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Evaluating the Impact of Interventions in the Multisite Violence Prevention Study:

Samples, Procedures, and Measures

Shari Miller-Johnson, PhD, Terri N. Sullivan, PhD, Thomas R. Simon, PhD, and Multisite Violence Prevention Project

Duke University (Miller-Johnson), Durham, North Carolina; Virginia Commonwealth University (Sullivan), Richmond, Virginia; and Centers for Disease Control and Prevention (Simon), Atlanta, Georgia

Abstract

This paper discusses the procedures and measures that were developed and utilized to evaluate the impact of the GREAT (Guiding Responsibility and Expectations in Adolescents Today and Tomorrow) programs in the Multisite Violence Prevention Project (MVPP). First, we describe the three different samples used to examine the impact of the programs, and the different sources of data used to assess these samples. Next, we outline procedures used to collect and manage the data. In the last section, we summarize the final set of measures selected for use in this study. Throughout the paper, we highlight ways in which the participating institutions collaborated to develop consistent procedures for use across the four sites. Overall, the paper provides important information related to the evaluation of violence prevention efforts, particularly for working effectively in multisite collaborative studies.

Introduction

The Multisite Violence Prevention Project (MVPP)'s evaluation of the GREAT (Guiding Responsibility and Expectations in Adolescents Today and Tomorrow) parent, teacher, and student interventions represented a significant advance in the evaluation of universal and targeted prevention programming. As noted by Henry et al.¹ in this supplement, the 2×2 experimental research design in which 37 schools were assigned randomly to conditions allowed us to compare the effects of a universal intervention (i.e., classroom curriculum and teacher training/support groups) to a targeted intervention (i.e., multifamily groups) on outcomes such as aggression, school climate, and school norms among sixth-grade students at the school level. The design also permitted tests of the potential benefits from simultaneous implementation of universal and targeted interventions relative to implementation of either in isolation.

Address correspondence to: Shari Miller-Johnson, PhD, Center for Child and Family Policy, Duke University, Box 90545, Durham NC 27708-0545. sharimj@pps.duke.edu.

Multisite Violence Prevention Project (corporate authors) includes: **Centers for Disease Control and Prevention, Atlanta GA:** Robin M. Ikeda, MD, MPH; Thomas R. Simon, PhD; Emilie Phillips Smith, PhD; LeRoy E. Reese, PhD (all Division of Violence Prevention, National Center for Injury Prevention and Control); **Duke University, Durham NC:** David L. Rabiner, PhD; Shari Miller-Johnson, PhD; Donna-Marie Winn, PhD; Steven R. Asher, PhD; Kenneth A. Dodge, PhD (all Center for Child and Family Policy except Asher [Department of Psychology]); **University of Georgia, Athens GA:** Arthur M. Horne, PhD (Department of Counseling and Human Development Services); Pamela Orpinas, PhD (Department of Health Promotion); William H. Quinn, PhD (Department of Child and Family Development); Carl J. Huberty, PhD (Department of Educational Psychology); **University of Illinois at Chicago, Chicago IL:** Patrick H. Tolan, PhD; Deborah Gorman-Smith, PhD; David B. Henry, PhD; Franklin N. Gay, MPH (all Institute for Juvenile Research, Department of Psychiatry); **Virginia Commonwealth University, Richmond VA:** Albert D. Farrell, PhD; Aleta L. Meyer, PhD; Terri N. Sullivan, PhD; Kevin W. Allison, PhD (all Department of Psychology).

The assessment procedures and measures used in the evaluation of the GREAT programs were designed to be consistent with the focus of the project's interventions and research design.^{1–}

⁴ Measures were selected to assess the impact of the interventions on: (1) the overall population of sixth-grade students as represented by the cohortwide sample—a random sample of sixth graders in each school; (2) high-risk youth and their parents, as represented by students at each school meeting criteria for the targeted program and their parents; and (3) teachers, as represented by the total sample of sixth-grade core academic teachers (e.g., math, social studies, language arts, or science) in each school. Intervention effects on each of these domains were assessed using multiple sources of data that addressed change at the individual level and overall school norms and climate.

Measures included in the outcome battery assessed behavioral outcomes, as well as mediators and moderators of change. In terms of behavioral outcomes, the interventions were expected to reduce a range of aggressive behaviors including relational, nonphysical, and physical aggression. Thus, our measures included victimization from, and perpetration of, each of these forms of aggression in peer relationships as well as within dating relationships. The measures also included mediating variables representing factors that the interventions were expected to influence directly, which in turn would reduce risk for aggression. They also included moderators, or factors that had the potential to enhance or reduce the success of the intervention. These mediators and moderators were assessed in a manner that was most appropriate for each type of intervention. For example, potential mediators of change for the classroom and teacher interventions included problem-solving skills and self-efficacy to use positive relationship skills. For the family intervention, mediators of change included parental disciplinary practices and parental involvement in their child's school. Potential moderators of change included beliefs and norms about violence, deviant peer involvement, and self-efficacy to use positive relationship skills.

This paper describes three important aspects of the multisite evaluation protocol. First, we describe the different samples and sources of data collected for each sample. We also review other data being collected, including measures of school variables and process/fidelity data. Second, we explain our data processing and collection procedures. This includes a discussion of institutional review board (IRB) procedures and coordination of these procedures across the sites. In the last section, we describe the steps taken to finalize the instruments and summarize the final set of measures used in this project.

Samples and Types of Data

In this section, we describe the three samples of participants, the sources of data used to assess the impact of the interventions on each sample, and the timing of data collection. We also review other types of data being collected, including interviews with the school principal, an assessment of the school environment, and process/fidelity data.

Cohortwide Sample

A random sample of sixth graders were selected to represent the sixth-grade student population at each school. Exclusionary criteria included students in predominantly self-contained special education classrooms since the interventions were not designed to meet their needs. At three of the sites (Duke, Virginia Commonwealth University [VCU], The University of Georgia [UGA]), 100 students per school were selected randomly from the sixth grade for administration of the survey. At the fourth site (University of Illinois, Chicago [UIC]), because the total number of sixth-grade students was less than 100, all students were included. Active parent consent and student assent were obtained for all participants, and students received a small incentive for returning the consent form, regardless of consent status. These data were collected on two cohorts of students. The first cohort of students entered the sixth grade in the

Fall of 2001; the second cohort entered the sixth grade in the Fall of 2002. Across three of the four sites, student incentives were gift cards for either Wal-Mart or a movie that ranged in value from \$5 to \$6. At UGA, the schools were not permitted to provide incentives to the students in Cohort 1. This decision was subsequently reversed, and all sites provided a student incentive in Cohort 2. Students (as well as teachers and parents, to be described later in the paper) were paid for their participation in order to acknowledge their effort, as well as to provide some incentive for their involvement in the study. The amount of the incentive was based on previous studies with same-aged students.

Across the four sites, 3436 students were eligible for the cohortwide sample and were sought for participation. The number of participating schools was 37, including eight at Durham NC, nine at Athens GA, 12 at Chicago IL, and eight at Richmond VA. Of this total, 78% of students consented to participate in the study. The vast majority of these consented students were assessed, which represented 98% of consented students. Table 1 provides site-specific participation rates for the Cohort 1 baseline data in the cohortwide sample. Preliminary data suggest approximately 5% attrition from the beginning to the end of the sixth grade, with an additional 15% attrition by the end of seventh grade, in terms of students no longer being in the same school as initially enrolled.

The impact of the interventions on students in the cohortwide sample was assessed using data from multiple sources. These included measures completed by the students; data obtained from school records on attendance, standardized test scores, and disciplinary violations; and ratings of students' behavior by their teachers. Given the intervention's emphasis on overall schoolwide change, student measures focused on relevant outcomes of interest (e.g., perpetration and victimization of violence, school climate) and hypothesized mediators related to change (social problem-solving skills, norms and beliefs). Specific measures are described later in the paper.

Teachers also rated students' behavioral functioning using the Behavioral Assessment Scale for Children (BASC).^{5,6} This 138-item checklist included subscales that address positive (e.g., leadership, social skills) and negative (e.g., aggression, conduct problems) behavior and gender-based norms. Psychometric properties are reported to be quite acceptable.^{5,6} We obtained ratings for each student from a core academic teacher who knew the student well. The teachers received a small stipend for each survey completed. At three of the sites, teachers received \$10 for each BASC survey that they completed. At UIC, teachers received \$5 for each survey.

High-Risk Sample

The high-risk sample included sixth-grade students who were at increased risk for violence-related behaviors and their parents. Parallel to the cohortwide sample, exclusionary criteria included students in predominantly self-contained special education classrooms since the interventions were not designed to meet their needs. Students who were both aggressive and influential among their peers were sought for the targeted intervention for the following reasons: (1) they were in need of a more intensive intervention, (2) they were responsible for a disproportionate amount of the school violence, and (3) a reduction in their aggressive behavior could have a pervasive effect on the entire sixth grade.

Teachers nominated students for participation in the targeted assessment by identifying the most aggressive sixth graders and then rating these students on their level of influence among their peers. Specifically, two core sixth-grade teachers within each school were given the following list of aggressive behaviors to guide them in nominating the most aggressive 25% of their students: (1) encourages other students to fight; (2) frequently intimidates other students; (3) has a short fuse, gets angry very easily; and (4) gets into frequent physical fights. Teachers then rated these students (the most aggressive 25% of their students) on their influence

among peers, using the following items to guide their ratings: (1) Who are the students other students listen to about attitudes, how to behave, what's good, important, or cool?; (2) Who sets the trends among students?; (3) Who seems respected by other students?; and (4) These should be the students that other students try to be like, try to imitate. Ratings from two teachers were used in order to avoid subjectivity from any particular instructor. Social influence ratings were made on a scale of 1 (not at all influential among peers) to 5 (very influential among peers). Students who received influence ratings of 4 or 5 were selected for participation in the targeted intervention or targeted control condition.

Table 1 provides participation rates for the Cohort 1 high-risk sample. A total of 743 students were eligible to be recruited. Participation rates ranged from 55% to 81% across the sites, with an average of 71%. Preliminary data indicate approximately 6% attrition from the pre-assessment at the beginning of the sixth grade and the post-assessment at the end of the sixth grade. Note that there was some overlap between the cohortwide and the targeted samples.

Data on the high-risk sample were collected from multiple sources, including student, parent, and teacher ratings. Given the emphasis of the high-risk intervention on family change and improved home-school partnership, student and parent measures focused on parental and family behavior, parent-teacher communication and involvement. Specific measures are described later in the paper. Teacher ratings on the BASC and school-record data were also obtained for each student in the high-risk sample. The school record data were identical to those described previously for the cohortwide sample.

Teacher Sample

The impact of the intervention on teachers was assessed using a survey that covered multiple domains. Teachers rated their own behavior, in terms of knowledge and application of skills to prevent violence and self-efficacy to facilitate prosocial student behavior. They also rated their impressions of the overall school climate and the seriousness of violence-related school problems. The teacher survey took approximately 30 minutes to complete, and teachers were paid \$25 for completing the survey at each assessment point.

Other Data

Table 2 lists three other sets of data that were collected. The first was a principal interview completed at the end of the school year. The interview included questions about events and organizational aspects of the school that may have confounded the intervention. For example, questions were asked about positive or negative events that occurred in the school or community (e.g., police called to the school). The principal also reported on other violence prevention programs in the school and impressions of the school's commitment to these efforts. Descriptive information on organizational aspects of the school was also collected to determine the extent of contact sixth graders had with other students in the school.

The second additional source of data was a school environmental assessment. This assessment was conducted by a trained staff member who walked through each school and rated the interior and exterior environment and the environment immediately surrounding the school on factors such as cleanliness, lighting, temperature, the presence of liquor or weapons stores nearby, and graffiti. This contextual information was potentially critical for understanding circumstances that may have influenced the implementation or effectiveness of the intervention.

The final set of data included in the assessment was collection of process aspects of the intervention effects. The purpose of this data was twofold. First was to document the fidelity or integrity of the intervention delivery; that is, whether the program was delivered as intended to the targeted recipients.^{7,8} In this way, the data provided a basis for determining whether the

interventions were being delivered as designed and whether variations in program integrity were related to outcomes. A second purpose was to examine intervention processes that potentially moderated and mediated change. Thus, process data assessed factors that may have influenced the delivery and acceptance of the intervention, such as facilitator characteristics and the interactions among facilitator and recipients. Our hypothesis was that process characteristics (e.g., perceived helpfulness of the staff member and program, family/student participation/enthusiasm, the extent to which the critical activities of each session were carried out) would mediate the extent of change and therefore the preventive benefit of the intervention.

As shown in Table 2, the process and fidelity measurement strategy for the classroom, teacher, and family programs sought to obtain reports about fidelity and process characteristics from multiple sources and across multiple time points. For the classroom intervention, fidelity and process data were collected by the instructor at all sessions, and process data were collected from the students at the end of the curriculum. For the teacher program, fidelity and process data were collected from instructors for all workshop and support group sessions. For the family groups, staff and parents and youth provided data at four points for process measures and four points for fidelity/program adherence measures. Coverage and dosage data were also collected on the number or proportion of hours/sessions that were received by the teachers and the families. These data allowed us to examine whether outcomes varied as a function of intervention dosage. Two primary analytic interests were served by these data: (1) assuring that the program was delivered as intended in what was delivered and how it was delivered; and (2) examining participant (e.g., enthusiasm, satisfaction with content), group (e.g., cohesiveness and mutual respect) and staff member (e.g., respect for families, relationship with families) characteristics that were related to, and potentially moderated program impact on, youth, parent, and teacher behavior. Finally, process data were employed to monitor program implementation in order to increase program integrity and to modify group processes that may have had an impact on the effectiveness of the intervention.

Measurement Points

Table 3 outlines the measurement points within each of the samples. Data were collected from students and parents on four occasions: at the beginning and the end of the sixth grade, at the end of the seventh grade, and at the end of eighth grade. Teacher ratings of students' behavioral/emotional functioning and teacher surveys were done at the beginning and the end of the sixth, seventh, and eighth grade school years. School and court, archival data, the principal interview, and the school environment assessment were completed annually at the end of the sixth grade. Process/fidelity data were collected throughout the interventions.

Data Management and Collection Procedures

In this section, we discuss the multisite data center and its role in managing the data for the sites. We also discuss the computer-assisted survey interview (CASI) that was used to collect most of the self-report data. Our description of data collection procedures focuses on the student and parent surveys because they were the most complicated. We also describe IRB procedures and coordination of these procedures across the multisite project.

Data Center

The data center (which was funded by the multisite initiative) was housed at one of the sites and overseen by a co-principal investigator at that site. The data center had a number of responsibilities: (1) programming of the CASI (to be described in more detail below), (2) data processing and managing of project data, (3) maintaining a server that contained the multisite data, (4) providing CASI training materials, and (5) developing written documentation on the assessment batteries. Data were sent via FTP (file transfer protocol) from each site to the server.

Each site received weekly progress reports from the data center to ensure the completeness of the data.

Computer-Assisted Administration

All student interviews were completed via CASI using laptop computers. The CASI was programmed such that students heard audio clips through headphones while the text appeared on the computer screen. Audioclips included male and female voices and individuals from different ethnic backgrounds. The survey was programmed to prompt respondents to re-enter their response if they entered a value outside the logical range for that question. In addition, students could not leave a response blank, although they could refuse to answer a question by typing "R".

There were multiple advantages to the use of the CASI procedures.⁹⁻¹¹ The first was the increased accuracy and completeness of the data due to programming out-of-range values and requiring every item to have a response. The CASI also provided a great deal of flexibility in using more-complex survey formats, such as skip patterns and gender-specific items. Another advantage pertained to survey administration in terms of students' attention to the computer. In our experience, students were more likely to be distracted during paper-and-pencil survey administration (e.g., whisper to each other, drop or shuffle papers and pencils). By comparison, during the CASI administration, students had on headphones and focused on the computer screen, which facilitated a quiet and orderly administration. The computer also afforded increased privacy that may have made respondents more likely to report illicit or risky behaviors, thereby increasing the validity of the data.¹² The inclusion of audio clips also had the advantage of improving comprehension, particularly for students with reading difficulties. Overall then, the improved comprehension and the increased efficiency of the data collection were the major advantages of CASI procedures.

There were some disadvantages to the CASI. Because of the time needed to program the survey, measures had to be finalized well in advance of what would be required for paper-and-pencil administration. The cost of programming and purchasing sufficient numbers of laptop computers was also not insignificant. Additional time was needed to set up the laptops for the testing sessions. In addition, because the computers did occasionally malfunction, surveys sometimes needed to be completed on paper-and-pencil forms. Hence, while the CASI administration was in no way a perfect system, the benefits far outweighed the disadvantages.

Data Collection Procedures

For the cohortwide student survey, data were collected in small groups of students (3:1 ratio of students to research staff) in a room outside of the classroom (e.g., in a media center or cafeteria). Identifying information (i.e., student ID, gender) was entered into the laptop prior to students' entering the testing area. The student identification number was entered twice and verified to ensure its accuracy. Students received instructions (standardized across sites) that reviewed the types of questions, explained how to use the laptop, and informed them that they did not need to listen to the entire question, but could read on their own and respond. On average, the survey took students 41 minutes to complete (standard deviation [SD] = 14.7 minutes).

Similar procedures were used for the high-risk student survey, but this survey was administered primarily in the student's home or at another agreed upon location if preferred by the family (e.g., library, community center, the project office). After being read the instructions by the interviewer, students took the survey on their own, with the interviewer available to answer questions. Student and parent interviews were conducted in separate rooms to ensure confidentiality. The average completion time for the high-risk student survey was 44 minutes

(SD = 12.3 minutes). For both student surveys, students received a small incentive (worth \$5 to \$6) each time they completed the assessment. Given that some students were part of both the cohortwide and high-risk samples and some measures were included on both surveys, these students received the cohortwide measures in school and the remaining modules from the high-risk survey at home.

Different procedures were used to administer the targeted parent survey. Due to concerns about parents' reading ability and comfort with use of a laptop, the survey was read aloud and the interviewer entered the data into the laptop. In addition, the interviewer used cue cards that showed the response categories. The parent interview was available in both English and Spanish. At UIC, which has a large proportion of Latino families, interviews were conducted in Spanish as needed, and parent groups were also bilingual. The average time for completion of the targeted parent survey was 41.5 minutes (SD = 13.5 minutes). Parents were paid \$30 for completing the survey.

Finalizing the Measures

Before describing the final measures, we briefly describe the procedures used to select these measures. This iterative process involved close collaboration among the work groups developing the universal and targeted intervention components, the work group focusing on the assessment procedures, and the principal investigators. The initial list of constructs and recommended instruments proposed by each site was based on their experience and reflected their preferences for specific measures and content areas. This list was refined by giving preference to measures with established psychometric properties that were developmentally appropriate as well as appropriate for CASI administration. Because of the lack of well-developed measures for this population, some measures either were developed specifically for this project or were adapted from existing measures. Measures initially selected were pilot tested to examine their psychometric properties. The final set of measures included all of the agreed-upon constructs and the most valid and reliable scales available.

Pilot Test

Pilot data on the measures for the cohortwide and high-risk samples were collected at all four sites in the spring of 2001. The purpose of the pilot was to test recruitment and administration procedures and evaluate the psychometric properties of the measures. Measures were administered in classrooms where the student intervention was being piloted and in control classrooms (N = 295 students; N = 176 teachers). Assessment procedures for the high-risk sample were pilot tested with five students (and their families) from each school assigned to the targeted condition as well as in two schools assigned to the universal condition (total N of the targeted pilot sample: parents = 73; students = 74). At UIC, pilot procedures were completed at two schools not in the final sample to minimize contamination; at the other three sites, additional schools were not available and pilot procedures were completed in the same schools as the final sample. Based on pilot data, the majority of scales demonstrated acceptable distribution qualities and internal consistency. These analyses guided decisions on changes to some of the measures, including deleting or adding items, and deleting measures that did not evidence adequate internal consistency. A small number of new measures were also added.

We also pilot tested a procedure wherein a trained observer recorded aggressive behavior among students during relatively unstructured time in the schools (i.e., in the hallways or cafeteria). The pilot data indicated very low rates of observable aggressive behavior, suggesting the need for multiple observation sessions per week in each school in order to have adequate statistical power to detect meaningful differences across conditions. This procedure was not feasible due to budgetary and staffing constraints and was ultimately dropped from the study protocol.

IRB Procedures

An occasionally challenging aspect of the project pertained to coordinating institutional review board (IRB) submissions at the participating sites and the Centers for Disease Control and Prevention (CDC). IRB protocols required both local and CDC approval, which often took a great deal of time. More importantly, the IRB committees at each university differed somewhat in what they would permit and require. Some of the cross-site IRB differences led to substantive changes in important procedural elements. For example, although sociometrics would have been the ideal method to identify children who were both highly aggressive and perceived as leaders, this method of data collection was not an option at all of the sites. Other site-specific IRB requirements may have contributed to differences in participation rates. For example, one site was required to include a specific line on consent forms where participation could be actively declined and to obtain separate consent from parents to review their child's school records rather than having this included as part of an overall consent to participate.

Our experience has been that site-specific IRB requirements created some difficulties in obtaining the uniformity in data collection procedures that would have been optimal. In addition, in some instances, the project opted to use a less-preferable method of collecting data (e.g. teacher ratings rather than sociometrics) in order to maintain consistency across sites. This was a complicating factor in conducting this multisite study that we had not anticipated when the project began.

Final Measures

Tables 4 through 6^{13–38} provide a complete listing of the scales used in the final student, teacher, and parent surveys, respectively, including references for the original source and data on internal consistencies. Each measure is also identified by its function as an outcome variable or potential moderator or mediator.^{2–4}

Student Measures

Table 4 describes the measures that were included in the cohortwide and high-risk student surveys. These measures were condensed into a single table to highlight overlapping and unique measures across the student surveys. In the cohortwide student sample, outcome variables included measures of classroom and school climate, school norms, and measures of the student's aggressive behavior and victimization with peers as well as with dating partners. Examples of mediator and moderator variables included goals and strategies for solving potential conflict situations, self-efficacy to use positive relationship skills, beliefs and norms about aggression and dating violence, peer influences including gang affiliation and perceptions of peer involvement in delinquency. The majority of measures evidenced good internal consistency, with alphas ranging from 0.70 to 0.94. Three subscales of the Goals and Strategies Questionnaire evidenced marginal internal consistency. We have since added more detailed introductions that we expect will reduce confusion and increase internal consistency for this scale.

In the high-risk student survey, outcomes included two measures of aggressive behavior and victimization with peers as well as with dating partners. Measures of pertinent mediators and moderators included family variables such as parental support for fighting, family relationship skills, parenting practices, parental involvement in school as well as the child's value on academic achievement, gang membership, and students' perceptions of their close friends' involvement in delinquency. A number of contextual variables were also assessed as potential moderators or mediators, including perceptions of neighborhood safety and exposure to violence. The targeted student survey also included potential mediators such as goals and strategies used in potential conflict situations, self-efficacy to use positive relationship skills,

and norms for dating violence. The majority of the measures demonstrated good internal consistency with alphas ranging from 0.72 to 0.94. As in the cohortwide survey, three subscales of the Goals and Strategies Questionnaire demonstrated marginal reliabilities ranging from 0.62 to 0.65. In addition, the Frequency of Teacher's Communication with Parent Subscale of the Parental Involvement in School Scale (Cronbach's $\alpha = 0.69$), the restrictions resulting from violence exposure subscale for the Exposure to Violence Scale (Cronbach's $\alpha = 0.68$), and the Family Emotional Reactivity Scale (Cronbach's $\alpha = 0.58$) also demonstrated marginal internal consistency. These were fairly short subscales with 5, 3, and 3 items, respectively.

Although the high-risk sample was predominantly male (68%), girls did represent a sizable minority of the high-risk group of students and there is a clear need for additional empirical study of violence by girls.^{39,40} It is noted that the BASC measure completed by the teacher contained gender-specific norms. In addition, our measure of aggression included a relational aggression subscale, in addition to the more typically assessed physical forms of aggression.

Parent Measures

For the parent survey, outcome variables included parents' reports of their child's behavior (using the aggression and conduct problems subscales from the BASC) as well as changes in service utilization and economic benefits (Table 5). Like the high-risk student survey, the parent survey assessed parental support for fighting, family relationship skills, parenting practices, parental involvement in school, neighborhood safety, and parental perceptions of their child's close friend's involvement in delinquency and the child's value on academic achievement. Other potential moderators and mediators were life stress and depression. The majority of scales evidenced good internal consistency ranging from 0.76 to 0.92.

The final measures for the students, teachers, and parents included relatively comprehensive sets of overlapping and unique scales. The overlap allowed us to compare responses of high-risk students to their parents and to their same-grade peers in the cohortwide sample. Teacher and parent BASC ratings also provided complementary perspectives on student behavior. The non-overlapping measures provided the data necessary to evaluate the mediating and moderating factors specific to each intervention.

Teacher Measures

As shown in Table 6, the teacher survey assessed several study outcomes including school climate, classroom climate, and teacher victimization. Important mediators and moderators included teachers' knowledge and application of skills to prevent violence, expectations and self-efficacy to facilitate students' behavior, principal support, and teacher cooperation. Overall, the scales demonstrated excellent internal consistency ranging from 0.90 to 0.97. Only one scale, Cooperation Among Colleagues, showed a marginal internal consistency of 0.69.

Summary

The MVPP assessment procedures not only provided data necessary to evaluate the behavioral outcomes of interest and to understand the processes through which the interventions influence aggressive behavior, but also addressed gaps in the field of violence prevention. Tolan and Guerra^{41,42} noted the need to understand how violence prevention efforts impact multiple levels of influence on youth behavior (i.e., individual, family, school) and the effect of prevention programming on different types of violence. Our assessment procedures collected data across different samples from students, parents, and teachers, with data focusing on multiple levels of change. Furthermore, data on victimization and perpetration of physical and relational aggression against peers and dating partners provided useful information about the

generalizability of these interventions to a variety of types of violence. This study benefited by a multisite collaboration at all stages of developing and implementing measurement procedures. We believe that the resulting product was greater than the sum of its parts in that each site was challenged to integrate some new measurement procedures and that each profited from the experience of others.

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Table 1
Cohort 1 pretest participation rates for the cohortwide and high-risk samples

	Cohortwide			High-risk		
	Eligible <i>n</i>	Assessed <i>n</i>	Participation rate %	Eligible <i>n</i>	Assessed <i>n</i>	Participation rate %
Duke	764	539	71	179	137	77
UGA	896	636	71	222	121	55
UIC	975	805	83	166	133	80
VCU	801	652	81	176	135	77
Total	3436	2632	77	743	526	71

UGA, The University of Georgia; UIC, University of Illinois, Chicago; VCU, Virginia Commonwealth University.

Table 2

Other data sources for MVPP: school and process/fidelity measures

Type of data	Source and measurement points
Principal interview	School principal—completed annually at the end of the school year
School environmental assessment	Project staff member completed at the end of the school year
Process/fidelity data	Multifamily groups: Fidelity data: completed by parent and group leader on sessions 1, 4, 8, and 11 Process data: completed by parent, child and group leader on sessions 2, 6, 10, and 14 Attendance data for all sessions Teacher program: Fidelity data: completed by the group leader for the workshop and support group sessions Process data: completed by the teachers for the workshop and support group sessions Attendance data for all sessions Classroom program: Fidelity data: completed by the instructor for all sessions Process data: completed by the instructor for all sessions; completed by the students at post-testing at the end of the sixth grade

MVPP, Multisite Violence Prevention Project

Table 3

Samples and sources of data and timing of data collection for MVPP

Sample	Sources of data	Measurement points
Cohortwide (100 randomly selected sixth graders per school)	Student self-ratings	Beginning and end of 6th grade/end of 7th- and 8th-grade years
	School records	Annually—end of school year
	Court records	Annually—end of school year
	Teacher ratings of students	Beginning and end of 6th-, 7th-, and 8th-grade years
High-risk youth and parents (students eligible for targeted sample)	Student self-ratings	Beginning and end of 6th grade/end of 7th- and 8th-grade years
	Parent ratings	Beginning and end of 6th grade/end of 7th- and 8th-grade years
	School records	Annually—end of school year
	Court records	Annually—end of school year
Teachers	Teacher ratings of students	Beginning and end of 6th-, 7th-, and 8th-grade years
	Teacher self-ratings	Beginning and end of 6th-, 7th-, and 8th-grade years

Note: For Cohort 2, student and parent data were also collected at the beginning of the 7th grade.

MVPP, Multisite Violence Prevention Project

Table 4
Summary of measures included in the cohortwide and high-risk student surveys

Measure	Source	Description of measure and subscales	Purpose	Internal consistency (alpha, except where noted)	References
Problem Behavior Frequency Scale	Cohortwide Targeted	47 items divided into 7 subscales that assessed the frequency of problem behaviors, including aggression, victimization, drug use, and delinquency within the past 30 days	Outcome	Physical aggression = 0.80/0.81 Nonphysical aggression = 0.81/0.82 Relational aggression = 0.72/0.73 Delinquency = 0.76/0.76 Drug use = 0.83/0.86 Overt victimization = 0.86/0.87 Relational victimization = 0.84/0.85 Total score = 0.77	Farrell et al. (2000) ¹³ Crick and Bigbee (1998) ¹⁴ Orpinas and Frankowski (2001) ¹⁵
Classroom Climate Scale	Cohortwide Targeted	18-item scale that evaluated classroom and school climate, including relationships among students, students and teachers, and students' awareness and comfort in reporting aggression or victimization	Outcome	Total score = 0.77	Vessels (1998) ¹⁶
Dating Violence Behavior Scale	Cohortwide Targeted	26-item scale measuring perpetration and victimization of dating violence	Outcome	Perpetration = 0.93/0.94 Victimization = 0.91/0.91	Foshee et al. (1998) ¹⁷
Goals and Strategies Questionnaire	Cohortwide Targeted	4 vignettes that examined children's responses to peer conflict situations, including strategies and goals related to each situation	Moderator/Mediator	Strategies Mild physical aggression = 0.75/0.75 Verbal aggression = 0.77/0.80 Verbal assertion = 0.62/0.62 Compromise = 0.64/0.66 Yield/Withdrawal = 0.69/0.65 Seek help from a teacher = 0.78/0.79 Goals Maintaining the relationship = 0.80/0.83 Maintaining personal control = 0.76/0.76	Hopmeyer and Asher (1997) ¹⁸

Measure	Source	Description of measure and subscales	Purpose	Internal consistency (alpha, except where noted)	References
Self-Efficacy to Use Positive Relationship Skills Scale	Cohortwide Targeted	7-item scale that assessed student's confidence in the ability to resolve conflicts in nonviolent ways	Moderator/Mediator	Seeking revenge = 0.81/0.82 Total score = 0.81/0.84	Bosworth and Espelage (1995) ¹⁹
Norms for Dating Violence Scale	Cohortwide Targeted	10 items that assessed student's norms and beliefs about dating violence	Moderator/Mediator	Total score = 0.81/0.79	Foshee et al. (1998) ¹⁷
Parental Support for Fighting Scale	Cohortwide	10-item scale that assessed student perceptions of parental support for engaging in aggressive and nonaggressive behaviors as a way to solve conflicts	Moderator/Mediator	Total score = 0.74	Orpinas et al. (1999) ²⁰
Peer Problem Behavior Scale	Cohortwide Targeted	10-item scale that assessed student perception of how many close friends engaged in antisocial behavior in the past 3 months	Moderator/Mediator	Total score = 0.86/0.88	Conduct Problems Prevention Research Group (2001) (unpublished technical report)
Exposure to Violence Scale	Targeted	15-item scale measuring exposure to violence inflicted on strangers, someone familiar and restrictions resulting from exposure to violence	Moderator/Mediator	Witnessed violence inflicted on a stranger = 0.86 Witnessed violence inflicted on someone familiar = 0.78 Incidents resulting from violence exposure = 0.68 Total score = 0.78	Cooley-Quille et al. (1995) ²¹ Attar et al. (1994) ²² Jessor and Jessor (1977) ²³
Personal Value on Achievement Scale	Targeted	9-item scale that assessed the student's perceived importance of achieving specific academic goals	Moderator/Mediator	Structure = 0.72 Beliefs = 0.83 Cohesion = 0.76 (Note: These are reliabilities for family composite scales comprised of parent and child sources of information)	Tolan et al. (1997) ²⁴
Family Relationships Scale	Targeted	35-item scale that tapped aspects of family relationships, including family structure, beliefs, and cohesion. Scales are composites of parent and child reports.	Moderator/Mediator	Parent involvement in schoolwork = 0.76 Parent involvement in school activities = 0.74 Teacher's communication with parent = 0.69	Smith et al. (1997) ²⁵ Eccles and Harold (1993) ²⁶
Parental Involvement in School Scale	Targeted	18-item scale tapping the students' perceptions of parental involvement with school activities, school work, and teacher communication	Moderator/Mediator		

Measure	Source	Description of measure and subscales	Purpose	Internal consistency (alpha, except where noted)	References
Emotional Reactivity Scale	Targeted	3-item scale assessing student perceptions of negative family emotional reactivity	Moderator/Mediator	Total score = 0.58	MVPP (2002) (unpublished technical reports)
Family Problem Solving Scale	Targeted	6-item scale measuring student perceptions of family problem-solving	Moderator/Mediator	Total score = 0.87	Epstein, Baldwin, ²⁷ and Bishop (1983)
Parenting Practices Scale	Targeted	33-item scale assessing student perceptions of positive parenting, involvement, monitoring, and time spent with them	Moderator/Mediator	Positive parenting = 0.81 Parental involvement = 0.80 Parental monitoring = 0.74 Time spent with the child = 0.75	Gorman-Smith et al. (1996) ²⁸
Gang membership	Targeted	3 items that assessed whether the student belongs to a gang, whether they know anyone who is in a gang, and if they have friends in a gang	Moderator/Mediator	N/A	Conduct Problems Prevention Research Group (2001) (unpublished technical report)
Sense of Safety Scale	Targeted	11-item scale that assessed student perceptions of safety in their school, home, and neighborhood	Moderator/Mediator	Total score = 0.89	Henry (2000) ²⁹
School Climate Scale	Cohortwide	10-item scale that assessed student perceptions of the seriousness of violence-related problems in their school	Outcome	Total score = 0.89	U.S. Department of Education (1999–2000) ³⁰
School Norms for Aggression	Cohortwide	36 items that assessed students' perceptions of school and individual norms for aggression and alternatives to aggression	Outcome	School norms Aggression = 0.73 Alternatives to aggression = 0.74 Individual Norms Aggression = 0.80 Alternatives to aggression = 0.70	Henry (2002) ³¹
Life Satisfaction Scale	Cohortwide	6 items that assessed life satisfaction with family, friendships, and school	Outcome	Total score = 0.82	Valois et al. (2001) ³²
Attitudes Toward Violence and Nonviolence	Cohortwide	12-item scale that assessed student attitudes supporting violence and nonviolence	Moderator/Mediator	Attitudes supporting violence = 0.72 Attitudes supporting nonviolence = 0.72	Farrell et al. (2001) ³³
Gang affiliation	Cohortwide	1 item that assessed whether the student belongs to a gang	Moderator/Mediator	N/A	

Measure	Source	Description of measure and subscales	Purpose	Internal consistency (alpha, except where noted)	References
Parent Practices Scale	Cohortwide	12-item scale that assessed student perceptions of parental monitoring and involvement	Moderator/Mediator	Total score = 0.85	Gorman-Smith et al. (1996) ²⁸

Note: Alpha coefficients were derived from baseline pretest data for the schoolwide sample and high-risk samples. For measures administered to both the cohortwide and targeted samples, alpha coefficients are listed for both the cohortwide/high-risk samples.

MVPP, Multisite Violence Prevention Project.

Table 5

Summary of measures included in the parent survey

Measure	Description of measure and subscales	Construct	Internal consistency	References
Behavioral Assessment Scale for Children–Parent report	47 items that comprised 4 subscales including aggression, conduct problems, depression, and leadership	Primary Outcome	Aggression = 0.85 Conduct Problems = 0.81 Depression = 0.81 Leadership = 0.81	Reynolds and Kamphaus (1992) ⁵
Service Utilization	5 items that assessed service use from school, police, or courts due to behavior problems	Outcome	N/A	MVPP (2002) (unpublished technical reports)
Economic Benefits	10 items that assessed economic costs in terms of work time missed because of students' behavior problems	Outcome	N/A	MVPP (2002) (unpublished technical reports)
Parent Involvement in School	18-item scale that assessed parent perceptions of involvement with the student's school work, school activities, and communication with teachers	Moderator/Mediator	Frequency of parent's involvement in schoolwork = 0.81 Frequency of parent's involvement in school activities = 0.77 Frequency of teacher's communication with parent = 0.80	Smith et al. (1997) ²⁵ Eccles and Harold (1993) ²⁶
Family Problem-Solving	6 items that assessed perceptions of family problem-solving	Moderator/Mediator	Total score = 0.79	Epstein et al. (1983) ²⁷
Emotional Reactivity Scale	3 items that assessed perceptions of negative family emotional reactivity	Moderator/Mediator	Total score = 0.70	MVPP (2002) (unpublished technical reports)
Fear of Crime Scale	12 items that assessed fears of being the victim of a violent crime	Moderator/Mediator	Total score = 0.84 for primary measure (items 1–7)	Richters and Martinez (1993) ³⁴
Life Stress Scale	20 items that assessed specific life stressors in the past 6 months	Moderator/Mediator	N/A	Conduct Problems Prevention Research Group (2001) (unpublished technical report)
Parent Report of Peer Behavior	10 items that assessed parental perceptions of how many of their child's close friends engaged in antisocial behavior in the last 3 months	Moderator/Mediator	Total score = 0.87	Conduct Problems Prevention Research Group (2001) (unpublished technical report)
Family Relationship Scale	35 items that tapped aspects of family relationships characteristics, including family structure, beliefs,	Moderator/Mediator	Structure = 0.72 Beliefs = 0.83 Cohesion = 0.76	Tolan et al. (1997) ²⁴

Measure	Description of measure and subscales	Construct	Internal consistency	References
	and cohesion. Scales are composites of parent and child reports.		(Note: These are reliabilities for family composite scales comprised of parent and child sources of information)	
Parenting Practices Scale	42 item scale that assessed parent perceptions of positive parenting, time spent with the child, monitoring, involvement, discipline effectiveness, and discipline avoidance.	Moderator/Mediator	Parental involvement = 0.82 Positive parenting = 0.79 Parental monitoring = 0.66 Time spent with the child = 0.68 Discipline effectiveness = 0.76 Discipline avoidance = 0.68	Gorman Smith et al. (1996) ²⁸
Personal Value on Achievement	9 items that assessed parent perceptions of the child's value on academic goals.	Moderator/Mediator	Total score = 0.92	Jessor and Jessor (1977) ²³
Center for Epidemiologic Studies Depression Scale	20 items that assessed the parents' depressive symptoms	Moderator/Mediator	Total score = 0.90	Radloff (1977) ³⁵

MVPP, Multisite Violence Prevention Program.

Table 6

Summary of measures included in the teacher survey

Measure	Description of measure and subscales	Construct	Internal consistency	Reference
Classroom Climate Scale	18-item scale tapping perceptions of classroom and school climate, including relationships among students, students and teachers, students' awareness and comfort level in reporting aggression and victimization	Outcome	Total score = 0.85	Vessels (1998) ¹⁶
Teacher Victimization	6-item scale that evaluated the frequency of being insulted, threatened, and physically attacked by students in the past 30 days	Outcome	Guttman Coefficient of Reproducibility for the Teacher Victimization Scale = 0.97	U.S. Department of Education (1999–2000) ³⁰
School Climate Scale	18-item scale tapping perceptions of the seriousness of violence-related problems at school	Outcome	Total score = 0.90	U.S. Department of Education (1999–2000) ³⁰
Emotional Exhaustion Scale	9 items that assessed perceptions of emotional exhaustion created from job demands	Moderator/Mediator	Total score = 0.92	Maslach and Jackson (1981) ³⁶
Skills and Knowledge of Interventions for Teachers (SKIT)	28 items that assessed application of skills to prevent school violence	Moderator/Mediator	Total score = 0.89	Newman and Horne (in press) ³⁷
Teacher Expectation and Efficacy Measure (TEEM)	2 vignettes (aggressive student, victimized student) that measured teacher expectations and self-efficacy to facilitate student behavior among aggressive and victimized students	Moderator/Mediator	Aggressive Student (Vignette 1) Efficacy = 0.91 Victimized Student (Vignette 2) Efficacy = 0.93	Howard et al. (2001) ³⁸
Principal Support Scale	6 items that evaluated teacher	Moderator/Mediator	Total score = 0.90	U.S. Department of Education (1999–2000) ³⁰

Measure	Description of measure and subscales	Construct	Internal consistency	Reference
Cooperation Among Colleagues	perceptions of how effective the principal was at fostering a supportive school environment 4 items that tapped teacher perceptions of how effectively teachers work together	Moderator/Mediator	Total score = 0.69	U.S. Department of Education (1999–2000) ³⁰