



PII S0022-4405(01)00058-9

## School-Based Violence Prevention Challenges and Lessons Learned from an Action Research Project

**Lisa Hunter**

*Columbia University*

**Maurice J. Elias**

*Rutgers University*

**Jacqueline Norris**

*The College of New Jersey*

School-based violence prevention has become a growing concern for educators, parents, and researchers. This article describes the Piscataway Project—a school-based action research project focused on the development, implementation, and evaluation of violence-prevention instructional approaches—and discusses some of the challenges associated with school-based prevention efforts. Conceptual, delivery, training, and organizational variables that contribute to outcomes of school-based preventive interventions are described and their impact on the Piscataway Project is discussed. Lessons learned from the project are also presented as a guide for those interested in the development and implementation of school-based interventions. © 2001 Society for the Study of School Psychology. Published by Elsevier Science Ltd

**Keywords:** School-based action research, Violence prevention, School-based prevention.

Research in the schools on violence and other problem behavior prevention is profoundly affected by national, demographic, political, and educational trends. These and other social forces effect the ecological landscape of schools in ways that make it difficult, if not impossible, to disconnect school-based mental health and social competence promotion from the larger issues of the mission, philosophy, and structure of schools in which they are embedded. Our schools increasingly house a culturally diverse

Received March 23, 2000; accepted December 20, 2000.

Address correspondence and reprint requests to Lisa Hunter, Center for the Advancement of Children's Mental Health, Columbia University, 1051 Riverside Dr., #78, New York, NY 10032. Phone: (212) 543-6068; fax: (212) 543-5260; E-mail: hunterl@child.cpmc.columbia.edu

array of students, as well as students with physical, intellectual, or emotional handicaps. At the same time, parents are under increasing economic pressures to work more hours, and we are seeing concomitant increases in family stress and all the sequelae that come with this (Elias et al., 1997). Educational forces include the emphasis on academic standards and “high stakes” testing, the push for whole school reform, especially in urban districts, “zero tolerance” policies concerning school violence in the wake of highly publicized tragic incidents as occurred in Columbine High School in Colorado, and increased turnover in direction-setting roles such as school superintendents and school board members. All these create shifting sands into which researchers step, often unknowingly, when they enter schools (Elias, Lantieri, Patti, & Walberg, 1999).

Several years ago, we stepped into these shifting sands when we began collaborating with an elementary school in Piscataway, New Jersey to develop and evaluate violence-prevention instructional approaches. This project, called the Piscataway Project, used action research to analyze the intergroup difficulties experienced in the school, develop interventions to address these difficulties, and evaluate the efficacy of the interventions.

Using the Piscataway Project as an example, this article will discuss some of the challenges associated with school-based action research. It will begin with an overview of our longitudinal work with the school. As part of this overview, we will offer our theoretical perspective on violence, describe the approaches we developed, and summarize the procedure and results of the project. Because the purpose of this article is to illustrate the challenges of school-based action research, rather than present a detailed analysis of a violence prevention program, we will not devote much space to the specific methodological and empirical aspects of the project (this information, however, is available from the authors). Following this overview, we will describe variables that impact school-based preventive interventions and discuss how these variables influenced our work with the school. Finally, the lessons learned from our project will be presented.

### **THE PISCATAWAY PROJECT: AN OVERVIEW**

The project began as a response to an elementary school principal’s cry for help in addressing the fighting, self-segregation among groups, and multicultural insensitivity that was occurring in her school. The school was located in a middle-class suburban New Jersey community and had recently been reconfigured from a K–5 elementary to a fourth- and fifth-grade building in response to a state-mandated desegregation order. The school’s population came from three elementary schools that differed greatly in terms of ethnicity and socioeconomic background.

When the elementary school first opened as a fourth- and fifth-grade school, parents expressed concern about frequent fights and acts of intimidation. The school staff described increased amounts of self-segregation among groups, as well as what they saw as a significant degree of intolerance and insensitivity to differences. Specifically, they stated that much negative stereotyping of Black males occurred in the school. The combination of a racially diverse school with existing intergroup tensions presented us with an opportunity to test our hypotheses regarding the promotion of social competence and positive interethnic interactions as a means of preventing violence.

### **Theoretical Perspective on Violence**

A fundamental premise of our research was that improving social competence and interethnic interactions would reduce violence. We conceptualized violence from a social-learning, social-cognitive, and multicultural perspective. The social-learning view of violence is based on the belief that “people are not born with preformed repertoires of aggressive behavior. They must learn them” (Bandura, 1983, p. 4). This view of violence emphasizes the role of home, community, and school factors in the development of violence.

Social problem solving and social information processing are two important social-cognitive factors associated with violence. Dodge, Price, Bachorowski, and Newman (1990) demonstrated how deficits in social information processing can lead to the attribution of hostile intent in others, resulting in hostile responses and further aggression. Not surprisingly, the expert panel of “Early Warning Signs, Timely Response,” a violence prevention collaboration spanning a number of federal, private, and professional organizations and groups (Dwyer, Osher, & Warger, 1998), made teaching positive interaction skills, specifically those of social problem solving, their very first recommendation strategy for reducing the potential for violence among high-risk children.

In addition to viewing social-learning and social-cognitive factors as important in the development and maintenance of violence, we also emphasized a relationship between multicultural factors, specifically, interethnic contact and violence. The link between a lack of positive interethnic contact and violence is supported by Allport’s contact hypothesis that predicts increased interracial contact is likely to result in sounder beliefs about minority groups and less prejudice if certain stipulations are met (Allport, 1954). These stipulations, as outlined by Rogers, Hennigan, Bowman, and Miller (1984), are (a) the status of the groups in contact must be equal (in practice, this means that the groups should have the same rights/privileges, as well as the ability to exercise these rights/privileges); (b) the contact

must be intimate, not superficial; (c) the contact should encourage cooperative interdependence; and (d) the contact must receive social approval from authority figures.

The contact hypothesis has been studied extensively over the past 4 decades. Ellison and Powers (1994) found that black adults who reported close white childhood and/or adult friendships had more favorable attitudes toward whites. Hunter and Elias (2000) reported that fifth-grade interracial friendship, particularly high quality female friendships, were associated with less racial prejudice and more social competence.

The American Psychological Association has recognized the important role of positive interethnic contact in violence prevention efforts. According to the American Psychological Commission on Violence and Youth (1993), prejudice and racism are among the risk factors for violence. The Early Warning Signs report (Dwyer et al., 1998) goes even farther: "An intense prejudice toward others based on racial, ethnic, religious, language, gender, sexual orientation, ability, and physical appearance, when coupled with other factors, may lead to violent assault against those who are perceived to be different" (p. 10). Central among these other factors are social and emotional abilities of the child, as well as the overall climate of acceptance in school and home settings.

### **Description of Instructional Approaches**

Given our multicultural social-learning/cognitive perspective on violence, we designed two violence-prevention instructional approaches—the Social Competence Approach and the Multicultural Competence Approach. Both approaches were drawn from the social decision making and problem solving curriculum (Elias & Clabby, 1989, 1992; Elias & Tobias, 1996). This nationally recognized program is based on a social-cognitive view of learning.

The Social Competence Approach emphasized the teaching of social and self-control skills. Focal skills taught included keeping calm when upset, sharing with a group, and how to speak to others respectfully and without provocation. We hypothesized that students exposed to this approach would show a decrease in violent/aggressive behavior and an increase in social competence from fourth to fifth grade, and these gains would be maintained through the beginning of sixth grade.

The Multicultural Competence Approach addressed both social problem solving skills and positive interethnic contact. Students were taught specific skills in conflict resolution, interpersonal understanding/social awareness, group participation, and problem solving in the context of various academic areas. Within these academic areas, students worked in multicultural groups. Thus, they had the opportunity to work cooperatively with peers from different racial/ethnic groups while learning problem solving skills.

We hypothesized that students exposed to this approach would show a decrease in violent/aggressive behavior and an increase in social competence and positive interethnic contact from fourth to fifth grade, and these gains would be maintained through the beginning of sixth grade.

The Social Competence and Multicultural Competence Approaches represented the active conditions in the study. For comparison, we also included a No Treatment condition. Students in this condition were exposed to the school's typical approach to multicultural issues. Essentially, this entailed celebrations of days commemorating culturally significant events such as birthdays, festivals, and historical occurrences. Students exposed to the No Treatment condition were not expected to exhibit any significant decreases in violent/aggressive behavior or increases in social competence and positive interethnic interactions.

### Summary of Procedure and Results

The project was a 3-year longitudinal study designed to assess the impact of the Social Competence and Multicultural Competence Approaches on the violent/aggressive behavior, social competence, and interethnic contact of children from fourth grade to sixth grade ( $n = 202$ ). Follow-up was conducted at the end of fifth grade and the beginning of sixth. The sixth-grade follow-up was to determine whether fourth- and fifth-grade interventions would prevent the development of maladaptive behaviors in middle school.

Baseline data were collected in the fall of Year 1. Following pretesting, fourth- and fifth-grade teachers were assigned and trained in one of the instructional approaches. Every effort was made to assign teachers to an instructional approach that matched their teaching style preferences. Matching increased the likelihood that teachers would implement the approach appropriately. This is especially important with interventions on a topic such as multicultural sensitivity, where teachers' own subtle and overt views could influence their delivery of material and subsequent reinforcement during informal classroom and school time.

Initial training of teachers began in the fall of Year 1 and was supplemented by booster training sessions in the spring of Year 1 and fall of Year 2. Rutgers University undergraduate students were also assigned to assist teachers in implementing the approaches. Dr. Maurice Elias visited the school periodically to provide teachers with the opportunity to ask questions, problem solve, and/or receive any assistance they felt was needed. The school provided daily monitoring of intervention implementation and facilitated the exchange of information between teachers and Dr. Elias.

As participants began fifth grade in the fall of Year 2, they were administered the assessment battery again. Every effort was made to assign fifth-grade participants to classes following the same instructional approach they were exposed to in the fourth grade. The number of fifth-grade teachers

implementing each approach, however, influenced the degree to which this was possible. Thus, some students were exposed to a different approach as they entered fifth grade, which complicated follow-up analyses.

Follow-up analyses were also complicated by the implementation fidelity ratings fourth-grade teachers received at the end of Year 1. These ratings, based on the Levels of Use Scale developed by Hord, Rutherford, Huling-Austin, and Hall (1987), indicated that none of the fourth-grade teachers implementing the Multicultural Competence Approach did so adequately (i.e., all these teachers received ratings of zero, indicating nonuse of the intervention).

In the spring of Year 2, the fifth-grade follow-up occurred. The sixth-grade follow-up occurred in the fall of Year 3. The sixth-grade follow-up assessed all children entering sixth grade in the same middle school. Most of these children were from the intervention school, and some were from nonintervention schools (comparison group). Data collected were analyzed to determine how exposure to one of the fourth/fifth-grade interventions impacted social competence, violent/aggressive behavior, and inter-ethnic contact in the beginning of sixth grade.

Generally, results indicated that from baseline to fifth-grade follow-up, the Social Competence and Multicultural Competence Approaches had some impact on the social competence and violent/aggressive behavior of students. Baseline and fifth-grade follow-up descriptive statistics as a function of intervention group and for the group of participants as a whole are presented in Table 1. Missing data accounts for the differences in sample size. There were no significant baseline differences between intervention groups on the dependent variables.

Regression analyses were used to determine how well baseline dependent variable values and intervention group predicted fifth-grade follow-up values. Table 1 presents the significant unstandardized regression weights for the intervention group variables. The reference group for the intervention variables (i.e., Social Competence Approach and Multicultural Competence Approach) is the No Treatment condition. Thus, the unstandardized regression weights presented reflect the difference between the mean of an intervention group and the mean of the No Treatment condition on a particular variable.

As the unstandardized regression weights presented in Table 1 indicate, several results were consistent with our hypotheses. Specifically, students exposed to either the Social Competence or Multicultural Competence Approach scored higher than their peers in the No Treatment condition on the Group Social Problem Solving Assessment (GSPSA; a measure of social competence), and on one measure of violent/aggressive behavior (Observes Rules). Students exposed to the Social Competence Approach also scored higher on the Sociability-Leadership scale of the Revised Class Play,

**Table 1**  
**Baseline to Fifth-Grade Follow-up Descriptive Statistics and Unstandardized Regression Weights**

Variables	Baseline Values			Fifth-Grade Follow-up Values			Unstandardized Regression Weights (Baseline to Fifth Grade)
	N	M	SD	N	M	SD	
Social Competence							
RCP Sociability-Leadership							
Sample	197	0.53	0.41	199	0.58	0.58	
Social Competence Approach	71	0.54	0.40	71	0.77	0.69	0.27**
Multicultural Competence Approach	67	0.55	0.49	67	0.50	0.55	
No Treatment	59	0.49	0.32	61	0.46	0.40	
TCRS Competence Scale							
Sample	197	69.22	18.44	199	73.84	19.89	
Social Competence Approach	71	70.64	18.11	71	72.63	20.43	-7.76**
Multicultural Competence Approach	65	71.27	20.43	67	71.95	21.11	-8.28**
No Treatment	61	65.66	16.21	61	76.94	18.14	
GSPSA Interpersonal Sensitivity							
Sample	185	12.76	2.68	197	13.83	1.95	
Social Competence Approach	65	12.43	2.80	71	14.05	1.58	0.96**
Multicultural Competence Approach	63	13.11	2.60	65	14.26	1.54	1.06**
No Treatment	57	12.70	2.63	61	13.18	2.74	
GSPSA Problem Analysis & Action							
Sample	185	12.76	2.68	198	14.06	4.10	
Social Competence Approach	65	9.84	4.42	71	14.96	3.76	2.60**
Multicultural Competence Approach	63	10.55	4.66	66	14.33	3.70	1.75*
No Treatment	57	12.70	2.63	61	12.89	4.85	

(continued)

Table 1 Continued

Variables	Baseline Values			Fifth-Grade Follow-up Values			Unstandardized Regression Weights (Baseline to Fifth Grade)
	N	M	SD	N	M	SD	
GSPSA Specificity of Planning							
Sample	185	5.48	2.46	198	6.84	2.46	
Social Competence Approach	66	5.18	2.37	71	7.42	2.18	1.53**
Multicultural Competence Approach	63	5.71	2.68	66	6.98	2.44	0.81*
No Treatment	56	5.57	2.32	61	6.12	2.76	
Violence/Aggression							
RCP Aggressive-Disruptive							
Sample	197	0.24	0.45	199	0.25	0.41	
Social Competence Approach	71	0.30	0.44	71	0.30	0.47	
Multicultural Competence Approach	67	0.23	0.40	67	0.24	0.33	
No Treatment	59	0.19	0.50	61	0.22	0.44	
TCRS Acting Out Scale							
Sample	198	10.02	5.55	199	9.82	5.16	
Social Competence Approach	71	11.00	6.11	71	11.66	6.54	
Multicultural Competence Approach	66	9.84	5.70	67	9.47	5.27	2.58**
No Treatment	61	9.09	4.53	61	8.34	3.66	
Report Card Conduct Ratings <sup>a</sup>							
Social Competence Approach							0.20*
Multicultural Competence Approach							0.17*
No Treatment							
Office Referrals							
Sample	196	0.08	0.37	199	0.05	0.28	
Social Competence Approach	70	0.10	0.29	71	0.08	0.40	
Multicultural Competence Approach	66	0.06	0.24	67	0.01	0.12	
No Treatment	60	0.07	0.52	61	0.05	0.21	

(continued)

Table 1 Continued

Variables	Baseline Values			Fifth-Grade Follow-up Values			Unstandardized Regression Weights (Baseline to Fifth Grade)
	N	M	SD	N	M	SD	
<b>Interethnic Interaction</b>							
<b>RCP Minority Acceptance</b>							
Sample	198	0.12	0.11	199	0.14	0.16	
Social Competence Approach	71	0.12	0.11	71	0.20	0.21	
Multicultural Competence Approach	67	0.12	0.11	67	0.12	0.16	0.08**
No Treatment	59	0.11	0.10	61	0.10	0.10	
<b>RCP Minority Rejection</b>							
Sample	197	0.10	0.17	199	0.11	0.17	
Social Competence Approach	71	0.11	0.17	71	0.17	0.26	
Multicultural Competence Approach	67	0.09	0.15	67	0.10	0.13	0.11**
No Treatment	59	0.10	0.19	61	0.07	0.13	
<b>Cross-Race Friends</b>							
Sample	194	0.62	0.20	193	0.62	0.18	
Social Competence Approach	71	0.64	0.20	68	0.64	0.17	
Multicultural Competence Approach	66	0.58	0.20	66	0.58	0.20	-0.05*
No Treatment	57	0.62	0.19	59	0.64	0.16	

Note. Revised Class Play (RCP) scores (i.e., Sociability-Leadership, Aggressive-Disruptive, Minority Acceptance, and Minority Rejection) represent the number of times participants were nominated for items on a given RCP scale divided by class size. Higher values indicate more nominations. Higher Teacher-Child Rating (TCRS) Competence scores indicate greater competence. Higher TCRS Acting Out scores indicate greater acting out. Higher Group Social Problem Solving Assessment (GSPSA) scores (i.e., Interpersonal Sensitivity, Problem Analysis and Action, and Specificity of Planning) indicate greater skill in these areas. Cross-Race Friends scores represent participants' percentage of cross-race friends.

\*These data are more meaningfully presented as categorical, rather than ordinal, data. As such, they are not presented here.

\*  $p \leq .05$ , \*\*  $p \leq .01$ .

and on one measure of positive interethnic interactions (Minority Acceptance). These positive results, however, were offset by findings inconsistent with our hypotheses. For example, students exposed to the Social Competence and Multicultural Competence Approaches received scores lower than their peers on the Competence scale of the Teacher-Child Rating Scale (TCRS). Sixth-grade follow-up results (not presented in the table) were disappointing and indicated neither approach had a long-term impact on the violent/aggressive behavior, social competence, or positive interethnic interactions of students when they entered sixth grade.

As discussed, the Piscataway Project used action research to develop, implement, and evaluate school-based violence prevention approaches. Although fraught with challenges, this project was ultimately rewarding even though empirical results were not as strong as we would have liked. The remainder of this article will describe some of the variables that impact school-based preventive interventions and discuss how these variables influenced the Piscataway Project.

### **VARIABLES THAT IMPACT SCHOOL-BASED PREVENTIVE INTERVENTIONS**

Elias (1994) identified conceptual, delivery, training, and organizational variables that contribute to outcomes of school-based preventive interventions. Conceptual variables include the literature and theory that a team of action researchers draw upon to understand a particular problem, how its possible solution has been addressed in the past, and what ideas should now drive the present work. In the case of the Piscataway Project, our social-learning, social-cognitive, and multicultural perspective on violence greatly influenced the development of the interventions. This view shaped our understanding of the behaviors we observed in the school and helped determine the content of our interventions.

The next set of variables relates to the delivery system of a particular intervention. What principles of effective learning are being applied? What instructional strategies are being used and how are they being appropriately tailored to the recipient populations? Of course, the latter is made more complex when populations are diverse in age, gender, culture, socioeconomic conditions, and/or initial skill levels.

For the Piscataway Project, teachers were the primary delivery system. They were responsible for implementing the approaches in their classrooms on an ongoing basis. This method of delivery proved challenging. Initially, many teachers expressed discomfort about working with emotions and asking students to express their feelings about real-life situations. Other teachers felt teaching social and multicultural competence was the responsibility of parents, not schools, and were resistant to implementing the interventions. The most challenging group of teachers, however, were

those who verbalized support for implementing the approaches, but never followed through in their classrooms. As a result, some students did not receive a full “dose” of the intervention approach they were assigned.

Related to delivery system variables are training variables. Who is being prepared to deliver the intervention? What approaches are being used for that preparation? What materials will be available for both the implementers and the recipients of a particular program or innovation? How up-to-date and user friendly are these materials?

As mentioned previously, we trained teachers to deliver the interventions in the Piscataway Project. Providing teacher training was complicated by a host of practical factors such as time, space, and money. We had to accommodate teachers’ schedules, find a welcoming location for the training, and secure funds to pay the substitute teachers who replaced the teachers attending training. In addition to these practical factors, it was essential to design the training in an engaging and meaningful way that would help the teachers bring what they learned back into the classroom.

Similar to training, delivery system, and conceptual variables, organizational variables also have a significant impact on the outcome of school-based preventive interventions. How hospitable is the school to the innovation? What is the balance of resources, sources of resiliency, and constraints (Elias & Clabby, 1992)? Have there been key staff changes or key changes in management procedures? What are the specific developmental, historical, and situational contexts in which an innovation is being instituted? Is the setting in the midst of some kind of whole school reform or other goal-setting change-oriented process? Have similar efforts been undertaken recently, and with what degree of success? What are the racial issues involved? The authors have been in situations in which prior university-based researchers have been perceived as exploiting a school setting, interested in data and not in change, with racial differences between the researchers and the staff adding further tension to an already palpable climate of mistrust. When an innovation is brought in against a backdrop of mistrust, understanding the efficacy of that innovation must be filtered against a large number of implementation factors that will have been adjusted for the unique context being faced at the time.

Many organizational factors impacted the outcome of the Piscataway Project. Although the school administration was quite hospitable and welcomed our involvement, the teachers’ receptivity varied and influenced the degree to which they embraced and implemented the interventions. Developmental issues positively influenced the outcome of our interventions. As a newly formed school, the school was open to change and in the process of developing its identity. This increased the possibility that our interventions would become part of the school’s fabric rather than an isolated project. Racial issues represented another influential organizational factor. The

school was formed as a result of a desegregation mandate, and observed racial tension between students prompted the principal to seek our involvement. Despite general recognition of racial tension in the school, however, teachers' comfort with addressing these issues varied and influenced implementation of the Multicultural Competence Approach.

The preceding discussion of conceptual, delivery, training, and organizational variables that impact school-based preventive intervention outcomes highlights the complexity associated with school-based action research. Action researchers must keep all these variable in mind when entering a school, and develop creative ways of addressing them. Failure to do so greatly impacts the implementation and outcome of school-based interventions.

Indeed, the study of implementation is emerging as among the most important areas in school-based prevention research. Weissberg and Greenberg (1998) have written eloquently on the shortcomings and importance of studying implementation. The evidence appears to suggest that in the few examples examining how variables related to the parameters of an intervention were organized and delivered, there is a relationship between implementation quality and outcome. As of this writing, the *Journal of Educational and Psychological Consultation* (JEPC) just published the first of two special issues devoted entirely to the implementation of prevention programs (Volume 11, Issues 1 and 2, 2000). What emerges from a reading of the diverse examples and contexts in which school-linked prevention programs have been undertaken is a critical tension between nomothetic and idiographic approaches to research. The search for general laws, overarching principles, and construct-saturated "truths" that can be extracted from a limited number of studies and which can efficiently guide our interventions against violence and other problem behaviors is balanced by the growing recognition that interventions are embedded in and inextricable from their contexts. (This is reminiscent of prior debates in our field about the extent to which an assessment instrument, particularly a projective assessment, can be "evaluated" independent of its user, or whether the unit of analysis should be the test and tester.)

For researchers, this tension has a lot to do with the nature of inferences one can make from the findings of a particular study, as well as the level of detail that is needed so that the context in which a study takes place is properly understood. The resolution of this tension is not an "either/or" question, although it appears to be helpful when a given project knows "where it stands" with regard to its own approach. When research is going to be put into action, it becomes important that parameters for generalization are taken very seriously. Studies are most likely to be replicable under conditions closest to those in which empirical demonstrations have taken place. Yet, if studies are carried out under conditions of support that are extraordinary, the likelihood of replication even in similar settings is reduced. The

articles in the JEPC special issue embrace the challenges involved in turning research into sound practice by addressing a variety of ways in which the implementation of programs can be measured, reported, and the information used for program modification and improvement.

### LESSONS LEARNED

Successful school-based action research projects must always keep in mind the various conceptual, delivery, training, and organizational variables that can influence outcome. Developing creative ways to address these variables is tricky, but failure to do so greatly limits the potential of any intervention. Through the Piscataway Project, we learned many valuable lessons about how best to address these variables.

Conceptual variables or guiding concepts must be thoroughly explored and clarified before developing any school-based intervention. This involves reviewing the literature and formulating a sound theory about what influences a problem behavior. A clearly articulated theoretical perspective guides the development and evaluation of interventions. For the Piscataway Project, we devoted a considerable amount of time to developing our multicultural social-learning/cognitive perspective on violence. This work proved especially valuable when we began interpreting the results of our study. Although our results did not fully support our hypotheses, our theoretical perspective helped us identify flaws in the implementation of the interventions that may have contributed to poor results.

For example, a fundamental premise of the Multicultural Competence Approach was that through modeling and other social-learning principles, students working in cooperative interethnic groups would learn how to relate better to peers from different cultures. Results, however, did not support this premise. When the implementation of this approach was more closely reviewed, we learned that teachers had great difficulty forming and maintaining interethnic groups. Thus, our disappointing results may have been more a function of implementation difficulties rather than a flawed theoretical perspective.

In addition to teaching us the importance of theory for school-based prevention efforts, the Piscataway Project emphasized how critical delivery and training variables are to the successful implementation of an intervention. For school-based prevention efforts, teachers are often the ideal implementation agents because they have the most daily contact with students. We learned that the efficacy of teachers as implementation agents is contingent on their support for the intervention (i.e., do they believe in the potential value of the intervention for their students, their school, and themselves?) and the support and training they receive to implement the intervention.

Given the many demands placed on teachers, they must “buy into” the intervention and receive ongoing training if they are to implement it successfully. This process requires a lot of time and effort on the part of school-based researchers but is essential. Note that it also calls into question the interpretation of results from randomized trials in which teachers are assigned conditions. The design of the Piscataway Project, which called for “matching” teachers to their preferred intervention, allowed us to make conclusions about the findings that at least ruled out the powerful and potentially confounding variable of personal intervention compatibility.

Successful school-based interventions also require close attention to organizational variables. In the Piscataway Project, we learned the importance of monitoring organizational variables on an ongoing basis. These variables really define the climate of a school and influence a school’s receptivity to an intervention. To monitor the school’s climate, we had to become part of the school’s fabric, not just researchers interested in collecting data. This required regular visits to the school and informal conversations with staff and students about our project, as well as their concerns. In this way, we were attuned to changes in the school’s climate that could impact the interventions and were able to take steps to address these issues. Of course, the important factor of “adaptability” of an innovation is difficult to account for in the context of a formal evaluation design; yet, it is the essence of the process of action research.

The lessons we learned from the Piscataway Project have allowed us to encounter a wide range of issues that will touch the work of those interested in school-based violence and other problem behavior prevention and, therefore, we are confident in the value of our experiences and observations for others interested in the development and implementation of school-based interventions. School-based action research is a challenging and, sometimes, frustrating endeavor. Attention to the conceptual, delivery, training, and organizational variables that impact this research, however time consuming, ultimately makes the work very rewarding. Since beginning in Piscataway, the prevention work has continuously improved and expanded, touching an increasing number of schools and grade levels at this writing. It has branched into academics and entered the fabric of school life, and the processes we have outlined have been effective in other school contexts (Elias et al., 1997). Ultimately, the realistic possibility of success helps to overcome the challenges and frustrations.

## REFERENCES

- Allport, G. W. (1954). *The nature of prejudice*. Cambridge, MA: Addison-Wesley.
- American Psychological Association Commission on Violence and Youth. (1993). *Summary of Commission findings*. Washington, DC: Author.

- Bandura, A. (1983). Psychological mechanisms of aggression. In R. G. Green & E. I. Donnerstein (Eds.), *Aggression: Theoretical and empirical reviews* (Vol. 1, pp. 1–40). San Diego, CA: Academic Press.
- Dodge, K. A., Price, J. M., Bachorowski, J., & Newman, J. P. (1990). Hostile attribution biases in severely aggressive adolescents. *Journal of Abnormal Psychology, 99*, 385–392.
- Dwyer, K., Osher, D., & Warger, C. (1998). *Early warning signs, timely response: A guide to safe schools*. Washington, DC: U.S. Department of Education.
- Elias, M. J. (1994). Capturing excellence in applied settings: A participant conceptualizer and praxis explicator role for community psychologists. *American Journal of Community Psychology, 22*, 293–318.
- Elias, M. J., & Clabby, J. F. (1989). *Social decision making skills: A curriculum guide for the elementary grades*. Gaithersburg, MD: Aspen.
- Elias, M. J., & Clabby, J. F. (1992). *Building social problem solving skills: Guidelines from a school-based program*. San Francisco: Jossey-Bass.
- Elias, M. J., Lantieri, L., Patti, J., & Walberg, H. (1999) Violence is preventable: Looking past Columbine. *Education Week, 18* (36), 45,49.
- Elias, M. J., & Tobias, S. E. (1996). *Social problem solving interventions in the schools*. New York: The Guilford Press.
- Elias, M. J., Zins, J. E., Weissberg, R. P., Frey, C. S., Greenberg, M. T., et al. (1997). *Promoting social and emotional learning: Guidelines for educators*. Alexandria, VA: Association for Supervision and Curriculum Development.
- Ellison, C. G., & Powers, D. A. (1994). The contact hypothesis and racial attitudes among black Americans. *Social Science Quarterly, 75* (2), 385–400.
- Hord, S., Rutherford, W., Huling-Austin, L., & Hall, G. (1987). *Taking charge of change*. Alexandria, VA: Association for Supervision and Curriculum Development.
- Hunter, L., & Elias, M. J. (2000). Interracial friendships, multicultural sensitivity, and social competence: How are they related? *Journal of Applied Developmental Psychology, 20*(4), 551–573.
- Rogers, M., Hennigan, K., Bowman, C., & Miller, N. (1984). Intergroup acceptance in classroom and playground settings. In M. Brewer & M. B. Brewer (Eds.), *Groups in contact: The psychology of desegregation* (pp. 213–227). Orlando, FL: Academic Press.
- Weissberg, R. P., & Greenberg, M. T. (1998). School and community competence-enhancement and prevention programs. In W. Damon (Series Ed.) and I. Siegel & A. Renninger (Vol. Eds.), *Handbook of child psychology: Vol. 4. Child psychology in practice* (5th ed., pp. 877–954). New York: Wiley.