

**SMART Team:**  
***Students Managing Anger & Resolution Together***

**Program Description, Theoretical Background, and Evaluation Research**

**LMS<sup>TM</sup>**

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**Program Title:** *SMART Team (Students Managing Anger & Resolution Together)*  
(initial evaluations published under the title *SMART Talk*)

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### Program Type

- Prevention curricula—violence prevention, conflict resolution, social competency, decision making skills
- Counseling/therapeutic interventions—group counseling

### Type of Prevention

- Universal—Universal prevention interventions address the general public or a whole population group without distinguishing those exposed to high levels of risk from those who are not.

### Sources and Levels of Development Funding by Year:

Supported by a three-year cooperative agreement with the Centers for Disease Control and Prevention, National Center for Injury Prevention (Grant No. U81/CCU510049-03), 1993–1996.

### Intended Population:

**Ages:** Grades 5–9 or roughly ages 11–15

Male:  Female:   
American Indian:  African American  Asian/Pacific Islander   
Caucasian:  Hispanic/Latino  Other (specify): \_\_\_  
Preschool: \_\_\_ Elementary: \_\_\_ Middle:  High school: \_\_\_  
Parents: \_\_\_ Students:  Other Community Members: \_\_\_

**Implementation Site:** The software was designed for and evaluated in a school setting. It could also be used in any organized setting such as an after-school program or teen center.

Before school  During school  After school \_\_\_ Weekends

### Risk and Protective Factor Domains Positively Changed (check all that apply)

\_\_\_ Community  School \_\_\_ Family  Peer  Individual

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## B. Abstract

*SMART Team* is a multimedia program designed for universal prevention with students in grades 5–9. Its primary setting of use is in schools, with students using the software independently, either alone or in pairs.

The modules can be used in sequence or independently, because key concepts are reinforced throughout the components. In accordance with Dreyfus and Dreyfus's skill acquisition model, the software accommodates students' learning needs at various stages of mastery. Numerous teen and adult role models are incorporated following Bandura's social learning theory. Anger replacement therapy guides module content. Skills taught are dispute resolution (including a module that two students can use to resolve an ongoing conflict), and perspective taking (identification of other people's thoughts and feelings). The content of *SMART Team* is aligned with commonly used conflict-mediation curricula, and integrates well with other violence prevention strategies a school may implement.

Ten teenage mediators consulted in development, vetting the relevance of the scenarios and scripts. A variety of games and interactive components encourage self-reflection and use of newly learned strategies in authentic scenarios. In pilot and evaluation testing, more than three-quarters of subjects agreed that the software was enjoyable to use, informative, and taught them many ways to solve a conflict.

A pilot study with 102 seventh graders showed increases in knowledge, self-knowledge of how personal behavior might escalate a conflict, frequency of prosocial behavior, and intentions to use nonviolent strategies. The percentage of students who reported getting into trouble dropped dramatically.

A full-scale evaluation was completed with matched intervention and control groups ( $n = 558$ , grades 6, 7, and 8). Significant effects were increased intentions to use nonviolent strategies and self-knowledge, and decreases in beliefs supportive of violence.

Computer instruction has several advantages for replication. It is not subject to variability in implementation; users can control the timing, pacing, and content of instruction; they can revisit lessons at will; and the computer provides a confidential format for obtaining information. The training needs for *SMART Team* are minimal and the cost moderate.

## C. Narrative

### 1. Intended Population

*Smart Team* is designed for students in grades 5 to 9. As a universal prevention program, no particular group or subpopulation is targeted. The program has been pilot tested and evaluated in large middle schools with diverse socioeconomic populations. Evaluation results revealed no differences in use rates based on gender, ethnicity (84% were Caucasian), or eligibility for free/reduced-price lunch (used as a measure of socioeconomic status) (Bosworth et al., 1999).

The software has been marketed primarily to schools, so typically has been used in the school setting. Potentially, the program could be used in other settings such as community agencies. Because the program is simple enough for students to use independently, the sole constraint on setting of use is presence of the necessary computer hardware (Macintosh with CD-ROM drive). Within schools, the software has been loaded on computers located in individual classrooms, computer labs, and counselors' offices.

### 2. Program Goals and Rationale

*SMART Team* is designed to achieve the following outcomes:

- Increase students' repertoire of nonviolent conflict resolution strategies (increase in knowledge)
- Increase students' knowledge about what triggers their anger (increase in self-knowledge)
- Increase students' confidence in their ability to use nonviolent strategies (increase self-efficacy)
- Increase students' reported intentions to use nonviolent strategies in the future (increase positive intentions)
- Decrease incidents of violent behavior (reduce aggression)
- Increase acts of prosocial behavior (increase altruism)

The theoretical underpinnings of the instructional design are twofold:

1. **Skill Acquisition Model** (Dreyfus & Dreyfus, 1986) postulates five stages of learning a new skill, from novice to expert. Learners' needs are different at each stage, with novice learners requiring specific rule learning. Advanced beginners begin to explore situations and apply rules differentially based on aspects of the situation. At the stage of competence, individuals are able to analyze the entire situation to select a plan of action. At the proficiency stage, learners can recognize a situation intuitively based on experience but need to consciously select a plan of action. Finally, experts are able to understand the situation, select and carry out a plan, and learn from the experience without conscious thought.

*How skill acquisition is applied in SMART Team:* The "What's Anger" module gives a didactic presentation of the Anger Replacement Model (novice). "Triggers and Fuses" has users apply this to their personal situations through identifying what triggers their anger and how likely they are to lose control (advanced beginner). "Anger Busters" provides specific strategies for coping with angry situations (advanced beginner). A capstone game in which students practice anger management skills in authentic situations (competence-proficiency) is provided in "Channel Surfin'." In addition, the software is designed to be fun and engaging, increasing chances that users will return to it repeatedly. After an initial use, the student may experience a conflict situation, become angry, then realize later that he or she could have applied SMART strategies. The student may then return to *SMART Team* for additional practice in light of his or

her personal experience. With increasing experience, students become both more competent in using strategies and more likely to attribute success to their own abilities rather than luck or chance (Strecher, DeVellis, Becker, & Rosenstock, 1986).

2. **Social Learning Theory** (Bandura, 1986) highlights the importance of social modeling in learning behaviors. According to Bandura, children observe the verbal and nonverbal behavior of role models. If the role model has status and the action is perceived as having a positive consequence, then the child is likely to imitate that behavior in similar situations. For role models to be effective, two conditions are required. First, the child must perceive that the model exerted considerable effort in overcoming a difficult situation. Second, the child must perceive the model to be similar to himself in several characteristics (e.g., age, sex). If both conditions are met, the model is “credible;” that is, the child perceives that he or she could perform a similar task in a difficult situation.

*How social learning theory is applied in SMART Team:* Throughout the program development process, the authors consulted with a panel of 10 teen advisors who were experienced conflict mediators; the panel represented various ethnic and socioeconomic backgrounds. The input of these advisors was compiled into four characters who appear throughout the modules. On first use, students are introduced to these four characters through short biographical sketches. At various points through the modules, students can click on an “Advice” button to get feedback from these characters about how they would handle a situation. A complete module is devoted to teen interviews, in which students can choose questions to ask the teen panel about conflict mediation and their personal experiences as mediators. Another module, “Celebrity Interviews,” is similar except that students can ask four adult celebrities (a football player, a recording artist, a comic book illustrator, and a columnist for a teen magazine) about their experiences with anger and conflict and how they feel about their life experiences as adolescents. The information in the game scenarios is all drawn from adolescent teen mediators, and thus chances are great that students using the program will have had similar personal experiences (personalizing the information and adding to the impact of the models).

Students acquire three categories of skills emphasized throughout *SMART Team*:

1. **Anger Replacement Therapy** (Goldstein & Glick, 1987) is a skill-building program originally designed for violent and delinquent adolescents. ART combines a psycho-educational intervention with anger-control training and moral education. The underlying premise is that violent youth are deficient in prosocial behaviors, such as negotiating differences; responding effectively to teasing, mistakes, rejection, or anger; and helping others.

*How Anger Replacement Therapy is applied in SMART Team:* In the “What’s Anger” module, students learn didactically about the anger model presented in ART. “Triggers and Fuses” gives students an opportunity to identify the events and situations that are most likely to trigger anger in them. In “Anger Busters,” students learn general guidelines for confronting an angry person or coping with their own anger (e.g., use humor, use “I” statements). Finally, “Channel Surfin’” combines and integrates these components in a game format that allows students to choose thoughts or actions and see the consequences of those choices.

2. **Dispute Resolution** teaches students negotiation and compromise to resolve a dispute situation. The content was determined by reviewing numerous popular conflict-mediation programs, identifying the aspects most appropriate for use in a computer format, and modifying the process to operate as an interactive interview on computer. Among programs consulted were *Mediation for Kids* (1990), *Mediation: Getting to Win Win!* (1994), *Peace Patrol* (1994), *Peer Mediation:*

*Conflict Resolution in Schools* (1991), *Students Resolving Conflict: Peer Mediation in Schools* (1984), and *Conflict Resolution: An Elementary School Curriculum* (1990).

*How dispute resolution is applied in SMART Team:* Two modules address these skills: “Talking It Out” and “Teen Talk.” The former module operates in two modes. A single user accesses a screen giving the rules for dispute resolution and scrolls through the resolution of a sample conflict. If two users access the program together, the module has branching capabilities allowing them to enter a personal conflict, walk through the resolution process, and print out a contract. “Teen Talk” is an interactive interview with four teen mediators. Students can select questions to ask about the mediation process and these role models’ experiences as mediators.

3. **Perspective Taking** addresses students’ abilities to accurately identify other people’s feelings and recognize that they may be different than the student’s own feelings and perceptions. Lack of empathy and inability to make accurate attributions about the behaviors of others have been recognized as common deficits in violent children (e.g., Miller & Eisenberg, 1988; Parkhurst & Asher, 1992).

*How perspective taking is applied in SMART Team:* Two modules address perspective taking: “What’s on THEIR Mind” is a game show-type format. Users are presented with a hypothetical conflict situation in which they are to imagine being involved (e.g., a friend accuses you of having taken a book out of his locker). The users then have to select three possible things that the other person in the situation might be thinking and feeling. They receive points based on how many of 100 surveyed teens gave the same answer (allowing them to compare their perceptions with those of peers). The second perspective-taking module, “Celebrity Interviews,” introduces four adult role models. Students can select questions to ask these adults about their experiences with conflict and their memories of adolescence. These characters are designed to be competent and credible models of socially skilled behavior.

### 3. Program Description

When the program is opened, the user is asked to indicate whether one or two people are playing, and whether or not this is the first time of using the program. First-time users are introduced to the four teenage characters (based on actual mediators) who appear to give advice and feedback throughout the modules. These characters, illustrated to represent two males and two females of various ethnic backgrounds, act as peer role models to the students using the program. When students face decisions in the program, they can click on an “Advice” button to read the comments of these mediators.

From the introduction, the main menu appears, giving users eight icons representing their choices within the *SMART Team* program:

#### **Anger Management Modules**

**What’s Anger** is a short module using cartoon characters and animation to give a summary presentation of the ART model (a cognitive-behavioral intervention).

**Triggers and Fuses** is an interactive interview and assessment in which students rate the types of situations that are most likely to *trigger* anger in them (e.g., violation of personal space, being teased) and settings where they are most likely to have a short *fuse* (e.g., at home, at school). This is another cognitive-behavioral intervention designed to give students’ better understanding of their own reactions to situations.

**Anger Busters** presents general strategies for dealing proactively with an angry person or anger-producing situation (e.g., use humor, take a “detour” to give yourself time to regain control). For each strategy,



students are given an example conflict situation and asked to select a response that exemplifies using that strategy, giving an opportunity for social skills practice.

**Channel Surfin'** is a game that culminates the anger-management modules. Students "switch channels" to select a context (e.g., with family, with friends, romance) then are presented with situations in that setting (e.g., your boyfriend said to meet him at the gym, then he doesn't show). Students choose whether to think or act, then select thoughts or actions reflecting how they would proceed (a combination of cognitive-behavioral and social skills practice in a realistic setting). They are given feedback and awarded points based on the proficiency of their response. In pilot testing, this was the most popular module, accessed by 95% of students.

### **Dispute Resolution Modules**

**Talking It Out** is an interactive interview presenting the stages in conflict mediation (addressing mediation and conflict resolution). A single user can access a description of the stages of conflict mediation and an illustration of the process in a case example. Two users also have the option to enter a personal conflict, proceed through the steps of mediation, and print out a contract of agreement for its resolution. Of 17 pairs of students who used this module to resolve a dispute during pilot testing, 14 reported that they had resolved their problem and three of the pairs became friends as a result of the process; two pairs failed to resolve their dispute, and one disagreed, with one party feeling the conflict had been resolved and the other feeling it had not been and choosing to ignore the situation. None of these 17 students had any further conflicts during the semester of the pilot study.

**Teen Talk** is another interactive interview module in which users can ask questions of four high-school students who are experienced mediators (compiled from the actual stories of 10 teen mediators). These teens act as older peer models of highly competent dispute resolution.

### **Perspective Taking Modules**

**Celebrity interviews** is an interactive interview format. Four celebrities (a football player, recording artist, cartoonist, and columnist for a teen magazine) describe how they resolve conflict and handle interpersonal stresses (acting as role models). Students can select questions to ask the celebrities.

**What's on THEIR Mind** is a game show format addressing cognitive-behavioral skills. Users are presented with a hypothetical conflict situation in which they are to imagine being involved (e.g., a friend accuses you of having taken a book out of his locker). The users then have to select three possible things that the other person in the situation might be thinking and feeling. They receive points based on how many of 100 surveyed teens gave the same answer (allowing them to compare their perceptions with those of peers).

The content is presented with a *spiral curriculum design*. Thus, the same content information is woven through all the modules, allowing the modules to stand alone or be used in sequence. As demonstrated in the pilot study (see appendix), even students who did not access the didactic knowledge-based module ("What's Anger") were able to identify the correct definitions of conflict-management terms and principles (range 3% to 64% on pretest and 62% to 90% on posttest). This indicates that the authors achieved their intention of designing potentially stand-alone modules through any of which students can acquire a basic set of declarative knowledge.

In order to integrate *SMART Team* into other violence prevention strategies that may be used simultaneously in a school setting, the authors reviewed 11 commonly used conflict-mediation curricula and teased out the commonalities among them. The content of *SMART Team* was aligned with these common features, enabling it to be used either as a stand-alone program or in conjunction with another curriculum.

Several steps were taken to ensure that the content is relevant and engaging to young teens. First, electronic media, of which computers are one type, are inherently appealing to this age group (who may watch seven hours of television daily and are the primary consumer group targeted by video games; Hepburn 1995; Funk & Buchman, 1996); plus, cartoons, animation, and multiple opportunities for interactive learning retain users' interest. (Use of audio and video is limited in order to minimize the system requirements.) Games and simulations are presented in contexts familiar to teens (e.g., "Channel Surfin" which simulates television viewing. A panel of 10 teen mediators acted as consultants throughout the development process, suggesting scenarios and giving feedback on the relevance and credibility of the scripts. During pilot testing (see "Evaluation Outcomes" and appendix), seventh graders who used a field-test version of the software gave universally positive comments (e.g., "it makes you think a lot," and "it makes me more understanding of people"). These teens gave feedback about areas where directions were confusing, information which was used in revisions for the final published version.

The publisher, Learning Multi-Systems, Inc., is marketing the software in two formats: *SMART Team* contains the described software alone. *SMART/Cool* combines the software with three 11-minute violence videos from American Guidance Service. *SMART/Cool* is not described further here because no evaluation has been conducted on the video component, which is by different authors.

#### 4. Evaluation Outcomes

Two evaluation studies of this software have been completed (under the name *SMART Talk*; the program subsequently has been marketed under the name *SMART Team*). A pilot evaluation study (Bosworth, Espelage, & DuBay, 1998) was conducted in a small-town middle school, and an outcome evaluation was completed in a desegregated urban middle school (Bosworth et al. 1999). Both studies are contained in the appendix, together with a third article documenting baseline characteristics of the intervention and control groups (Bosworth et al. 1996).

##### **Pilot Evaluation Study**

A pilot study (Bosworth, Espelage, & DuBay, 1998) was conducted for the purpose of field-testing the software. Seventh-grade students in a small-city middle school had access to *SMART Team* for four weeks in their computer lab. After each use, students completed a short questionnaire about their satisfaction with the software and suggestions for improvement. In addition, 81 students completed the "Teen Conflict Survey" (Dahlberg, Toal, & Behrens, 1998) as a pretest/posttest to measure their knowledge and attitudes about violent and nonviolent conflict resolution. (Another 17 students who took the pretest did not take the posttest and had to be eliminated from the sample.) The survey contained items probing (1) declarative knowledge, (2) self-knowledge of how personal behavior can escalate or de-escalate a conflict, (3) number of acts of prosocial behavior in the last 30 days, (4) students' self-confidence in their ability to manage anger and deal with conflict, (5) intentions to use nonviolent strategies when faced with a conflict situation, (6) how many times students had been in trouble at home, at school, and in the community during the past 30 days, and (7) whether they enjoyed the computer program and would recommend it to a friend.

Chi-squares were used to analyze the difference in percentage of correct answers to the multiple-choice knowledge questions. Paired *t* tests were conducted to measure differences on the other dependent variables (self-knowledge, prosocial behavior, confidence, intentions, and trouble behavior).

During the pilot testing, 102 students used *SMART Team*, 17 of them twice (119 uses total); 41% of uses were by males and 59% by females. Nearly half the time, the software was used with two people at the computer. The modules used by more than half the students were "Channel Surfin" (95% used), "Triggers and Fuses" (61% used), and "Celebrity Interviews" (56% used); least popular was "What's Anger?" (34% used). Analysis of the dependent variables revealed the following results:

1. Correct responses on all four knowledge questions increased after computer use; two of the four items reached significance at the .05 level.
2. Students' self-knowledge of how certain behaviors may contribute to escalation of a conflict increased significantly ( $p = .01$ ). Specifically, the percentage of students who recognized that fighting would escalate a conflict increased from 43% to 77%, and those who recognized that talking would de-escalate the situation increased from 43% to 77%.
3. A significant increase ( $p = .01$ ) occurred in students' self-reported frequency of prosocial behavior. Twice as many students reported having helped another student solve a problem at posttesting (increasing from 15% to 30%).
4. Intentions to use nonviolent strategies also increased significantly ( $p = .01$ ). When presented with a hypothetical situation in which two students requested help mediating a conflict, 67% of students intended to have the pair establish rules for negotiation and 78% intended to have them explore a number of solutions (compared to 10% and 44%, respectively, at pretesting).
5. There was no significant difference in students' confidence in handling conflict situations nonviolently.
6. Significant decreases occurred in the percentage of students who reported getting into trouble. Increases were seen in students who reported *never* getting into trouble at home (13% to 32%), at school (33% to 44%), and in the community (6% to 54%).
7. In terms of their reactions to the software, 89% of students found it easy to use, 91% agreed it was enjoyable to use, 68% reported learning a lot, and 79% would recommend it to a friend.
8. Whereas some studies have shown that males are more likely to utilize electronic media, both males and females used the program and accessed a range of modules.

## **Outcome Evaluation Study**

### **Baseline Needs Assessment**

A pretest/posttest design with matched intervention and control groups was used to evaluate *SMART Team* (see below). At pretest only, students answered survey questions about their use of aggressive and violence related behaviors. These items documented students' baseline levels of violent behavior and need for intervention, as well as the comparability of the intervention and control groups (see Bosworth et al. 1996). The evaluation was conducted in a large middle school 10 miles from a major midwestern metropolis. The population was diverse socioeconomically (nearly 30% of students qualified for free or reduced-price lunch) and somewhat diverse racially (84% Caucasian, 9% African American, 3% biracial, 3% other). The school structure was such that each grade is divided into three learning teams, with students in a team taking the same courses and having limited contact with students from other teams. To minimize the potential for contamination between intervention and control groups, two learning teams were randomly assigned to the intervention condition, and the third to the control condition. Students who returned parental permission forms were included in the study, resulting in a sample of 558 students (intervention group  $n = 345$ ; control group  $n = 213$ ). The control group contained a disproportionate percentage of sixth-grade students (55%, versus 34% in the intervention group); no other significant differences were found between the groups in terms of ethnicity, gender, or socioeconomic status.

The entire sample of 558 students took a pretest measuring demographic, psychosocial, and environmental factors, as well as aggressive and other violence-related behaviors. Sixty-four percent of the sample reported frequently being angry in the past 30 days; 28% of students demonstrated high impulsivity scale

scores; and 15% showed high levels of depression. Asked about their access to weapons, 63% reported being able to get a gun easily, and 59% did not feel safe in their neighborhoods. In the past 30 days, 24% of students had been personally affected by violence. Separate one-way ANOVAs revealed no significant differences between intervention and control groups on any of these measures.

With regard to aggressive behavior in the past 30 days, 45% reported having threatened to hit the other party in a conflict situation, and 46% reported actually having hit someone. In the same time frame, 56% reported having gotten into trouble at school and 14% had done so in the community, while 88% self-reported having damaged or destroyed property. Nearly half the sample (48%) had a high incidence of caring behaviors, such as helping others, but on the other hand 29% had high scores on bullying behavior, and 38% had high scores for fighting. Again, no significant differences were found between the intervention and control groups on any of these measures.

### **Evaluation Design**

The outcome evaluation used a pretest/posttest with control group design. The intervention and control groups were as described in the previous section. However, 20 of the students who had taken the pretest survey did not take the posttest for various reasons, and three members of the control group had documented computer use with the intervention program. Thus the data from these 23 subjects were eliminated from analysis, leaving 321 members of the intervention group and 195 members of the control group.

The pretest/posttest data were assessed for the following five outcome measures. These measures were selected for analysis because of their hypothesized association with violence in the research literature: (1) self-awareness; for example, students' ability to calm themselves down or think about a conflict situation before acting (6 items); (2) beliefs supportive of violence; for example, whether students would hit back if someone hit them first (6 items); (3) self-efficacy, or confidence in using nonviolent strategies, such as staying out of fights (5 items); (4) intentions to use nonviolent strategies in a future conflict, such as talking out the problem (8 items); and (5) self-reported acts of aggression, such as pushing, grabbing, hitting, and shoving (4 items). For all items, the students rated their level of agreement or disagreement with various statements on a five-point scale (see Bosworth et al., 1999 in the appendix for more detail). Self-awareness, intentions to use nonviolent strategies, and self-efficacy were hypothesized to increase, the remaining measures to decline.

As described in the preceding section, intervention and control populations were determined to be equivalent at baseline on all measures except grade level. An overall MANOVA was used to verify that the groups also did not differ significantly on any of the five outcome measures at baseline.

SMART Team was available for 13 weeks, during which time use data were collected unobtrusively by the computer. Slightly more than 80% of students used the software with a partner, 10% used it only alone, and the remaining 10% used it both alone and with a partner. On average, students reported 8.4 uses of components with high levels of interaction ("Triggers and Fuses," "Channel Surfin'," "What's on THEIR Mind?," and "Talking It Out") and 4.5 uses of the remaining, less interactive components. No differences in use rates were attributable to either gender or grade level.

The impact of intervention on the five dependent variables was assessed with repeated measures multivariate analyses of covariance, conducted using a MANCOVA mixed design, with group as the between-subjects factor, time (pre, post) as the within-subjects factor, and grade as the covariate. No significant effects were found for Group or Time, lending confidence that effects were due to intervention. A significant effect was found for Group X Time, indicating that change in the outcome measures over time varied by group ( $p = .05$ ). Follow-up univariate analyses revealed significant Group X Time interactions for intentions to use nonviolent strategies ( $p = .01$ ) and beliefs supportive of violence ( $p = .05$ ). The self-awareness measure approached significance at  $p = .10$ . Self-efficacy and aggressive behavior remained

essentially unchanged between pretest and posttest in the intervention group and increased slightly in the control group, but these effects did not reach significance.

Additional MANCOVAs were conducted to probe possible variations in intervention effects by subpopulation. No significant interactions were found for grade, gender, ethnicity, or socioeconomic level, suggesting that the intervention was equally effective with all these populations. Survey questions relating to the components of *SMART Team* elicited highly favorable responses: 87% of users reported learning many ways to solve a conflict; 86% were able to identify their triggers and fuses; 84% felt they were more aware of how to solve conflicts; 81% found the software enjoyable to use; 75% indicated having learned a lot; and 75% would recommend it to a friend.

Limitations of this study as an evaluation measure are that the outcomes were measured by self-report, which may be biased; the sample was predominantly White; and follow-up data could not be obtained due to funding and human subjects limitations. Group differences for intentions to use nonviolent strategies, beliefs supportive of violence, and self-awareness were significant but relatively small, and their practical significance is unclear. The results of this evaluation are, however, consistent with the majority of research in the prevention field.

An important feature is that multimedia computer software appears to be an effective and motivating format for both information delivery and skills building to middle-school students, regardless of gender, ethnic membership, or socioeconomic status. The medium of computer software has potential to engage a population at risk for violence who may not be engaged by traditional prevention approaches.

## 5. Program Features Lending to Ease of Replication

Computer software was selected as the medium of presentation for several reasons relating to ease of replication:

1. Teacher instruction is subject to variability in implementation across both instructors and presentations. In contrast, the content of a software program is absolutely consistent from one presentation to the next.
2. The program is simple enough for the students to use independently, so students' experiences are not dependent on the skills or experiences of the person who directs them to the software.
3. The branching capabilities permit some level of individualization of content, in that students can select the topic areas that have most relevance to them, and the feedback they receive is dependent on the choices they make.
4. In a standard curriculum, the timing, pacing, level of detail, and order of lessons are determined by the instructor rather than by students' need for information. In contrast, the user of a software program can determine the pace, timing, and level of detail of instruction through choices of which modules to access and how long to spend on them. The computer is a "tireless teacher," allowing users to revisit the same content as many times as they wish.
5. Software provides a confidential forum for students to access information or resolve disputes without revealing their personal situations to adult instructors.

The training needs for *SMART Team* are minimal. In the pilot and evaluation studies, students received an initial introduction to the software, then were permitted to access it at will during a specified class period or their free time. According to the marketing director of the firm distributing the software, the program has proved simple enough for students to access independently and there have been no requests for training from instructors.

The major constraints inherent in the software medium are access to the necessary hardware. *SMART Team* is designed to operate on a Macintosh with 68020 CPU or higher; 1.5 MB of RAM and 7.5 MB hard drive space; and a System 7.0 or newer CD-ROM. Most schools have equipment meeting these system requirements, either in the classrooms or in computer labs. Animated graphics rather than real-time video are used in the standard program in order to minimize RAM and processor requirements. A Windows version of the software, incorporating more multimedia features, is planned for development within the next six months, to expand the options for settings of use. Technical support for installing the program is available via a toll-free telephone number.

Costs associated with the program are moderate. Schools typically have already invested in the necessary computer hardware for other instructional purposes. There are three options for purchase of the basic *SMART Team* disk: a purchaser can receive a single-user site license, permitting the installation of the program on one stand-alone computer, for \$195. A multi-user license, permitting installation on any number of stand-alone systems, costs \$395, and a network license, permitting installation on either stand-alone or networked systems, is available for \$595. The special-edition *SMART/Cool* CD, incorporating three short videos from American Guidance Service, is available in sets of three CDs for \$300, or 10 CDs for \$595.

## Attachment A: Claims of Program Efficacy Chart

Program Claims	Evaluation Methods	Evidence of Efficacy
<p><i>SMART Team</i> significantly diminishes students' beliefs supportive of violence.</p>	<p>Six items adapted from "University of Texas Health Science Center Aggression Scale."</p>	<p>Students in the evaluation study were sixth, seventh, and eighth graders (intervention group <math>n = 321</math>; control group <math>n = 195</math>). Group X Time analysis of students' pre-and post-intervention responses to UTEP questions yielded <math>F = 5.64</math>, significant at <math>p &lt; .01</math>.</p>
<p><i>SMART Team</i> significantly increases students' intentions to use nonviolent strategies.</p>	<p>Eight items from the "Teen Conflict Survey"<sup>1</sup> on which students rated their likelihood of using nonviolent strategies in a future conflict.</p> <p>This result was found in two studies; the first was pilot testing with 81 seventh graders (pretest/posttest design with no control group; Bosworth, Espelage, &amp; DuBay, 1998). The result was replicated in the evaluation study with 321 sixth, seventh, and eighth graders who had access to the software and a control group of 195 students in the same school who did not (Bosworth et al., 1999).</p>	<p>In pilot testing with 81 seventh graders, mean scores on these items increased from 16.4 to 22.5 between pretest and post-test, significant at <math>p = .01</math>.</p> <p>In the intervention study with 321 sixth, seventh, and eighth graders, Group X Time analysis of students' pre- and post-intervention responses to the rating scale yielded <math>F = 8.67</math>, significant at <math>p &lt; .001</math>.</p>
<p><i>SMART Team</i> significantly increases students' self-awareness of how to handle anger situations..</p>	<p>In a portion of the "Teen Conflict Scale," students rated their level of agreement with six statements (e.g., "I know how to calm myself down when angry.").</p> <p>Subjects were 321 sixth, seventh, and eighth graders, who had access to the software and a control group of 195 students in the same school who did not..</p>	<p>There was no significant difference between intervention and control groups on this measure at pretesting. Group X Time analysis of students' pre-and post-intervention responses to the rating scale yielded <math>F = 3.35</math>, significant at <math>p &lt; .05</math>..</p>

1. This survey has subsequently been published in Dahlberg, Toal, & Behrens (1998).

**Attachment A: Claims of Program Efficacy Chart *continued***

Program Claims	Evaluation Methods	Evidence of Efficacy
<p><i>SMART Team</i> significantly increases students’ declarative knowledge about conflict management terms and principles.</p>	<p>The pre/posttest survey used in pilot testing contained four multiple-choice questions from the “Teen Conflict Survey” in which students identified the anger cycle.</p> <p>Subjects were 81 seventh graders who participated in pilot testing (pretest/posttest design with no control group).</p>	<p>In pilot testing with 81 seventh graders, the percentage of correct responses to these items ranged from 3% to 64% on the pretest, versus 62% to 90% on posttest (<math>p = .79</math> to <math>.05</math>).</p>
<p><i>SMART Team</i> significantly increases students’ self-reported altruistic behavior.</p>	<p>Students responded to six items asking them to rate how often in the last 30 days they had performed specific helpful behaviors (e.g., “helped others solve a problem”).</p> <p>Subjects were 81 seventh graders who participated in pilot testing (pretest/posttest design with no control group).</p>	<p>The mean scores on these items increased from 10.8 to 12.3 between pretesting and posttesting, significant at <math>p = .01</math>.</p>
<p><i>SMART Team</i> significantly reduces self-reported incidents of getting into trouble.</p>	<p>Students were asked how many times they had been in trouble at home, at school, and in the community during the past 30 days.</p> <p>Subjects were 81 seventh graders who participated in pilot testing (pretest/posttest design with no control group).</p>	<p>Mean incidents of getting in trouble decreased from 2.8 to 1.9 between pretest and posttest. There was an increase in students who reported never getting into trouble at home (13% to 32%), at school (33% to 44%), and in the community (6% to 54%). Results were significant at <math>p = .01</math>.</p>



**Attachment A: Claims of Program Efficacy Chart *continued***

Program Claims	Evaluation Methods	Evidence of Efficacy
<p><i>SMART Team</i> significantly increases students' self-knowledge of how certain behaviors could contribute to the escalation of a conflict situation.</p>	<p>Students answered an eight-item scale that asked them to imagine being in conflict situations and to predict whether certain actions would escalate the conflict. Responses were measured on a four-point Likert scale (4 = very unlikely, 1 = very unlikely).</p> <p>Subjects were 81 seventh graders who participated in pilot testing (pretest/posttest design with no control group).</p>	<p>Mean scores increased from an average of 18.6 to 20.9 between pretesting and posttesting, significant at <math>p = .01</math>.</p>

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