough issue to kill over, then concern about students' safety in school seems justified. Two issues that may influence the perceptions of conflicts are the context in which the conflict occurs and the strategies students use to resolve their conflicts.

The Context of Conflict: Cooperative or Competitive

Among the most important contributions of social interdependence theory are three propositions. The first is that conflict can have destructive or constructive outcomes (it holds both peril and promise). The second is that whether destructive or constructive outcomes occur depends on whether (a) conflict takes place within a cooperative or a competitive context and (b) the strategies disputants use are congruent or incongruent with the context of the conflict. The third (and perhaps the most unique and important) is that conflict is ever present and a necessary aspect of cooperative efforts. We may agree on the goals, but be in conflict over how to reach them. It is quite possible, for example, to agree to travel from Minneapolis to Chicago but have intense conflict over how to travel (car, train, or plane), when to leave, and what to take. In a cooperation situation, individuals work together to achieve mutual goals (Deutsch, 1962, 1973; D. W. Johnson & R. Johnson, 1989). When one person achieves his or her goal, all others involved also achieve their goals. Cooperation is the key to constructive conflict resolution on two levels (Deutsch, 1962, 1973; D. W. Johnson & R. Johnson, 1989, 1995b, 1995c).

First, cooperation is the state that conflict resolution procedures seek to restore. By definition, the resolution of a conflict is only constructive if the disputants can coordinate their efforts to maximize joint gain and establish a relationship that allows them to work together cooperatively in the future.

Second, cooperation provides a context that influences the course of conflict resolution efforts by focusing participants on long-term integrative rather than short-term distributive strategies and resolutions. When conflicts occur in an ongoing cooperative context (such as a family, career organization, community, society, world), conflict tends to be constructive, because disputants recognize

that their long-term interests in their future ability to work together is more important than their immediate interests in the issue in dispute. There is considerable evidence, for example, that the more cooperative the relationship, (a) the more frequently conflicts occur, (b) the more conflicts are managed with low negative affect, (c) the greater the explanations and criticisms present in the exchange and the more frequent the use of problem-solving and integrative strategies, and (d) the greater the change in positions and reasoning (towards a more mature level) and the more social interaction is continued and relationships strengthened and improved (Deutsch, 1973; Hartup, 1992; Hartup & Laursen, 1993; D. W. Johnson & R. Johnson, 1979, 1989, 1995a; Laursen, 1993; Laursen & Collins, 1994; Nelson & Abopoud, 1985). A cooperative context tends to both elevate the frequency of conflict and increase the likelihood that constructive strategies will be used and constructive outcomes will result. Within cooperative situations, the following are generally true (Deutsch, 1962, 1973; D. W. Johnson, 1974; D. W. Johnson & R. Johnson, 1989):

(1) The communication of relevant information tends to be open and honest, with each person interested in informing the other as well as being informed. Communication tends to be more frequent, complete, and accurate.
(2) Perceptions of the other person and the other person's actions tend to be accurate and constructive. Misperceptions and distortions occur less frequently and are easier to correct and clarify.
(3) The relationship is characterized by trust and responsiveness. Individuals trust and like each other and are therefore willing to respond helpfully to each other's wants, needs, and requests.
(4) Individuals recognize the legitimacy of each other's interests and search for a solution accommodating the needs of both sides. Conflicts tend to be defined as mutual problems to be solved in ways that benefit everyone involved.

Most schools are dominated not by cooperation but by competition (D. W. Johnson & R. Johnson, 1989, 1994). In a competitive situation, individuals work against each other to achieve a goal that only one or a few can attain (Deutsch, 1962; D. W. Johnson & R. Johnson, 1989). One can attain his or her goal if and only if the other people involved cannot attain their goals. Competition is based on scarcity; students are often supposed to compete, for example, for rewards that are restricted to only the few who perform best. Competitors, therefore, seek outcomes that are personally beneficial but detrimental to all others in the situation. Within competitive situations, individuals typically have a short-term time orientation and focus their energies on winning, paying little or no attention to maintaining a good relationship. Conflicts may be associated with lingering anger and discontinued social interaction (Deutsch, 1973; Hartup, 1992; D. W. Johnson & R. Johnson, 1974, 1989; Laursen, 1993). In competitive situations, the following are generally true (Deutsch, 1962, 1969, 1973; D. W. Johnson, 1974; D. W. Johnson & R. Johnson, 1989):

(1) Communication tends to be avoided or tends to contain misleading information and threats. A competitor tends to delude and mislead the other person about his or her interests while striving to obtain information the other is unwilling to disclose.

(2) There are frequent and common misperceptions and distortions of the other person's position and motivations; these misperceptions and distortions are difficult to correct.
(3) The relationship is characterized by distrust and exploitation. Individuals have a suspicious, hostile attitude toward each other that increases their readiness to refuse each other's requests and exploit each other's wants and needs.
(4) Each individual tends to deny the legitimacy of the other person's wants, needs, and feelings and strives to maximize his or her own gain at the other's expense. Only one's own interests are considered.

The procedure used to manage a conflict and the context in which the conflict occurs can be congruent or incongruent. When the context and the conflict resolution procedure are congruent (an integrative procedure used in a cooperative context or a distributive procedure used in a competitive context), conflicts may tend to be managed more easily. When the context and the conflict resolution procedure are incongruent (an integrative procedure used in a competitive context or a distributive procedure used in a cooperative context), managing conflicts may tend to be more difficult, and destructive outcomes may tend to result. When conflict resolution and peer mediation programs are implemented in the existing competitive, individualistic context of schools, their effectiveness can be severely compromised (D. W. Johnson & R. Johnson, 1994, 1995c). In order to teach students how to seek solutions to problems rather than "win," educators must create a cooperative context in the classroom and school. The easiest way to do so is for teachers to structure learning situations cooperatively for 60% to 80% of the time (D. W. Johnson, R. Johnson, & Holubec, 1993). Since cooperative learning increases achievement and promotes a number of other important instructional outcomes (D. W. Johnson & R. Johnson, 1989), there will be little objection to doing so.

Strategies Used to Resolve Conflicts

The strategy used to resolve a conflict has been found to be a better predictor of the outcomes of the conflict than is the type of conflict or the frequency with which the conflict occurs (Gottman, 1979; Laursen & Hartup, 1989). We reviewed the strategies children and adolescents use to resolve their conflicts in school (see Figure 1). The studies examining the strategies used by untrained students are divided into the following categories: *general, conflict strategies theory, distributive versus integrative negotiations, level of cognitive development, gender,* and *what students should learn.* The studies examining the strategies used by trained students are divided into the following categories: *learn negotiation and mediation procedures, retaining the procedures, transferring the procedures, conflict strategies theory, distributive versus integrative negotiations,* and *strategies used by faculty and staff.* The basic results are summarized in Table 1.

Conflict Strategies Used by Untrained Students

General studies. A number of studies have documented the range of strategies used by untrained students to resolve their conflicts. The most comprehensive study was conducted by DeCecco and Richards (1974) nearly 20 years ago. In

TABLE 1
Strategies students use in conflicts

Untrained students	Trained students
Withdrawal, suppression	Face conflict
Force/coercion, intimidation	Learn procedures
Distributive (win-lose) negotiations	Retain procedures
	Apply procedures
	Transfer to nonschool, nonclassroom conflicts
	Problem solving
	Integrative negotiations

their interviews of more than 8,000 students and 500 faculty members in more than 60 junior and senior high schools in New York, Philadelphia, and San Francisco, they found that over 90% of the conflicts reported by students were perceived to be (a) unresolved or (b) resolved by avoiding the conflict or by overpowering the opposition. Decisions were imposed by school authorities 55% of the time. Open negotiation of conflicts occurred in only 17% of the conflicts.

Krappmann and Oswald (1987) conducted naturalistic observations of 34 German schoolchildren of ages 6 through 12 in order to gain an understanding of how children manage conflicts. Conflict strategies were coded into three patterns: (a) coercion and manipulation, (b) offer and reply, and (c) reasoning. A substantial percentage of the students relied upon coercion and manipulation; in more than half of the conflicts, at least one student used coercion. There was very little perspective taking. In the 455 conflicts observed, the feelings or self-image of one or both of the disputants was reported as being hurt. The 10- to 12-year-old students rarely used reasoning in resolving their conflicts.

D. W. Johnson, R. Johnson, and Dudley (1992), in a study of first- through sixth-grade students in a suburban, middle-class elementary school, found that the untrained students typically used the strategies of telling the teacher (61%), repeating the request, and arguing for what one wants. D. W. Johnson, R. Johnson, Dudley, and Acikgoz (1994), in a study of third- through sixth-grade students in a suburban, middle-class elementary school, found that before training the most frequently used strategies were telling the teacher (51%), withdrawal (15%), and repeated requests (15%). D. W. Johnson, R. Johnson, Dudley, and Magnuson (1995), in a study of second- through fifth-grade students in a suburban, middle-class elementary school, found that before receiving training, students tended to repeat commands, tell the teacher, and withdraw.

Peterson and Peterson (1990) found that both children and adults in schools either avoided conflict or confronted the other person. Avoidance was used twice as often as confrontation. Higgins and Priest (1990), in a survey of 103 teachers in 24 secondary schools in England, found that conflicts in schools were resolved by inhibiting, ignoring, arbitrating, and mediating. Mild (1990) conducted a survey of 178 students in Grades 3 through 8 (two classes at each grade level). Students were asked to indicate which strategy they would use to resolve a conflict with a peer and with a teacher. The alternatives were physical separation, invocation of rules, mediation by equal, mediation by superior, role reversal, and

mutuality of concern. No significant differences in responses were found across grade levels. Mediation by another student was among the least preferred of the strategies. When faced with a teacher-student conflict, students expressed a greater preference for mutuality of concern, mediation by a superior, and invocation of rules.

Opotow (1991) concluded from her interviews of inner-city seventh graders that the students lacked the skills to manage their conflicts in constructive ways and were limited to two extreme reactions—fight or flee. The students tended to (a) engage in ritualized posturing, (b) not explore ways to integrate the interests of disputing parties, and (c) act out their anger rather than describing or explaining it. Ninety-five percent (38) of her respondents engaged in inward retreat ("hold anger in," "act like nothing happened," "don't talk with them") or emotional outbursts ("scream, yell insults, stomp feet"). Opotow concluded that these students were virtually unable to communicate their feelings, exchange information with their opponents, or explain their concerns in a conflict; problem solving, therefore, was practically nonexistent. The strategies students used were typically reactive rather than thoughtfully selected.

What these studies indicate is that untrained students of all ages rely on withdrawal and suppression of conflicts, the use of aggression for coercive purposes, or telling the teacher so that the teacher will coerce the other into conceding. In almost no case did students use integrative negotiation procedures or strive to solve the problem on which the conflict was based. In most of these studies, however, there are methodological problems that make their conclusions tentative. In almost every study, self-report data was collected through questionnaires and interviews. Only Krappmann and Oswald (1987) conducted naturalistic observations of how students actually behave. When students are asked to describe how they manage their conflicts, their responses are subject to bias; the self-report nature of the data therefore makes conclusions very tentative.

In addition to these studies, a number of studies have been conducted on conflict strategies theory, distributive versus integrative negotiations, cognitive developmental theory, and gender and conflict resolution.

Conflict strategies theory. There are a number of studies that examined the impact of the conflict resolution and peer mediation training on students' use of the five conflict strategies specified by the two concerns inherent in conflict. D. W. Johnson, R. Johnson, Mitchell, et al. (in press), in their study of primary inner-city students, found that 97% of the conflicts mediated initially involved forcing. Integrative negotiations were never used. In the following year, D. W. Johnson, R. Johnson, Cotten, et al. (1995) found that 100% of the conflicts mediated in this school involved physical and verbal forcing. D. W. Johnson, R. Johnson, Dudley, Ward, and Magnuson (1995) found that before conflict resolution and peer mediation training in a suburban elementary school, the second- through fifth-grade students studied tended to use forcing, withdrawal, and compromising strategies in resolving their conflicts. Students never used integrative negotiations. In a suburban school district in Canada, Stevahn, Johnson, Johnson, Green, and Laginski (in press) found that untrained high school students almost exclusively used verbal forcing to resolve their conflicts; Stevahn, Johnson, Johnson, and Real (1995) found that untrained students primarily used forcing and withdrawal to resolve conflicts; and Stevahn, Johnson, Johnson, Laginski, and O'Coin (1995)

found that 95% of the untrained students used forcing to resolve conflicts. In a Midwestern suburban middle school, D. W. Johnson, R. Johnson, Dudley, Mitchell, and Fredrickson (in press) found that untrained sixth- through ninth-grade students used forcing, withdrawing, and smoothing to resolve their conflicts. Thus, before training, students tended to be highly goal oriented and chose strategies that focused on downplaying the relationship and either giving up their goals or achieving them at all costs. Part of the stress generated by conflicts in schools may be due to students' knowledge that they have acted in ways that damaged their relationships and yet have to face each other day after day in class and in the hallways.

In other studies in which the data are easily interpretable by conflict strategies theory, students have been found to use withdrawing and forcing (DeCecco & Richards, 1974; McCormick, 1988), withdrawing (inhibiting or avoiding; Higgins & Priest, 1990), forcing (coercing or manipulating; Krappmann & Oswald, 1987), and withdrawing (avoiding) or forcing (Peterson & Peterson, 1990). Roderick (1987) and Einstein-Goldstein (1985) state that most students think their only choices when faced with a conflict are to attack and to withdraw. Laursen (1993) conducted a meta-analysis of 12 studies of adolescent conflict management. Across all relationships, approximately 23% of adolescents' conflicts were resolved by compromise (concessions made by both parties), whereas 37% were resolved by forcing or submission (winning or acceding to the demands of the other) and 40% by withdrawal/disengagement (refusing to continue, perhaps by leaving the field). Overall, integrative negotiations were never used, and winning took precedence over relationship considerations.

Distributive versus integrative negotiations. When faced with a conflict, individuals can choose to negotiate in either a distributive (i.e., seeking to "win" by maximizing one's own benefits at the expense of the other person) or an integrative (i.e., seeking to solve the problem by reaching a mutually acceptable agreement that maximizes mutual benefits) way (D. W. Johnson & F. Johnson, 1997; Walton & McKersie, 1965). Each requires markedly different behaviors and leads to different types of outcomes. In the field of conflict resolution, considerable research has been conducted on how to win in distributive negotiations (Druckman, 1977; D. W. Johnson & F. Johnson, 1997; Rubin & Brown, 1975; Walton & McKersie, 1965). While far less research has been devoted to integrative negotiations, its study goes back to Follett (1940), D. W. Johnson (1966, 1967, 1971), and Pruitt (1981; Pruitt & Lewis, 1977). Despite the focus of the conflict literature on distributive and integrative negotiations, there have been almost no studies on whether students "naturally" engage in distributive or integrative negotiations or whether training has any impact on the way they negotiate.

Dudley, Johnson, and Johnson (in press) examined the impact of the Peacemaker program (D. W. Johnson & R. Johnson, 1995b, 1995c) on sixth- through ninth-grade students' approach to negotiating. Students were placed in a negotiation simulation involving the buying and selling of commodities in which they could negotiate in either a distributive or an integrative manner. From the pretest and the posttest for the control condition, the negotiation procedure used "naturally" by the middle school students could be determined. The researchers found that when given a choice, over 90% of the untrained students chose to negotiate in a distributive way by maximizing their own outcomes at the others' expense.

There seems to be a natural bias among middle school students faced with a conflict to go for a "win." This competitive, distributive orientation to resolving conflicts seems, therefore, to be learned early in life. Stevahn, Johnson, Johnson, and Real (1995) found similar results. These results corroborate the earlier findings of studies using college students and adults as participants. In his initial study on perspective reversal, D. W. Johnson (1966, 1967) found that almost all participants used a distributive approach regardless of the potential for an integrative agreement. Pruitt and his associates (Pruitt, 1981; Pruitt & Lewis, 1977) found that over half of their negotiating pairs used the distributive approach.

Cognitive developmental theory. There are a number of studies conducted on conflict among students based on cognitive developmental theory, most of which were conducted by Selman and his associates (Adalbjarnardottir & Selman, 1989; Beardslee, Schultz, & Selman, 1987; Leadbeater, Hellner, Allen, & Aber, 1989; Selman, Beardslee, Schultz, Krupa, & Podorefsky, 1986; Selman & Demorest, 1984; Selman & Schultz, 1990; Yeates, Schultz, & Selman, 1991). They classify children's conflict behavior into four levels. Depending on the student's developmental sophistication of social perspective taking, the student may engage in impulsive physical behavior to get what he or she wants or to avoid harm, unilateral actions based on control or appeasement of the other person, reciprocation based on trades and exchanges, and cooperation based on mutual goals. Connected with these levels of conflict resolution are four social information processing skills: defining the problem, generating alternative strategies, selecting and implementing a specific strategy, and evaluating outcomes. The research of Selman and his associates indicates that (a) the type of conflict behavior engaged in is correlated with age (older children use higher level strategies more frequently than do younger children), (b) higher-level strategies are used more frequently with familiar as opposed to unfamiliar participants and with other children as opposed to adults, (c) the use of higher-level strategies is associated with indexes of adaptive functioning and social competence, and (d) the use of higher-level strategies is associated with social status with peers. Vernberg, Ewell, Beery, and Abwender (1994) found that the use of higher-level strategies was predictive of intimacy and companionship in close friendships.

Gender and conflict resolution. Overall, most studies on conflict resolution show no gender differences (Nadler & Nadler, 1984). There is some evidence that females are more socially attuned than males and therefore more likely to vary their conflict behavior in response to social cues, such as the other person's attractiveness or the other person's response to their cooperative initiatives (Rubin & Brown, 1975; Swap & Rubin, 1983). Females may be more likely than males to handle isolated negotiations in light of long-term relationships (Greenhalgh & Gilkey, 1984). Males may be more likely than females to use a forceful style (Kimmel, Pruitt, Magenau, Konar-Goldband, & Carnevale, 1980; Lim & Carnevale, 1990). Males also may tend to obtain better outcomes than females through negotiation (Gerhart & Rynes, 1991; Rifkin, 1984).

What students should learn. When students are involved in long-term, ongoing relationships, the most important conflict strategy for them to use is integrative negotiations in which joint benefit is considered over personal gain. Students who have not received conflict resolution and peer mediation training rarely use such a strategy. They do not seem to know that integrative negotiation is an option and

instead tend to use withdrawal or the distributive strategy of striving to "win." The next issue is whether conflict resolution and peer mediation programs are successful in teaching students the procedures for integrative negotiation and whether students do in fact use the procedures to resolve their conflicts.

Students' Strategies for Resolving Conflicts After Training

The central issue in assessing the impact of conflict resolution and peer mediation programs is whether the programs change the strategies students use to resolve their conflicts. As a result of training, students should switch from using such strategies as withdrawal and forcing (distributive negotiations) to strategies such as problem solving (integrative negotiations). In order to use an integrative, problem-solving approach to resolving their conflicts, students should know the steps for engaging in the integrative negotiation and mediation procedures, be able to retain that knowledge over time, be able to apply the procedures to actual conflicts, transfer the procedures to nonclassroom conflicts, and transfer the procedures to nonschool conflicts. When given a choice, furthermore, students should choose integrative over distributive negotiations.

Learning the negotiation and mediation procedures. In several studies of the Teaching Students to Be Peacemakers Program (D. W. Johnson & R. Johnson, 1995b, 1995c), following the training students were asked to write from memory (a) the steps of integrative negotiations (stating what you want; how you feel; the reasons underlying your wants and feelings; your understanding of the other's wants, feelings, and reasons; three potential agreements that would maximize joint gain; and what you agree to) and (b) the procedures for mediation (ending the hostilities, ensuring commitment to the mediation process, facilitating integrative negotiations, and formalizing the agreement). D. W. Johnson, R. Johnson, Dudley, and Magnuson (1995) found that 94% of the second- through sixth-grade students trained knew the six steps of the integrative negotiation procedure, and 92% knew all four steps of mediation. Stevahn, Johnson, Johnson, Green, and Laginski (in press) found that 85% of the ninth-grade students trained knew all six steps of integrative negotiations, and the other 15% knew four of the steps. Other studies demonstrated that immediately after training, 77% of sixth- through ninth-grade students trained knew all six steps of integrative negotiations (D. W. Johnson, R. Johnson, Dudley, et al., in press), 70% of seventh- and eighth-grade Canadian students demonstrated 100% mastery of the integrative negotiation procedure (Stevahn, Johnson, Johnson, & Real, 1995), and 76% of ninth-grade Canadian students demonstrated 100% mastery of the negotiation procedure (Stevahn, Johnson, Johnson, Laginski, & O'Coin, 1995). The Metis Associates (1990) conducted an evaluation of the Resolving Conflict Creatively Program implemented in the 1988–1989 school year at selected schools in New York City and found that trained students showed a greater mastery of conflict resolution–related knowledge than did untrained students. Roush and Hall (1993) found that in pretesting and posttesting of 38 fourth graders, 55 fifth graders, and 52 sixth graders in a study of conflict resolution training, there was a significant increase in students' knowledge of how to resolve conflicts in constructive ways. Bastianello (1989) conducted a year-long study observing 20 second- and third-grade students who were being taught a conflict resolution procedure. He found that their conflict resolution skills increased. From these studies it may be concluded that the

conflict resolution and peer mediation training has been successful in teaching students the knowledge relevant to the program such as the integrative negotiation and peer mediation procedures.

Retention of knowledge of the negotiation and mediation procedures. In addition to learning the integrative negotiation procedure, a number of studies provide evidence that knowledge of the negotiation and mediation procedures was retained months after the Teaching Students to Be Peacemakers training was conducted. D. W. Johnson, R. Johnson, and Dudley (1992), nearly 6 months after the training ended, selected a random sample of students who did and did not receive the training and administered a measure to see if students would remember and use appropriately the integrative negotiation procedure. Trained students knew and were much more likely to use the integrative negotiation procedure than were the untrained students. In the D. W. Johnson, R. Johnson, Dudley, and Magnuson (1995) study, a retention test on the negotiation and mediation procedures was given up to 8 months after students were trained, and 92% were able to write out from memory all the integrative negotiation and mediation steps. In the Stevahn, Johnson, Johnson, Green, and Laginski (in press) study, the experimental group was given training integrated into an English literature unit while the control group received the training during two class sessions following the study. Seven months after the training ended, 75% of the students in the experimental condition remembered three or more of the integrative negotiation steps while only 30% of students in the control condition did so. Stevahn, Johnson, Johnson, Laginski, and O'Coin (1995) found that 13 weeks after the end of training, 62% of the trained students still used the whole negotiation procedure, and another 19% used five of the six steps. Stevahn, Johnson, Johnson, and Real (1995) found that 8 weeks after the end of training, 60% of the students in the cooperation/trained condition still used the whole procedure. From these studies it may be concluded that students who participated in the Teaching Students to Be Peacemakers Program tended to retain their knowledge of the negotiation and mediation procedures.

Application of negotiation and mediation procedures to conflicts. In the studies of the Teaching Students to Be Peacemakers Program, the application of the integrative negotiation procedure to descriptions of actual conflicts was examined. Three measures were used to determine whether students could actually use the negotiation procedure in resolving conflicts. The measures were written responses to conflict scenarios (D. W. Johnson, R. Johnson, & Dudley, 1992; D. W. Johnson et al., 1994; D. W. Johnson, R. Johnson, Dudley, & Magnuson, 1995; D. W. Johnson, R. Johnson, Dudley, et al., in press; Stevahn, Johnson, Johnson, Green, & Laginski, in press; Stevahn, Johnson, Johnson, Laginski, & O'Coin, 1995; Stevahn, Johnson, Johnson, & Real, 1995), oral responses to conflict scenarios given in an interview (D. W. Johnson, R. Johnson, Dudley, & Magnuson, 1995), and role playing responses to conflict scenarios that were videotaped and then analyzed (D. W. Johnson, R. Johnson, & Dudley, 1992; D. W. Johnson et al., 1994). The results for all three measures were consistent. Whereas before training practically none of the students used the integrative negotiating procedure to resolve conflicts, after training the majority of the participating elementary, middle school, and high school students used the integrative negotiation procedure to resolve conflicts, even when they were asked to role play conflicts 5 months after the training had ended. In addition, actual observation of students

managing conflicts on the playground, in the hallways, and in the lunchroom found that 4 months after training, 65% of the students still used the integrative negotiation strategy to resolve their conflicts (D. W. Johnson et al., 1994).

Transfer of training: Spontaneous use of negotiation and mediation procedures in nonclassroom and nonschool settings. An important issue in conflict resolution and peer mediation training is whether students will transfer the procedures and skills they learn to nonclassroom and nonschool settings. In the D. W. Johnson, R. Johnson, and Dudley (1992) study, students reported spontaneously using the negotiation and mediation procedures at home with their siblings and with their friends, and parents reported that students used the procedures at home. D. W. Johnson et al. (1994), 4 months after the training had ended, observed the trained students systematically for 10 entire school days. During the observations, two types of conflicts emerged: (a) low-investment conflicts and (b) high-investment conflicts. Low-investment conflicts were usually lighthearted and tended to last 30 seconds to 1 minute. Students involved in low-investment conflicts did not negotiate or seek mediation, even if they were trained in the procedure. High-investment conflicts created so much emotion that students were unable to work academically or interact with classmates in a positive manner. High-investment conflicts were found to occur in school but were often about things that occurred at home, on the bus, or in other areas. They would last for days or longer. For these high-investment conflicts, eight students were observed mediating the resolution of 14 conflicts. They went through all the steps of negotiating. The average duration of mediation was 12 minutes, 42 seconds.

In the D. W. Johnson, R. Johnson, Dudley, Ward, and Magnuson (1995) study, students reported on 209 conflicts that occurred in school and 574 conflicts that occurred in their homes. Before training, negotiation was used only once in the experimental group and never in the control group; during and after training nearly 40% of the conflicts in the experimental group were resolved through integrative negotiations. Although the training took place in school and focused on school conflicts, there were no significant differences between the strategies used in school and those used at home. Students used the strategies learned in school just as frequently at home as they did in school. There were also no significant differences between males and females in the strategies used to manage conflicts. Gentry and Benenson (1993) analyzed the at-home conflict behaviors of 27 fourth-, fifth-, and sixth-grade elementary student mediators before and after their 10-week training. The students and their parents reported a decrease in the frequency of sibling conflicts, and parents reported that (a) students had an improved ability to talk productively during conflicts with siblings and (b) there was a decrease in the number of times the parents had to intervene during conflicts between students and their siblings.

There is evidence, therefore, that conflict resolution and peer mediation training results in students knowing the negotiation and mediation procedures, being able to use the procedures in actual conflicts, transferring the procedures to nonclassroom conflicts, and transferring the procedures to nonschool conflicts in the home. Since this evidence comes from some of the most methodologically sound studies in the field, some confidence can be had in it.

Conflict strategies theory. Conflict strategies theory focuses on two dimensions of conflict—achieving one's goals and maintaining a good relationship with the

other disputant (D. W. Johnson, 1991; D. W. Johnson & F. Johnson, 1997). Five strategies are focused on: forcing, withdrawing, smoothing, compromising, and problem solving. In two studies students were given the Student Attitudes About Conflict Scale before and after the implementation of peer mediation programs. In one study there was a significant decrease in the use of withdrawal/avoidance (McCormick, 1988) and in the other study there were no significant changes in conflict strategies used (Crary, 1992). Many of the students, however, had not had contact with the peer mediators or the program and, therefore, could not be expected to change.

In a series of studies on the Teaching Students to Be Peacemakers Program, students were asked to describe in detail how they managed their conflicts, and the responses were coded to reflect the five strategies. D. W. Johnson, R. Johnson, Dudley, Ward, and Magnuson (1995) found that after training, 45% of the students used integrative negotiations to resolve their conflicts. One result of the training was that most participants became more relationship oriented, using a strategy aimed at preserving the relationship as well as achieving their goals. Smoothing, which requires students to give up their own goals for the goals of others, was almost never used in the conflicts reported. Stevahn, Johnson, Johnson, Green, and Laginski (in press) found that after training only 10% of students used verbal forcing to resolve their conflicts, and about 80% used integrative negotiations. Stevahn, Johnson, Johnson, and Real (1995) found that immediately after training almost all students in the cooperative condition used the integrative negotiation and compromising procedures; the same results held on a retention test 14 weeks later. Stevahn, Johnson, Johnson, Laginski, and O'Coin (1995) found that almost 50% of the trained students used integrative negotiations and compromising to resolve conflicts. D. W. Johnson, R. Johnson, Dudley, et al. (in press) found that the majority of trained sixth- through ninth-grade students used integrative negotiations to resolve their conflicts. One of the effects of the conflict resolution and peer mediation training, therefore, was to change students' conflict resolution behavior so that they protected the future of the relationship as well as worked to achieve their immediate goals.

Distributive versus integrative negotiations. The intent of conflict resolution and peer mediation programs in schools is to teach students how to manage conflicts constructively. In ongoing, long-term relationships, integrative negotiation procedures tend to be most constructive for managing conflicts (Deutsch, 1973; D. W. Johnson & R. Johnson, 1995b). Dudley, Johnson, and Johnson (in press) found that when students were given a choice between negotiating in a distributive way and negotiating in an integrative way, conflict resolution and peer mediation training seemed to change the students' behavior. After the conflict resolution and peer mediation training, 83% of the middle school students used an integrative problem-solving approach to negotiations, while 86% of the students in the control condition still negotiated in a distributive manner. This effect was consistent in the sixth, seventh, eighth, and ninth grades and for males and females. Stevahn, Johnson, Johnson, and Real (1995) found similar results in a study of 111 Canadian seventh and eighth graders. These studies provide a direct and important link to the literature on conflict resolution and peer mediation programs in schools and the literature on negotiation in the field of conflict resolution. The combination of integrative negotiation and perspective-reversal

procedures emphasized in the Teaching Students to Be Peacemakers Program may be especially powerful in helping students focus on maximizing joint outcomes and thereby resolve conflicts constructively.

Strategies used by faculty and staff. Correlational findings indicate that parent-child interactions marked by parental responsiveness to adolescents' expression of discrepant opinions are associated with advanced adolescent ego-identity and social perception skills (Grotevant & Cooper, 1985, 1986). Social support from related and unrelated adults in early adolescence, furthermore, resulted in a significant reduction in problems (e.g., drugs, emotional distress, relationships work, health, and others) that adolescents will face as young adults (Newcomb & Bentler, 1988). Teachers, therefore, are well advised to encourage students to express their opinions and positions, especially when they are discrepant from those of the teacher. The discrepant positions and opinions can then be resolved through integrative negotiations.

Summary. The current evidence indicates that conflict resolution and peer mediation training does result in students knowing the negotiation and mediation procedures, being able to use the procedures in actual conflicts, transferring the procedures to nonclassroom conflicts, transferring the procedures to nonschool conflicts in the home, and using integrative negotiation procedures to resolve conflicts even when there is an opportunity to go for the "win" (i.e., negotiate in a distribute way). These studies are generally methodologically sound, in four ways. First, the nature of the training program and the dependent variables are clear. Second, students were either randomly assigned to conditions, or a control group was randomly selected from the student body as a whole. Third, the program was carefully implemented. And fourth, valid and reliable dependent measures were used. Some confidence, therefore, may be given to results of these studies.

While these results are encouraging, there are problems with the current state of knowledge. First, too much of the current research comes from investigations of the Teaching Students to Be Peacemakers Program. Much of the research on other conflict resolution and peer mediation programs in schools has ignored whether students actually learn the procedures being taught, retain that knowledge over time, use the procedures in actual conflicts, and transfer the procedures to nonclassroom and nonschool situations. In many programs it is assumed that these dependent variables are influenced in the expected direction, and outcomes such as suspensions are investigated without documenting whether in fact students actually learn anything from the training they received.

Second, little is known about the manner in which conflicts unfold and the patterns of interaction among students as they resolve their conflicts. With the exceptions of the observational study by Krappmann and Oswald (1987), the videotaped role playing sessions in the D. W. Johnson, R. Johnson, and Dudley (1992) and the D. W. Johnson et al. (1994) studies, and the observations done in the D. W. Johnson et al. (1994) study, direct assessment of the ways students manage their conflicts with and without the help of a peer mediator is practically nonexistent. One of the next steps is for researchers to examine in more detail the patterns of interaction among students during a conflict.

Third, there is a marked lack of investigation of affective expressions (which can vary from joy to rage) in conflicts. Though DeCecco and Richards (1974)

noted the importance of expressing anger in resolving conflicts, and D. W. Johnson (1971) conducted a set of experimental studies on the impact on anger, warmth, and coldness on the outcomes of negotiations, there has been very little research in schools on the affect expressed in conflicts and its impact on the strategies students use and the resulting outcomes.

The next issue is to examine the outcomes resulting from the ways students manage their conflicts.

Outcomes of Conflict Resolution Training

In examining the outcomes of conflicts among students, researchers have examined a wide variety of outcomes including (see Table 2) (a) how students view the outcomes of their conflicts; (b) the types of resolutions reached before and after training; (c) resolutions resulting from peer mediation; (d) academic achievement; (e) attitudes toward conflict; (f) school climate; (g) psychological health; (h) discipline problems, fights, absenteeism, referrals, and suspensions; and (i) impact on teachers, administrators, and parents.

Students' Views on Destructive and Constructive Conflict Outcomes

There is some evidence that students see conflicts as being constructive as well as destructive. The potential destructive outcomes for students include physical risks, social isolation, humiliation, loss of status, lowered academic performance, lowered attendance, and personal feelings of confusion, anger, helplessness, and depression. Opotow (1991), in her interviews of inner-city seventh graders, found that the adolescents dismissed physical risks as a secondary consideration and instead feared social isolation, humiliation, and loss of status. She found that two thirds of conflicts occurred with a close friend or a classmate, and since the students were compelled by the school schedule to see their adversaries in class, gym, or lunch, they feared that hostilities would escalate and peers would choose sides. As stress increased, attendance and academic work often suffered, and feelings such as confusion, anger, helplessness, and depression increased. Often students did not understand why a fight had occurred and mourned the loss of a friend without any coherent explanation of what had gone wrong. Berndt and Keefe (1992) also found that increases in conflict between friends longitudinally predicted detachment from school and lower grades.

TABLE 2
Outcomes resulting from students' conflicts

Untrained students	Trained students
No agreement	Agreement
Winner & loser (inequitable outcomes)	Maximize joint (equitable) gain
Decreased achievement	Increased achievement
Negative attitudes toward conflict	Positive attitudes toward conflict
Negative school climate	Positive school climate
Psychological maladjustment	Psychological health
Discipline problems/suspensions	Students resolve own conflicts
Negative affect	Positive affect
Discontinued interaction	Continued, ongoing interaction

Students also see constructive outcomes resulting from their conflicts of interests. Opotow (1991) found that the seventh graders she interviewed perceived physical fights as more constructive than destructive, as they resulted in maintaining valued social norms, deterring harmful behavior, providing protection from victimization, providing gains in status, increasing self-awareness, clarifying personal identity, clarifying others' identities, clarifying dominance hierarchies, initiating friendships, and they were enjoyable. In conflicts, students find opportunities for (a) modifying the status quo and the behavior of troublesome peers, (b) self-protection, social advancement, personal worth, interpersonal insight, conflict resolution, and excitement, (c) heroic drama that generated an oral history of danger, heroism, and good versus evil, and (d) moral discourse and clarification of values and codes of behavior. Opotow concluded that these inner-city seventh graders were clearly fascinated by and drawn to conflicts—they liked to start them, watch them, hear about them, and discuss them.

Disputants' Resolutions

Little is known about the resolutions students agree to on their own without the help of a mediator. The types of resolutions students reach may be divided into resolutions by untrained students, resolutions by trained students, and distributive versus integrative agreements.

Resolutions before training. With untrained students, DeCecco and Richards (1974) found that over 90% of the conflicts reported by the over 8,000 students they studied were perceived to be unresolved or resolved in destructive ways. Krappmann and Oswald (1987) found that 10- and 12-year-old German children agreed on solutions to their conflicts only about half of the time, and in those agreements one child forced the other to give in. D. W. Johnson, R. Johnson, Dudley, Ward, and Magnuson (1995) asked students to report the nature of the resolution of the conflict. Untrained students left over one third of their conflicts unresolved, asked adults to arbitrate the conflicts about 20% of the time, reported that one of the disputants won over 25% of the time, and reported that less than 1% of the conflicts were resolved through integrative negotiations. There was no significant difference between the solutions arrived at for conflicts in school and those arrived at for conflicts at home.

Resolutions after training. D. W. Johnson, R. Johnson, Dudley, Ward, and Magnuson (1995) found that after conflict resolution and peer mediation training, over 25% of conflicts were resolved through integrative agreements, and over 20% were resolved by creating new agreements. There was no significant difference between the solutions arrived at for conflicts in school and those arrived at for conflicts at home. McCormick (1988) found that the number of students who said they resolved their conflicts by "talking it out" doubled after the introduction of the program. Roderick (1989) studied a peer mediation program in an elementary school in Brooklyn and found that 87% of the teacher respondents noted changes in their students' spontaneous use of conflict resolution skills.

Distributive versus integrative negotiations. Two studies placed students in a negotiation situation in which they could negotiate in either a distributive or an integrative way (Dudley, Johnson, & Johnson, in press; Stevahn, Johnson, Johnson, & Real, 1995). Previous research indicated that college students and adults tend to (a) perceive all negotiation situations as requiring the distributive approach and

(b) compete to see who can win (D. W. Johnson, 1967, 1971; D. W. Johnson & R. Johnson, 1989; Pruitt & Lewis, 1977). It is unclear, however, at what age the competitive bias and the predominant use of the distributive negotiation procedure begin. The results of these two studies indicated that prior to training, over 90% of 11- to 15-year-old students chose to negotiate in a distributive way. After training, the students who had been trained in conflict resolution procedures reached far more integrative agreements than did untrained students, characterized by higher joint profit and a higher mean individual profit of the least successful negotiator.

Resolutions Resulting From Peer Mediation

When students become heavily invested in waging conflict, they tend to rigidify their positions and refuse to budge, misconstruing moves to resolve the conflict as signs of weakness. The disputants may be so angry or upset that they lack the imagination, creativity, and/or experience necessary to work their way out of the pit they have jointly dug. For a variety of reasons, disputants are sometimes either unable or unwilling to move toward agreement of their own accord, and a mediator is needed and sought out.

Most of the studies on peer mediation simply report whether or not an agreement was reached. Burrell and Vogl (1990) found that 80% of the 75 cases referred to mediation at a high school in Milwaukee were successfully mediated. McCormick (1988) found that all 13 mediation sessions ended in agreement; 1 month later 10 of the 18 disputants were happy with the agreements, and 3 months later 13 disputants were happy with the agreements (5 were undecided). A middle school in Ohio reported a 96% agreement rate for 155 conflicts mediated (Ohio Commission on Dispute Resolution and Conflict Management, 1993). At the elementary, middle, and high schools studied in Honolulu, 127 conflicts among students were mediated with a 92% success rate, and 100% of 12 student-teacher conflicts were successfully mediated (Araki, 1990). Schumpf, Crawford, and Usadel (1991) reported that of 245 conflicts referred to peer mediators in a Midwestern middle school, 98% were successfully resolved. McCormick (1988), in an assessment of the Wakefield Peer-Mediation Program, found that 85% of the mediations conducted resulted in long-term agreements. Bradley (1989) noted that in a peer mediation program in the Warwick Valley school district, about 70 mediations had taken place, 66 of which had reached successful conclusions; 90% of the disputants indicated that they had honored their agreements. The Metis Associates (1990), in their evaluation of the Resolving Conflict Creatively Program in New York City, found that in the 535 successful student mediations that took place in the five participating schools, 85% of surveyed students who used a mediator reported it to be helpful.

Crary (1992) evaluated a peer mediation program in a Santa Monica middle school in which 96 conflicts involving 203 disputants were referred for mediation. Of the 95 conflicts mediated, 92 (97%) were reportedly resolved. Of the disputants, 95% were satisfied with the mediation process, and 96% stated that their disputes were still resolved at the end of the semester. Lam (1989) noted that 90% of the 1,328 conflicts that were mediated in inner-city high schools in New York City were mediated successfully, and over 90% of those agreements remained intact. In an Oakland inner-city school, 9 of 10 conflicts were mediated success-

fully (Goodman, 1987). Lam noted that not all mediation programs had such a high success rate. She noted that one central New York school had only 74% of their 81 mediations end in agreements, and two high schools and one junior high school in Waukesha, Wisconsin, had only 58% of their 250 mediations end in successful agreements. Umbreit (1991), in a study of the effectiveness of mediation in a New York City school, found that 67% of the 134 disputes referred to mediation resulted in agreements.

A few studies report more details about the nature of the agreements reached in mediation. D. W. Johnson, R. Johnson, Mitchell, et al. (in press) found that in a prekindergarten through fourth-grade inner-city school, peer mediation resulted in agreement 98% of the time. Disputants tended to agree to avoid each other in the future 84% of the time ("stay away from each other, don't talk to each other, don't sit by each other") and accepted an adult-imposed solution 8% of the time. D. W. Johnson, R. Johnson, Cotten, et al. (1995), in a study of the same school 1 year later, found the success rate of peer mediation to be 95%. The most common solution was a mutual agreement to avoid each other (77% of the agreements were "stay away from each other, don't play with each other, don't talk to each other"). Given the violent nature of most of the conflicts in these two studies, the success rate is remarkable. These young children, however, did not attempt to problem solve the issues or search for integrative agreements that would maximize joint outcomes and meet the needs of both parties, perhaps because the disputants did not know how to do so. These types of agreements, furthermore, may tend to be unstable, as students may be required to see each other in class and in the hallways. Similar agreements, however, were reported by Jones and Carlin (1994) in Philadelphia elementary and secondary schools. They found the agreements resulting from mediation to be simple, usually consisting of promises to "be friendly, keep the peace, or stop disruptive behavior" or agreements to "avoid each other."

The results are congruent with the conclusion that students are able to mediate successfully their schoolmates' conflicts, regardless of age level or socioeconomic status. The high success rate of peer mediation may be due to several reasons. It may be that peer mediation is highly effective and that the mediators were quite skillful and competent. The effectiveness of peer mediation may, on the other hand, be due to the voluntary nature of mediation (all disputants have to agree to mediation) or because only easily resolvable conflicts were brought to mediation.

Discussions of peer mediation programs may tend to oversimplify what peer mediators actually do. While merely introducing a third person into a conflict may be highly beneficial, it can also be highly problematic. Emerson (1990), for example, in his study of peer mediation programs in elementary schools in Oregon, found that most of the teachers/trainers did not (a) understand mediation, (b) understand how to train peer mediators, and (c) have adequate group process skills. Consequently, many student mediators were improperly trained, frequently viewed as policemen, and frequently disliked by other students. At the adult level, mediation is a highly complex process. There is evidence, for example, that mediators do not help when (a) there is a high level of hostility between the disputants (Bercovitch, 1989; Hiltrop, 1989; Pruitt, McGillicuddy, Welton, & Fry, 1989), (b) the mediator is distrusted (Hiltrop, 1989), (c) there is a lack of resources

(Carnevale & Pegnetter, 1985; Kochan & Jick, 1978; Pearson & Thoennes, 1982), (d) disputants are uncommitted to mediation (Carnevale, Lim, & McLaughlin, 1989; Hiltrop, 1989), (e) the issues involve general principles (Bercovitch, 1989; Pruitt et al., 1989), (f) disputants have unequal power (Bercovitch, 1989), and (g) there is significant psychopathology in the disputants' relationship and psychotherapy rather than mediation is required (Kressel & Pruitt, 1989; Pruitt & Carnevale, 1993). Whether mediation is a constructive or destructive influence depends on the skills of the mediator. In most programs students receive very minimal training in how to be a peer mediator. The assumption that a few hours of training will result in highly successful mediators may vastly oversimplify the process of mediation. Conflict resolution and peer mediation training may need to be recast as a spiral curriculum in which students are given 12 years of training, with the training becoming more complex and sophisticated each year (D. W. Johnson & R. Johnson, 1995c, 1995d).

The self-report nature of the data on the effectiveness of peer mediation makes it somewhat suspect. Further research is needed that examines what actually happens within mediation sessions, contrasts different approaches to mediation so that mediating variables can be identified, and uses behavioral measures of mediation outcomes.

Academic Achievement

Linking conflict resolution training with academic learning is important, as the history of innovations in schools indicates that new programs are not widely adopted and maintained over a number of years unless they increase students' academic achievement (Fullan, 1991; D. W. Johnson, 1970, 1979). There is some evidence that the destructive management of conflict may lower achievement. Increases in conflict between friends longitudinally predict detachment from school and lower grades (Berndt & Keefe, 1992). Opotow (1991), in her interviews of inner-city seventh graders, concluded that as the stress created by conflicts with peers increases, attendance and academic work often suffer.

There is also evidence that the integration of subject area learning and the learning of the conflict resolution and peer mediation procedures can increase students' academic achievement. In the Stevahn, Johnson, Johnson, Green, and Laginski (in press) study, the conflict training was integrated in a 2-week high school English unit. Students in the experimental group studied a novel, learned the negotiation procedure, and role played each of the major conflicts in the novel using the integrative negotiation procedure. Students in the control group spent all their time studying the novel. Students in both conditions took an achievement test the last day of the instructional unit. Students in the experimental condition scored significantly higher on the achievement test than students in the control condition. Students in the conflict resolution training condition not only learned the factual information contained in the novel better but were better able to interpret the information in insightful ways. The higher achievement is all the more notable because students in the control group spent all their time studying the novel, while students in the experimental condition had to learn both the novel and the negotiation procedure in the same amount of time. The integration of conflict resolution training into academic units provides an arena in which frequent and continued practice of the conflict resolution procedures can take place. Conflict resolu-

tion procedures need to be so overlearned that they become automatic habit patterns that guide behavior in serious and intense conflicts. Stevahn, Johnson, Johnson, Laginski, and O'Coin (1995) replicated the study in a ninth-grade English class in Canada with almost identical results. In addition, they administered a second achievement test 13 weeks after the unit had ended and found that students in the conflict training condition scored significantly higher.

Stevahn, Johnson, Johnson, and Real (1995) extended the other two studies in a study using seventh- and eighth-grade classes in a rural K–8 public school in Ontario, Canada. The students were randomly assigned to four conditions: conflict training in a cooperative context, conflict training in an individualistic context, no conflict training in a cooperative context, and no conflict training in an individualistic context. Besides an achievement test given immediately after the unit ended, a retention test was given 8 weeks later. The highest achievement on both the posttest and the retention test was found in the cooperative learning/conflict training condition, indicating that the combination of the two is more powerful than either alone.

From these three studies it may be concluded that conflict resolution and peer mediation training can increase achievement when it is integrated into academic units, especially when it is conducted in combination with the use of cooperative learning. Because these studies were so carefully conducted (with random assignment of students to conditions, the rotation of teachers across conditions, clear definition of the training program, clear definition of the dependent variable, and so forth) some confidence can be placed in their results. In addition to these studies, there are additional testimonials of how conflict resolution and peer mediation training increased students' academic achievement. Roderick (1989) found that teachers interviewed reported that students participating in the program achieved higher academically than did nonparticipants.

Attitudes Toward Conflict and the Conflict Resolution Program

If students are to manage their conflicts constructively, they must learn to value conflicts and see them as potentially positive. There is clear evidence that untrained students have negative attitudes toward conflict that become less negative and more positive as a result of conflict resolution and peer mediation training. Dudley, Johnson, and Johnson (in press) asked students to write down all the words that came to mind when they thought of the word *conflict.* Before training, on the average, the sixth- through ninth-grade students listed seven negative words and only one positive word. After the conflict resolution and peer mediation training, on the average, students listed five negative and three positive words. Stevahn, Johnson, Johnson, Laginski, and O'Coin (1995) found that prior to training, 42 ninth-grade Canadian students associated six negative words and one positive word with conflict; after training, on the average, they listed six negative and two and one half positive associations with conflict. Stevahn, Johnson, Johnson, and Real (1995) found that before training, on the average Canadian seventh and eighth graders listed eight negative words and one positive word, whereas after training the students listed six negative and five positive words. The combination of cooperative learning and conflict resolution training produced the most positive and least negative attitudes. Crary (1992) found that students' and teachers' attitudes toward conflict became more positive as a result of a peer

mediation program. Deutsch (1992) found that conflict resolution training and cooperative learning resulted in a substantially more favorable school climate and positive attitudes toward the conflict resolution training by students, teachers, and administrators. Brown (1992) found that the elementary students who received peer mediation training had more positive attitudes toward conflict than did their untrained counterparts, but there were no significant differences on attitudes toward the peer mediation program between trained and untrained students in middle and high schools. Elementary school teachers in the treatment condition had more positive attitudes toward the peer mediation program than did the teachers in the control condition, and there were weak differences between the middle and high school teachers in the two conditions. When peer mediators were poorly trained, they were likely to be viewed as policemen and disliked by many of their peers (Emerson, 1990). Jones and Carlin (1994) found that disputants who went through mediation stated they would use it again and would recommend it to their friends. McCormick (1988) found that all the students who directly participated in the program as either peer mediators or disputants were positively affected. Roderick (1989) found that 86% of responding teachers reported they had more positive attitudes about conflict as a result of having their students participate in a peer mediation program. The Ohio Commission on Dispute Resolution and Conflict Management (1996) compared two K–8 suburban schools, one with and one without a conflict resolution program, and found that in the treatment school students were more willing to stop a fight, were less likely to think people deserved to be beaten up, were more willing to try to stop friends from fighting, and had more confidence in their ability to help themselves and others solve problems.

Overall, there is some reason to believe that well conducted conflict resolution and peer mediation training will result in more positive attitudes toward conflict and toward the training itself.

School Climate

Several studies administered questionnaires to students and found no significant differences in school climate from pre- to post-implementation (Crary, 1992; McCormick, 1988; Stern & Van Slyck, 1986). In two schools, peer mediators' perceptions of school climate changed dramatically for the better, as did the teachers' perceptions of the school climate (Crary, 1992; Stern & Van Slyck, 1986). In a survey of administrators in charge of discipline in California high schools, Sherrod (1995) found that the majority of respondents believed the peer conflict management programs improved the school climate. Roush and Hall (1993) found that responses by teachers to a questionnaire on peer mediation effectiveness indicated that when the mediators were on the playground, there was a noticeable decrease in arguing among students and an improved playground climate. Teachers and principals participating in the Teaching Students to Be Peacemakers Program and the parents of participating students reported that conflicts among students became less severe and destructive and that the classroom climate therefore became more positive (D. W. Johnson, R. Johnson, & Dudley, 1992; D. W. Johnson et al., 1994; D. W. Johnson, R. Johnson, Dudley, & Magnuson, 1995).

Psychological Health, Self-Esteem, Self-Regulation, and Resilience

The ability to manage conflicts constructively is an essential aspect of psychosocial health and adjustment (Hinde, 1979; D. W. Johnson, 1975). Without the ability to manage conflicts, children can easily become socially isolated, which is associated with behavioral maladjustment (D. W. Johnson & Norem-Hebeisen, 1977). Deutsch (1992; Zhang, 1994) reported an investigation on the effects of conflict resolution and cooperative learning training in three New York City alternative high schools that specialized in students at risk. A student survey was given at different times during the training, systematic observations were conducted, and interviews were conducted. Students improved in ability to manage their conflicts, and they experienced increased social support and less victimization from others. This improvement in their relations with others led to increased self-esteem as well as a decrease in feelings of anxiety and depression and more frequent positive feelings of well-being. The higher self-esteem, in turn, produced a greater sense of personal control over their own fates. The increases in their sense of personal control and in their positive feelings of well-being led to higher academic performance. There is also indirect evidence that the training improved students work readiness and work performance. In the evaluation of the Resolving Conflict Creatively Program conducted by the Metis Associates (1990), 84% of surveyed student mediators agreed that being a mediator helped them understand people with different views and learn valuable life skills.

Engaging in conflicts can decrease untrained students' self-esteem. Krappmann and Oswald (1987), in their study of 10- and 12-year-old German children, found that in 45% of conflicts the feelings or self-images of one or both students were physically or psychologically hurt, even if they eventually worked out solutions to the conflicts. Opotow (1991) found that as conflicts lingered, they generated self-doubt and undermined self-esteem and self-confidence of seventh graders.

On the other hand, several studies have documented that conflict resolution and peer mediation training result in increased self-esteem. Teachers see students as having improved self-esteem as a result of a conflict resolution and peer mediation program (Gentry & Benenson, 1993; Greenawald & Johnson, 1987; Metis Associates, 1990; K. Miller, 1993). Other studies have found no significant gain in self-esteem (McCormick, 1988), others found gains only for male mediators (Stern & Van Slyck, 1986), and still others found a trend toward improved self-esteem but no statistically significant differences (Crary, 1992). Roush and Hall (1993) found that eight middle school students who took an elective course in conflict resolution skills showed a significant increase in self-concept. Burrell and Vogl (1990) reported that students felt high self-approval for being mediators because of the satisfaction they received from helping their peers resolve problems, and teachers reported that the self-esteem of mediators increased. Cooper and Cooper (1992) found that the adolescents who were most successful in resolving conflicts constructively with peers reported the most positive self-esteem. Roderick (1989) found 87% of responding teachers reported that students' self-esteem increased, and 86% of the teachers reported increases in their own self-esteem.

Maxwell (1989) pointed out that peer mediation programs are really about engaging students in self-regulation. Self-regulation is fostered in students when they are given the opportunity to participate in decisions relating to their own

lives. Involvement in decision making develops responsibility, self-discipline, and self-directed behavior—that is, self-regulation. Finally, children who were identified as resilient (capable of recovering from a stressful event) were characterized by the ability to resolve conflicts in a problem-solving way (Garmazy, 1991).

While destructively managed conflicts decrease students' self-esteem and promote social isolation and maladjustment, the ability to resolve conflicts constructively tends to increase psychological health, self-esteem, self-regulation, and resilience. In many ways, being skillful in integrative negotiations and mediation is a developmental advantage that enables students to build and maintain healthy relationships with others.

Discipline Problems, Fights, and Suspensions

Given that students learn the integrative negotiation and peer mediation procedures, retain that knowledge over time, are able to apply the procedures to conflicts, and spontaneously transfer the procedures to nonclassroom and nonschool conflicts, conflict resolution and peer mediation training should result in reduced discipline problems and suspensions. Students' success in resolving their conflicts constructively should result in reduced numbers of student-student conflicts referred to teachers and administrators, which, in turn, should reduce suspensions. There are numerous studies in which teachers, administrators, and students were interviewed about their perceptions of the outcomes of the conflict resolution and peer mediation training.

In an elementary school, D. W. Johnson, R. Johnson, and Dudley (1992) reported an 80% decrease in the frequency of student-student conflicts that teachers had to manage and a reduction in principal referrals to zero in the classes participating in the conflict resolution and peer mediation program. Meek (1992) evaluated a conflict resolution program in New York City by conducting a survey of 130 teachers and found that 71% reported a reduction of physical violence in the classroom, 66% heard less name calling and fewer verbal put-downs, and 69% saw increased student willingness to cooperate with each other. Meek reported a 50% decline in student assaults. Roush and Hall (1993), in a study of 38 fourth graders, 55 fifth graders, and 52 sixth graders who participated in a conflict resolution program, found that the number of misconduct slips handed out on the playground decreased significantly. Responses by teachers to a questionnaire on peer mediation effectiveness indicated that when the mediators were on the playground, there was a noticeable decrease in arguing among students and an improved playground climate.

In secondary schools, Millhauser (1989) reported that a peer mediation program reduced the drop-out rate. McDonald and Moriarty (1990) reported a reduction in the suspension rate. Cheatham (1989) reported a 46% to 70% reduction in suspensions for fighting. Sadalla et al. (1990) reported a 75% drop in the number of incidents referred to the principal. Schumpf et al. (1991) reported that more than 200 disputes per year were resolved with a 96% to 100% success rate. In Greenawald and Johnson's (1987) study, teachers and administrators reported that a peer mediation program had a great deal of impact in reducing violence. Finally, Meek (1992) reported a 50% decline in student assaults.

Conbere (1994) reported that in the first year of the implementation of a peer

mediation program in a high school in Minneapolis, the number of suspensions dropped from 459 to 205, and the number of violent incidents dropped from 107 to 51. McCormick (1988) reported that in 1 year of a peer mediation program there was a 51% decrease in self-reported use of aggression by students and a 47% decrease in officially reported use of aggression. Stern and Van Slyck (1986) reported that 74% of disputants reported that they would have had a fight if they had not been referred to mediation. Araki (1990) found no changes in rates of retention, suspension, dismissal, offenses, and absenteeism at three Honolulu schools.

In a study of the effectiveness of a peer mediation program by Tolson, McDonald, and Moriarty (1992), 14 students were selected according to their grade point averages and their recognized leadership skills and trained as mediators. Students involved in conflicts were randomly assigned to either a traditional discipline program (24 in all) or to a pair of trained peer mediators (28 in all). Mediation significantly reduced referrals for interpersonal problems, but did not affect the number of overall disciplinary referrals. Peer mediators were perceived to be fair, useful, and skilled in 75% of the cases.

Sherrod (1995) conducted a statewide survey of high schools in California and obtained a 74% response from the "administrator in charge of student discipline." Over 70% of the respondents indicated that student peer conflict management programs reduced the incidence of student suspensions, and more than one third perceived the programs as reducing the frequency of student expulsions. A majority of the respondents also perceived the peer conflict management programs as reducing school violence, classroom disruptions, and repeat referrals and suspensions. Davis (1986) reported on the School Mediators Alternative Resolution Team in a high school in Long Island City in Queens, New York. During a 2-year period, 260 disputes involving over 620 students were resolved through mediation. Follow-up interviews showed that 90% of the mediated agreements were upheld. Suspensions for fighting dropped from 63 (in the 1982–1983 school year) to 34 (in 1983–1984) to 18 (in 1984–1985). Tolson, McDonald, and Moriarty (1992), in a study of a suburban high school that serviced 1,070 students in Grades 9 through 12, found that the number of referrals for interpersonal problems was reduced by a peer mediation program and that males receiving mediation did better than females.

McCormick (1988) used a pre-post research design to assess the effect of the Wakefield Peer-Mediation Program and found that the number of in-school fights was diminished by approximately one half (official referrals for fighting decreased 47%, and students' responses to a questionnaire indicated a 51% decrease). Roderick (1989) studied a peer mediation program in an elementary school in Brooklyn and found that 87% of the teacher respondents noted less physical violence in their classrooms, decreased use of verbal put-downs, and students' spontaneous use of conflict resolution skills. Eighty-six percent of responding teachers also reported changes in their own use of listening skills and conflict resolution procedures in both their classrooms and personal lives. Bradley (1989) reported that the peer mediation program in the Warwick Valley school district resulted in a decrease in the number of student fights in the high school. Burrell and Vogl (1990) reported that teachers noticed less fighting and disruptive behavior in inner-city Milwaukee middle and high schools as a result of their peer

mediation program. Koch and Miller (1987) found that a peer mediation program at the middle school level decreased fighting and disruptive behavior.

The Metis Associates (1990) reported findings from an evaluation of the Resolving Conflict Creatively Program implemented in the 1988–1989 school year at selected schools in New York City. They found that 70% of responding teachers observed that to a moderate or great extent children were demonstrating less physical violence in the classroom. Sixty-six percent of responding teachers observed less name-calling and fewer verbal put-downs among children. Sixty-three percent of responding teachers observed an increase in use of supportive comments. Sixty-nine percent of responding teachers reported that students had an increased willingness to cooperate. Seventy-eight percent of responding teachers observed more caring behavior. Seventy-one percent of responding teachers observed increased skill in understanding other points of view.

Parkhurst (1988), in a study of a conflict resolution program in Grades 4–6 that involved teacher surveys and teacher observations, found an 80% decline in aggressive behavior and number of conflicts and an 80% increase in students' ability to solve problems peacefully. Maday (1988) reported on an evaluation of a peer mediation program in the sixth grade at Miles Elementary School. During the 1986–1987 school year, half of the sixth graders received instruction in ways to settle disputes peacefully, and 18 students were selected randomly to take 10 hours of advanced conflict manager training. At the end of the year, the principal reported no referrals of the trained students; the trained students perceived (a) their teachers as viewing them more favorably and (b) themselves as having engaged in fewer delinquent actions (such as physical violence, theft, and drug use). Teachers perceived the trained students as being more able to relate to adults and express themselves, and teachers believed that the program helped students become more assertive and verbal. Surprisingly, trained mediators did shout and swear at the teachers more frequently.

Umbreit (1991) investigated the effectiveness of mediation in a New York City school and found that suspensions decreased by 50%. Ferrara (1994) reported that a conflict resolution and peer mediation program reduced the number of suspensions. Berlowitz and Kmitta (1993), in an evaluation of a conflict resolution program in a Midwestern, inner-city elementary school, found that while the conflict resolution training had no overall effect in reducing discipline referrals or suspensions, the more experienced trainer had fewer discipline referrals originating from her classroom than did the less experienced trainers. Kmitta (1996) examined the impact of the students' Creative Response to Conflict Program during the 1993–1994 school year and found no significant differences between the experimental and control schools on overall discipline problems, although there was a nonsignificant trend toward reducing the most aggressive types of behaviors and the number of suspensions. In a study of a conflict resolution curriculum used in a Detroit school, Hammond and Yung (1991) reported that teachers and students perceived students as engaging in fewer violence-related school behaviors. Project Smart (1989) reported that suspensions dropped by 11%. Singer (1991) concluded that peer mediation decreased disruptive behavior in schools sharply and resulted in major decreases in suspensions. Jones and Carlin (1994) found that conflict resolution and peer mediation programs resulted in improved interpersonal communications. The Ohio Commission on Dispute

Resolution and Conflict Management (1996) evaluated programs in over 30 schools in rural, suburban, and urban Ohio communities. They found that in one high school, the more frequent the peer mediation sessions, the fewer the in-school suspensions. A middle school reported a 50% decrease in suspensions (due to decreases in fighting, unruliness, and truancy) the year after a student peer mediation program was established. That decrease continued over the next 2 years, while the suspensions steadily increased at a similar middle school without a peer mediation program.

The results of these studies provide considerable evidence that conflict resolution and peer mediation programs do decrease discipline problems, violence, referrals, detentions, and suspensions. The data, however, should be interpreted with considerable caution. Most conflict resolution and peer mediation programs do not provide data about their impact on discipline problems, and, therefore, the data that are reported may not be representative. The data that are reported suffer from being correlational, self-report, and testimonials by individuals who are committed to the continuation of the programs. Conceptual models detailing how the conflict resolution and peer mediation programs result in less violence, fewer discipline referrals, fewer suspensions, and fewer discipline problems generally have not been specified. While the data presented are suggestive and promising, very few carefully controlled and thorough research studies have been conducted.

In addition to these problems, the data are suspect due to the lack of clear definition of the dependent variables. Concepts such as fight, discipline problem, referral, and suspension are ambiguous and may be defined in quite different ways by different researchers and different teachers; therefore, it is difficult to compare findings across studies. Third, several of the studies that reported a drop in the number of suspensions after a peer mediation program was implemented used peer mediation as an alternative to suspension. The claim that peer mediation reduced suspension in those cases is therefore meaningless, because any alternative to suspension would have caused a decrease in the number of suspensions. Finally, the wide diversity of conflict resolution and peer mediation programs makes it difficult to summarize their impact on dependent variables. What does it mean when the conclusion is reached that conflict resolution and peer mediation programs are effective because both Program A (learning about the nature of nonviolence) and Program B (learning communication skills) result in fewer suspensions? The heterogeneity among programs may increase the generalizability of the effect, or the issue of comparing apples and oranges may be raised. It is difficult to reach strong conclusions when there is ambiguity about the nature of (a) the programs being studied and (b) the dependent variables.

Impact of Conflict Resolution Training on Teachers, Principals, and Parents

There have been a few studies that examined the impact of conflict resolution and peer mediation training on teachers, principals, and parents (D. W. Johnson, R. Johnson, & Dudley, 1992; D. W. Johnson et al., 1994; D. W. Johnson, R. Johnson, Dudley, & Magnuson, 1995). The participating teachers and the school principal were interviewed in each study. All endorsed the conflict resolution and peer mediation program. The teachers, principals, and parents reported that students managed their own conflicts more constructively and independently and that the teachers and the principal therefore spent much less time resolving conflicts

among students. Also, they reported that parental interest in the program was significant and positive.

Summary

The wide variety of conflict resolution and peer mediation programs that are being implemented in schools may generate a number of different outcomes. The evidence gathered by researchers indicates that students tend to perceive both negative and positive outcomes of conflict, and before training students often leave conflicts unresolved. After training, students tend to resolve conflicts through discussion and integrative (rather than distributive) negotiation procedures, students' attitudes toward conflict and the school climate tend to be more positive, students psychological health and self-esteem tend to increase, discipline problems and suspensions tend to decrease, and school personnel and parents tend to become more positive towards the program. Peer mediation almost always produces a workable and stable (but often simple) agreement. The integration of conflict resolution training into English literature units tends to increase students' academic achievement. Outcomes that have not been documented in these studies are students' affect (negative versus positive), emotional investment in the relationship, perceived fairness of the agreement, whether interaction is discontinued or continued, and the quality of the relationship after the conflict is resolved.

Critique of Research: What Confidence Can We Have in Our Knowledge?

Conflict resolution and peer mediation programs have advanced significantly over the past decade. While practice has moved quickly (the number of schools in which programs may be found has multiplied), research and evaluation have lagged behind. There is a gap between practice and research. This article is an attempt to reduce that gap by gathering what is known about conflict resolution and peer mediation programs into one review. From this review of research it may be clearer what we do and do not know about the effectiveness of conflict resolution and peer mediation programs and their impact on students and schools. What we do not know, however, may far outweigh what we do know. It is safe to say that this area of inquiry is in its infancy.

There are numerous problems with the research that does exist on conflict resolution and peer mediation programs. Many of the problems have been noted throughout this review. There are several other issues, however, that need to be raised concerning conceptual and methodological problems, length of study, reasons for problems, and the strengths of the research as a whole (see Figure 1).

Theoretical and Conceptual Problems

The first and most important problem with the research is the lack of a theoretical base for most of the programs. The use of conflict resolution and peer mediation programs in the schools is a classical example of practice being developed separate and apart from the relevant theory and research. The programs originated by nonviolence advocates, anti-nuclear-war activists, and lawyers were developed on models other than the theories of constructive conflict.

This separation from theory creates considerable ambiguity in defining the nature of the programs being implemented (i.e., the independent variable), and it is therefore difficult to assess their effectiveness. Without knowing what exactly

is taught to students and how it is taught, (a) the program cannot be replicated because there is no way to standardize the treatment, and (b) there can be no way to determine which aspects of the program had what effect on the dependent variables. Programs differ widely, from studying the life of Gandhi and the nature of nonviolence to learning communication skills to learning how to negotiate to learning how to mediate. There has been little attempt to identify and assess the relative contribution of the components of conflict resolution and peer mediation programs to the program's impact on the dependent variables. Common and differing elements among the various programs have not been identified. Even control groups cannot be effectively designed if the nature of the program is not clear. Until conflict resolution and peer mediation programs are clearly defined, their effectiveness cannot be reliably assessed.

In addition to the ambiguity about the definition of the independent variable (the nature of the program being implemented), there is ambiguity concerning the nature of many of the dependent variables. What is and is not a fight, what is a discipline problem, what constitutes a referral, when does suspension take place, and what is a constructive resolution of a conflict may all be defined in quite different ways by different researchers and educators. At the very least, ambiguity in the definition of dependent variables makes it difficult to (a) determine what is to be measured, (b) plan how to measure it, and (c) compare findings across studies.

A third problem with ambiguity concerns the nature of the mediating variables. In many cases there is not a direct relationship between the independent and dependent variables. Training in communication skills does not automatically result in fewer violent acts against classmates. Having one's conflict with a schoolmate mediated does not necessary improve one's ability to resolve conflicts constructively in the future. The variables that mediate the relationship between conflict resolution training and the frequency with which one manages conflicts in constructive ways need to be identified and clearly defined so that they can be measured. Students' commitment to use the procedures taught and students' self-efficacy concerning their use of the procedures, for example, may affect the relationship between the program and the dependent variables.

Finally, there is a general failure in many of the studies to build a bridge between the findings of the study and the field of conflict resolution. The studies do not test theory and therefore have very limited value in the long run. The theorizing and research on mediation in international relations, labor-management disputes, divorce, child custody, criminal and victim reconciliation, and so forth have by and large not been utilized in the studies on peer mediation in schools. The training programs used in schools could use the whole field of conflict resolution as a foundation, but instead they tend to stand separate and apart from more theoretical work.

Methodological Problems

There are numerous methodological problems that reduce the confidence one can have in the results of the research studies. While many of the studies reviewed have high external validity (they were conducted in actual classrooms and schools), they have low internal validity. They did not randomly assign students to conditions, rotate teachers and trainers across conditions, use equivalent curriculum and

activities in all conditions, and utilize behavioral measures of the mediating and dependent variables. Many of the studies were short-term case studies with no control conditions, which limits the generalizability of the results. Even quasi-experimental designs are hard to find in the literature. Many of the studies included small samples of nonrepresentative students selected by teachers to be peer mediators. Many studies relied entirely or primarily on self-report data that included the respondents' ability to recall past events. For these and many other methodological reasons, the conclusions in most of the studies must be accepted very tentatively.

Many studies suffer from using dependent variables with low or unknown validity and reliability. A set of dependent measures needs to be developed and utilized that can then be used in a number of different studies so that their results can be compared. It is difficult to compare the results of different studies because they used different measures of the dependent variables. Valid and reliable measures of the dependent variables need to be developed and used in several different studies so that their results can be compared in a more systematic way.

There are problems with the limited nature of the dependent variables. The impact of constructively and destructively managed conflicts on disputants needs to be assessed. Destructively managed conflicts, for example, may be hypothesized to lead to depression, anxiety, behavior problems, and increased aggression, and constructively managed conflicts may be hypothesized to lead to greater ego strength, resilience, self-esteem, and happiness, but there are few data to confirm or disconfirm these hypotheses.

Finally, there is a problem with the scarcity of studies that actually document what takes place both in conflicts among students and in peer mediation sessions. Careful, moment-to-moment analyses of the patterns of interaction that lead to constructive and destructive outcomes both among disputants and between the disputants and the mediator need to be conducted.

Lack of Long-Term and Programmatic Studies

With two or three exceptions, there is a lack of systematic research programs in which a series of carefully designed and cumulative studies are being conducted. Most of the studies in this area are conducted as single studies that are not replicated or extended.

In addition, there are few longitudinal studies on (a) the impact of the training on participants and (b) the fidelity of the program over time. The issue of how learning to manage conflicts or mediate schoolmates' conflicts influences conflict management and relationships years later has never been explored. Do students utilize the procedures they were taught one year after the training? Two years? Ten years? The answers are unknown. Correspondingly, there are few studies of how well programs have been implemented and continued over several years.

Reasons for Problems

There are reasons why many of the studies are so poorly conducted. Most of the educators implementing conflict resolution and peer mediation programs do not have the resources to (a) hire research personnel to conduct careful and long-term evaluations or (b) obtain the training, time, assistance, and materials needed to conduct the research themselves. Many of the current studies are based on the

efforts of dedicated educators who were willing to work far beyond what they were paid to do in order to help create a safe and orderly environment for learning and make a contribution to their students' future by teaching them how to resolve conflicts constructively. The hard work and dedication of the many people who have implemented the programs and conducted the studies discussed in this review need to be recognized.

Strengths

Finally, it should be noted that just as there are numerous problems with the research, there are also strengths. The wide variety of studies conducted by many different people in different schools in different parts of the country and in several different countries adds considerable generalizability to the results. The variety of methodologies used in conducting the research gives the research added generalizability. As this review demonstrates, there is the beginning of a productive and fertile field of inquiry that has immediate practical application in schools.

Summary

Conflict resolution and peer mediation programs are being initiated in many school districts in response to the increasing frequency and severity of conflicts among students. These programs have been originated by researchers in the field of conflict resolution, advocates of nonviolence, anti-nuclear-war activists, and members of the legal profession. Despite the popularity of the programs, the claims of effectiveness by advocates are largely untested. Conflict resolution and peer mediation programs focus on managing conflicts of interest constructively. A conflict of interests exists when the actions of one person attempting to reach his or her goals prevent, block, or interfere with the actions of another person attempting to reach his or her goals (Deutsch, 1973). Both human development theories (psychoanalytic and cognitive developmental theories) and social psychological theories (social interdependence, structure-process-attitude/behavior, conflict strategies theories) posit that conflict is a necessary and positive aspect of human development and relationships.

While conflict holds both peril and promise for mutual success and social relationships, many of the advocates of conflict resolution and peer mediation programs point towards the perils of untrained students managing conflicts in destructive ways (as reflected in increasing violence in society and the schools). Actual data on the nature of conflicts in schools, however, have been lacking. At least 14 studies have been conducted on the types of conflicts students face in schools. Common types of conflicts are verbal harassments, arguments, rumors and gossip, physical fights, and dating/relationship issues. The occurrence of physical violence in schools may not be frequent, but the frequency of other forms of destructive conflicts among students should be of concern to educators.

In order to ensure that students manage conflicts in constructive ways, the classroom and school environments should provide a cooperative (not a competitive/individualistic) context. Within cooperative situations, communication tends to be open and honest, perceptions tend to be accurate and constructive, trust is built and maintained, and disputants are oriented toward maximizing joint outcomes. Within competitive situations, communication tends to be nonexistent or misleading, misperceptions are common, suspicious and hostile attitudes are

present, and disputants strive to maximize their own gain at the expense of others. Problems exist in managing conflicts when the context is competitive/individualistic or when the context and the conflict resolution procedures are incongruent. The effectiveness of a conflict resolution and peer mediation program may be limited when the classroom and school context is competitive.

One of the best predictors of the outcomes of conflict is the strategy a disputant uses. The existing research indicates that untrained students of all ages rely on withdrawal and suppression of conflicts or use aggression for coercive purposes. Untrained students almost never use integrative negotiation procedures or strive to solve the problem on which a conflict is based. Older, more cognitively mature students may use reciprocation and cooperation more frequently in managing their conflicts than do younger students. Overall, there tend to be no differences in the conflict strategies used by untrained males and females. After participating in conflict resolution or peer mediation training, students tend to know the integrative negotiation and mediation procedures, retain that knowledge months after the training has ended, be able to apply the procedures in conflict situations, and spontaneously transfer the procedures to nonclassroom and nonschool situations. When placed in a situation in which either a distributive or an integrative negotiation procedure could be used, trained students tend to use the integrative procedure.

A wide variety of outcomes of conflict resolution and peer mediation programs have been investigated. Generally, students perceive both negative and positive outcomes of conflict. Before training, students often leave conflicts unresolved. After training, students tend to resolve conflicts through discussion and integrative (rather than distributive) negotiation procedures, students' attitudes toward conflict and the school climate tend to be more positive, students' psychological health and self-esteem tend to increase, discipline problems and suspensions tend to decrease, and school personnel and parents tend to become more positive toward the program. Peer mediation almost always produces a workable and stable (but often simple) agreement. The integration of conflict resolution training into English literature units tends to increase students' academic achievement.

While there are numerous problems with the research on conflict resolution and peer mediation programs, there can be little doubt that conflicts among students do occur frequently in schools and that untrained students by and large use conflict strategies that create destructive outcomes by ignoring the importance of their ongoing relationships. Conflict resolution and peer mediation programs do seem to be effective in teaching students integrative negotiation and mediation procedures. After training, students tend to use these conflict strategies, and constructive outcomes tend to result. Students' success in resolving their conflicts constructively tends to reduce the numbers of student-student conflicts referred to teachers and administrators, which, in turn, tends to reduce suspensions. There is still, however, a long way to go before conflict resolution and peer mediation training is managed constructively in every classroom and school.

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Authors

DAVID W. JOHNSON is Professor of Educational Psychology, University of Minnesota, 60 Peik Hall, 159 Pillsbury Drive, Minneapolis, MN 55435; johns010@maroon.tc.umn.edu. He specializes in social psychology.
ROGER T. JOHNSON is Professor of Education, University of Minnesota, 60 Peik Hall, 159 Pillsbury Drive, Minneapolis, MN 55435; johns009@maroon.tc.umn.edu. He specializes in science education.

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