

Columbia University MAILMAN SCHOOL OF PUBLIC HEALTH

Changing Children's Trajectories of Development

Two-Year Evidence for the Effectiveness of a School-Based Approach to Violence Prevention

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The National Center for Children in Poverty identifies and promotes strategies that prevent child poverty in the United States and that improve the lives of low-income children and families.

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The RCCP helps children develop interpersonal skills and cognitive strategies that foster creative and nonviolent solutions to conflict. RCCP lessons are also associated with more positive academic achievement trajectories over time.

INTRODUCTION

Awareness of the problem of youth violence has increased in recent years, resulting in more widespread interest among parents, policymakers, and researchers in programs that can prevent youth violence and aggressive behavior. Indeed, although overall rates of youth violence have declined since the mid-1990s, rates of some forms of youth aggression, violence, and crime remain high. National data reveal that, each year, about 15 percent of high school youth are involved in a physical fight at school and 8 percent are threatened or injured with a weapon.¹ Another 5 percent of young people report being bullied by another student at school. Urban youth are at particular risk for violence exposure and victimization.²

The causes of youth violence are multifaceted. Many of the factors that are known to put children at risk for becoming violent offenders, such as violence exposure, conduct problems, and some types of social-cognitive processes, are frequently experienced before adolescence.³ Therefore, it is important to examine developmental trajectories of such childhood risk factors so that we may identify children who appear to be on pathways toward future delinquency and aggression. Interventions designed to influence the direction of growth and/or the rate of change in such risk factors for youth violence should begin early. Research has shown that such early interventions can have long-term effects on children's development into adolescence and adulthood and on the emergence of aggressive and delinquent behavior in particular.⁴

This research brief describes one of the largest and longest running school-based violence prevention programs in the country—the Resolving Conflict Creatively Program (RCCP) and discusses the results of a rigorous evaluation of its effectiveness conducted by the National Center for Children in Poverty (NCCP) at Columbia University's Mailman School of Public Health. The brief is designed to inform federal, state, and local policymakers and opinion leaders, as well as program developers and managers at the local level, of an effective strategy for directly addressing the problem of violence among children and youth. The evaluation assessed the impact of the RCCP program on children's developmental trajectories toward violence, providing concrete evidence that early school-based violence prevention initiatives such as the RCCP can work and should be included in communities' efforts to prevent violence among children and youth. The RCCP is a school-based primary prevention program that begins in kindergarten and extends through the 12th grade. The program is designed to promote constructive conflict resolution and positive intergroup relations. In doing so, it reduces early social-cognitive and behavioral risks for later aggression and violence. Founded in 1985 as a collaboration between a community-based not-for-profit group, Educators for Social Responsibility Metropolitan Area (ESR Metro), and the New York City Board of Education, the RCCP has trained and coached some 6,000 teachers in providing instruction in the RCCP curriculum to more than 200,000 children in New York City. The RCCP has also been replicated in 15 other school districts around the country.⁵

The RCCP is based on the philosophy that aggressive and violent behavior is learned and therefore can be reduced through education. The specific objectives of the program are to:

- Reduce violence and violence-related behavior.
- Promote caring and cooperative behavior.
- Teach students life skills in conflict resolution and intercultural understanding.
- Promote a positive climate for learning in the classroom and school.⁶

These objectives are implemented primarily through a curriculum taught by teachers who receive both initial training and ongoing coaching from the RCCP staff developers. The RCCP is also carried out through the training of student-based peer mediation groups and school administrators, and by continued outreach to parents. Through this multicomponent approach, the RCCP aims to transform the cultures of classrooms and schools, thereby providing children with an environment containing real opportunities for social-emotional learning as well as for traditional academic learning.

The Curriculum

The RCCP curriculum aims to develop several core skills—communicating clearly and listening carefully, expressing feelings and dealing with anger, resolving conflicts, fostering cooperation, appreciating diversity, and countering bias. The lessons are organized into units based on these skills, and each lesson is designed to take from one-half to one hour, allowing for considerable teacher flexibility. Presented in 'workshop' format, the teacher's role in the lessons is not to impart knowledge, but rather to facilitate student-directed discussions and learning. This format has been shown to be an effective way to teach conflict resolution and inter-group relations.⁷ Different versions of the curriculum have been developed for children in the lower and upper elementary school grades, as well as high school, enabling concepts to be conveyed to children at age-appropriate levels.

Teacher Training and Coaching

The RCCP staff provide 25-hour introductory teacher-training courses and ongoing classroom coaching, facilitate after-school meetings with other trained teachers in the school, and conduct advanced training sessions. During the training and follow-up instruction, teachers practice the skills they will be teaching, learn effective techniques for conveying these skills to children, and discover ways to incorporate the concepts and skills into academic courses. The ongoing follow-up and opportunities for advanced training enable teachers to review these core skills and provide support to them as they continue teaching RCCP lessons.

Peer Mediation

The peer mediation component of the RCCP gives children opportunities to use the conflict resolution skills they have learned by being actively involved in creating a peaceful school environment. Children in grades 4–6 who are selected by nominations from classmates, teacher recommendations, and/or an application process receive additional training in conflict mediation and become identified as peer mediators who may intervene in conflicts between their student peers during lunch and recess. Mediators wear special T-shirts and work in pairs. When they see a conflict or an emerging conflict is brought to their attention, they approach the involved students and offer their assistance in settling the conflict. They do not intervene in physical fights.

Changing the School Culture

In addition to training individual teachers and children, the RCCP aims to change the school culture. Toward that end, the RCCP also gives instruction to school administrators. The program is slowly introduced into a school over the course of several years. Initially, just a few highly motivated teachers are recruited. Over time, more teachers are added and more program components are implemented until all of the program components are being used by the majority of teachers in a school. By "saturating" schools, the culture and climate of the schools are changed and the RCCP has a greater impact on the students.

The RCCP also offers a parent training component entitled Peace in the Family. Parent workshops are offered in some schools by RCCP staff who typically conduct 10–12 hours of training per year for parents over the course of four workshops. These workshops cover the same topics taught to teachers, such as active listening, assertiveness, and negotiation skills, plus an understanding of the developmental needs of children at different ages.

A previous study by Metis Associates and the Education Development Center⁸ found that teachers are pleased with the RCCP and believe it positively affects their teaching and personal lives. Furthermore, teachers reported that the RCCP is effective at reducing aggression among their students.⁹

The NCCP evaluation of the RCCP is the first to: (1) investigate its impact on child development by direct assessment of children, and (2) use comparison groups of children who did not participate in the program. Data were collected over the course of two years beginning in the fall of the 1994–1995 school year and ending in the spring of the 1995–1996 school year. Over these two years, the evaluation included approximately 11,000 children in grades 1–6 from 15 New York City elementary schools. Both the students and the schools were highly representative of the public education system in New York City, with approximately one-third Latino, one-third African-American, and one-sixth white.

The evaluation design was guided by the understanding that certain types of social-cognitive and interpersonal behavioral processes forecast future violent and aggressive behavior and that children's developmental trajectories of these processes are modifiable through intervention. Social-cognitive and interpersonal behavioral processes associated with later violence include children's beliefs and fantasies concerning aggression, their attributions about other people's behavior, and their interpersonal problem-solving skills. The evaluation design allowed for the assessment of the impact of the RCCP on trajectories of hostile attribution bias, other social-cognitive processes, and aggressive behavior across the entire middle childhood period. In other words, because children in the sample were from similar backgrounds and schools, data from younger children and older children could be combined to reveal the average trajectory of each outcome among urban children between the ages of 6 and 12.¹⁰

The Findings

The social-cognitive and interpersonal behavioral processes that lead to aggression and actual levels of aggressive behavior increase during middle childhood.¹¹ The results of this evaluation show that the RCCP can significantly reduce the rate at which these risky processes and behaviors increase. These findings are consistent for both child and teacher reports of children's development. In addition, the strength of the association between RCCP participation and the rates of change in these processes does not differ for children from varying experiential backgrounds. In other words, the RCCP benefits all children regardless of race/ethnicity, gender, or classroom and neighborhood context. The specific results are outlined below.

Implementation

The first important finding was that teachers varied greatly in their levels of RCCP implementation. For example, in years one and two of the evaluation, participating teachers taught between one and 80 and one and 115 lessons, respectively.¹² Students of RCCP-trained teachers received an average of 13 lessons in year one and 14 lessons in year two of the study.

Outcomes

Using data from the two-year study, NCCP researchers were also able to characterize average developmental trajectories of each targeted outcome across the middle childhood years. Statistical analyses combined data from all children in the study, including up to four waves of data per child. This strategy allowed researchers to identify the average pattern of change in each outcome that characterizes children between the ages of 6 and 12. The outcomes included hostile attributions, aggressive fantasies, aggressive and competent problem-solving strategies, and aggressive and competent behaviors. The results are presented here for child reports and teacher reports of these outcomes.

Child Reports¹³

Analyses of data reported by children at the studied schools found:

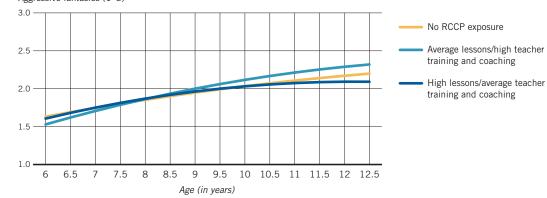
General Trends

- Children's hostile attributions and use of aggressive problem-solving strategies accelerated after age 8.
- Conduct problems and aggressive fantasies increased across middle childhood.
- Competent problem-solving strategies increased until age 10 and then declined between ages 10 and 12.

Variation by RCCP Implementation¹⁴

- Children exposed to more RCCP lessons showed lower levels of hostile attributions and decreases in hostile attributions and aggressive problem-solving strategies over time.
- Children exposed to more RCCP lessons exhibited declining trajectories of conduct problems.
- Exposure to more RCCP lessons was related to a slower rate of acceleration in aggressive fantasies. (See Figure 1.)

Figure 1. Aggressive fantasies: Effects of Year 1 and Year 2 classroom instruction and teacher training and coaching



Aggressive fantasies (1-3)

NOTE: For Figures 1-3:

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Teacher Reports¹⁵

Analyses of data reported by teachers about the behavior of each of the students in their classrooms found:

General trends

- Increases in aggressive behavior up to age 10.
- A rapid increase in prosocial behavior after age 10.

Variation by RCCP Implementation¹⁶

• Increases in prosocial behavior (see Figure 2) and declines in aggressive behavior (see Figure 3) were observed for youth exposed to more lessons.

Figure 2. Teacher-reported prosocial behavior: Effects of Year 1 and Year 2 classroom instruction and teacher training and coaching

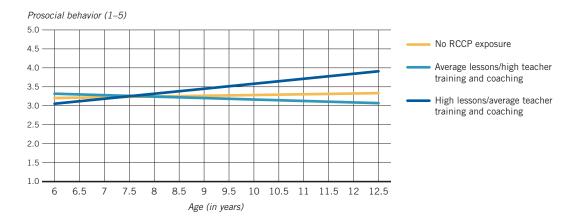
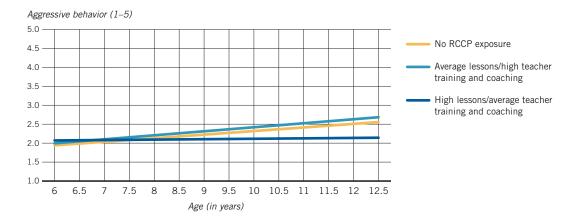


Figure 3. Teacher-reported aggressive behavior: Effects of Year 1 and Year 2 classroom instruction and teacher training and coaching



Measures of Academic Achievement¹⁷

Analyses of children's mathematics achievement records obtained from the New York City Board of Education revealed that:

- Children's math scores on standardized achievement tests increased significantly over the two years of the study.
- Exposure to more RCCP lessons directly predicted growth in math achievement.
- Exposure to more RCCP lessons also related to decreases in teacher perceptions of youth problem behavior. These decreases in teacher perceptions of problem behavior, in turn, predicted growth in math achievement.

The association between RCCP exposure and math achievement reveals that incorporating social and emotional learning into the classroom promotes academic learning. The direct association between exposure to RCCP lessons and increases in math achievement suggests that children may be able to focus more on academics when there is less conflict with classmates. The indirect effect of RCCP lessons on children's math achievement via teacher perceptions suggests that actual behavior change occurred among students as a result of the RCCP. Further, this finding indicates that teachers may have more time to focus on teaching—rather than classroom management—when classroom conflict is low. As a result, students experience greater opportunities for learning and, subsequently, increased achievement. Future analyses will examine the effect of RCCP lessons on changes in children's reading achievement.

Summary of Findings

These results supply compelling evidence for the effectiveness of the RCCP in impacting the developmental trajectories of children's social-cognitive processes and behaviors associated with later aggressive behavior and violence. These results are consistent across reporters (children, teachers, and objective measures of academic performance). Those who benefit most are those children whose teachers cover a large number of lessons from the RCCP curriculum.

Findings from evaluations of similar violence prevention programs are consistent with the results of the RCCP evaluation. For example, a recent experimental evaluation of the FAST Track prevention model's PATHS (Promoting Alternative Thinking Strategies) curriculum, which is similar to the RCCP curriculum but does not focus as explicitly on conflict resolution skills, has demonstrated that program's efficacy. Specifically, first-grade children in the intervention school had consistently and significantly lower levels of aggressive and disruptive problems than children in the comparison school.¹⁸

Together, the findings from the experimental evaluation of FAST Track (which optimizes confidence that exposure to a curriculum is causing the observed effects) and the quasi-experimental evaluation of the RCCP (which optimizes confidence that similar findings would be obtained in other RCCP classrooms and schools) demonstrate the potential power of school-based early interventions for reducing aggression and preventing violence.

An emphasis on children's social-emotional learning enhances, rather than detracts from, children's academic learning.

Program Cost

The success of the RCCP at slowing developmental trajectories of aggression is achieved at little financial expense. According to ESR Metro, the RCCP can be implemented for approximately \$2,449 per teacher.¹⁹ With 25 students per class, the cost translates into just \$98 per child for the first year of program implementation. This price includes classroom instruction with the RCCP curriculum, teacher training, follow-up visits by the RCCP staff developers, and ongoing teacher support. The cost of RCCP is roughly equivalent to other similar school-based prevention programs.²⁰

Implications for Program and Policy

The RCCP evaluation results to date have a number of implications for the design and implementation of successful violence prevention programs and for effective social policy pertaining to youth violence.

Improving Program Design and Implementation

The effectiveness of the RCCP highlights the potential of school-based prevention programs that focus on the social-cognitive antecedents of aggression to reduce the growth of aggressive behavior and prevent violence. The RCCP evaluation shows that, by teaching children constructive social-cognitive strategies and interpersonal behaviors for dealing with conflict situations, violence prevention interventions can impact their subsequent behavior. Key findings are highlighted below.

- *RCCP lessons promote positive child development.* Controlling for other factors, children who received more RCCP lessons exhibited more positive changes in social-cognitive and interpersonal behavioral processes. This finding reveals that the RCCP effectively achieves its goals, helping children develop interpersonal skills and cognitive strategies that foster creative and nonviolent solutions to conflict. RCCP lessons are also associated with more positive academic achievement trajectories over time. Thus, teachers using the RCCP curriculum can be encouraged to provide a greater number of lessons with confidence that academic learning is promoted, rather than compromised, by the teaching of social-emotional skills.
- The RCCP appears to be effective for children from a variety of cultural, economic, and experiential backgrounds. No consistent differences in program effectiveness by child gender, child ethnic background, or family socioeconomic resources were observed in the two-year evaluation. This finding suggests that a universal school-based preventive inter-

vention with a common curriculum can be implemented in a sensitive and effective manner that benefits children from a diverse range of backgrounds.

- Although the RCCP appears to be a successful primary prevention strategy for most children, some children are at substantially higher risk for future aggressive and violent behavior than others and need particular attention. To address this need, the RCCP piloted a new intervention component during the second year of the evaluation that focused on the specific needs of high-risk children. This intervention component included group and community service activities, intensive training in the RCCP concepts and skills, the pairing of high-risk children with children identified as positive peer leaders, and additional parental outreach. The goal of identifying and providing additional services to high-risk children is to improve the program's ability to facilitate positive change among the highest-risk children and thereby broaden the impact on school climate to more effectively prevent future violence.
- Evaluation results suggest that teachers need to be psychologically and behaviorally invested in new educational programs for the programs to be successful. In the case of the RCCP, increased teacher training was ineffective and potentially detrimental if it was not translated by teachers into the actual implementation of the RCCP lessons. The findings of the NCCP evaluation are consistent with the findings of the Education Development Center evaluation that some teachers may have felt coerced to participate by their principals. These teachers may have been more resistant to the fundamental principles of the RCCP,²¹ and/or faced competing and overwhelming stresses on their time and attention resources. This finding raises questions about teacher professional development, namely how best to cultivate intrinsic interest in conflict resolution education among teachers who are less likely to actively volunteer for the program. It also raises questions about how best to allocate program resources. One option would be to focus professional development on the teachers most interested in teaching the RCCP curriculum and give them more responsibility for implementing the curriculum (for example, as designated conflict resolution teachers for their grade or school). Another approach would be to develop innovative techniques for engaging teachers who are uncomfortable with the curriculum or resistant to it.

The Evolution of ESR Metro's Work: From RCCP to The 4Rs

ESR Metro has recently developed the 4Rs (Reading, WRiting, Respect, and Resolution), a new program that builds upon the knowledge gained through the evaluation of the RCCP. The 4Rs combines instruction in conflict resolution and language arts with the dual goals of developing children's literacy skills and creating classroom environments that support nonviolent collaborative problem-solving.²² The program fits within the new "balanced literacy" framework now being implemented systemwide by the New York City Department of Education.

In the 2002–2003 school year, the 4Rs was implemented by 107 New York City public school teachers from 25 schools in four community school districts. ESR Metro plans to expand the program in the coming years. Additional program components, designed to reinforce the non-

violent conflict resolution strategies learned in school through activities with parents at home and in the context of after-school activities, will also be implemented. The parent component, Parent-Child Connections, has already been used in some schools. The after-school component, 4Rs After-School, is currently being piloted. ESR Metro and the NCCP research team have recently been funded by a grant sponsored by the Institute of Education Sciences, U.S. Department of Education, and the U.S. Centers for Disease Control and Prevention to conduct a rigorous random assignment study of the 4Rs program over the period 2003-2008.

Changing Social Policy

Three important implications for social policy emerge from NCCP's evaluation of the Resolving Conflict Creatively Program.

- An understanding of typical child development trajectories and how they vary for subgroups of children is key to knowing when and how to intervene to prevent youth violence. The trajectories of social-cognitive and behavioral processes identified in the RCCP evaluation help us understand the development of childhood precursors to youth violence. Differences in initial levels and/or rates of change in the development of these precursors allows us to identify children at heightened risk for later violence. For example, boys, children from lower-income families, and racial/ethnic minority children evidence higher initial levels of and greater yearly increases in risky social-cognitive processes and behaviors. Because the shape of the trajectories of these heightened-risk groups of youth were similar to the overall sample, however, these differences are most likely determined by social factors, such as early exposure to violence and reinforcement of aggressive interpersonal negotiation strategies. The effects of these social factors can be modified through interventions such as the RCCP that help children develop a wide repertoire of nonviolent conflict resolution strategies.
- School-based prevention should be a central component of effective legislative efforts pertaining to youth violence. Schools are the key institutions for the implementation of prevention programs because children spend the majority of their day at school, and the interactions they have with teachers and classmates greatly impact their social development. As states and communities consider how to deal with the problem of youth violence, it is important to inform policymakers that school-based violence prevention programs like the RCCP should be one key component of a strategy to prevent youth violence.
- Schools can prevent violence, teach critical life skills, and raise academic achievement at the same time. The available evidence also suggests that an emphasis on children's socialemotional learning enhances, rather than detracts from, children's academic learning. Schools do not have to choose between developing children's emotional intelligence and their academic achievement. The RCCP does both.
- *Teachers' quality of program implementation and support for program philosophy determine the effectiveness of school-based prevention programs.* Therefore, social-emotional learning must receive support at all levels within school districts, and its importance should be emphasized in both graduate and continuing teacher education. It is estimated that the United States will need to hire 2.2 million new teachers in the next decade because of increasing school enrollments and teacher retirements, along with legislation to reduce class size.²³

The effects of the RCCP are gained at a relatively low cost and are not purchased at the expense of academic achievement.

This burst of growth in the number of new teachers offers opportunities to train a new generation of educators in the importance of social-emotional learning to reduce aggression, to promote social competence, and to bolster student academic achievement.

CONCLUSION

School-based prevention programs like the RCCP can work, and they should be an integral component of communities' initiatives to prevent aggression and violence among children and youth. Through teacher training, curricular instruction, and peer mediation, the RCCP and similar programs teach children constructive strategies to negotiate conflict and promote intergroup understanding. The results of the NCCP evaluation show that, when implemented well, the RCCP can set children on more positive developmental trajectories, slowing the rate of increase in aggressive social-cognitive processes and behaviors that lead to violence and enhancing children's classroom learning. Critical to educational policymakers, these effects are gained at a relatively low cost and are not purchased at the expense of academic achievement. On the contrary, high quality implementation of the RCCP appears to lead to more rapid increases in children's academic learning.

The goal of this report is to provide policymakers and program developers with the most recent results of the NCCP's rigorous evaluation of this school-based violence prevention program in order to assist them in making informed decisions about the development and implementation of violence prevention efforts. New knowledge developed from research and practice will help program developers continue to refine and strengthen school-based violence prevention strategies. Indeed, ESR Metro has continued to make advances in program development by integrating the principles of RCCP into a literacy development program. The new initiative, the 4Rs Program, also will be rigorously evaluated.

Youth violence is a growing concern for many Americans, and approximately two out of three schools now use some form of ongoing violence prevention program.²⁴ It is important that school decisionmakers select and implement programs whose effectiveness is supported by rigorous independent evaluations such as the Resolving Conflict Creatively Program.

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Jennifer Selfridge RCCP Program Director Educators for Social Responsibility ESR National Center Phone: (617) 492-1764 E-mail: jselfridge@esrnational.org 1. Kaufman, P.; Chen, X.; Choy, S. P.; Ruddy, S. A.; Miller, A. K.; Fleury, J. K.; Chandler, K. A.; Rand, M. R.; Klaus, P.; & Planty, M. G. (2000). *Indicators of school crime and safety, 2000.* (NCES 2001-017/NCJ-184176). Washington, DC: NCES.

2. See endnote 1 and Schwab-Stone, M.; Chen, C.; Greenberger, E.; Silver, D.; Lichtman, J.; & Voyce, C. (1999). No safe haven II: The effects of violence exposure on urban youth. *Journal of the American Academy of Child and Adolescent Psychiatry*, 38(4), pp. 359–367.

3. See, for example, Coie, J. D. & Dodge, K. A. (1998). Aggression and antisocial behavior. In N. Eisenberg (Ed.), *Handbook of child psychology, 5th Ed., Vol. 3: Social, emotional, and personality development.* New York, NY: John Wiley & Sons.

4. Yoshikawa, H. (1994). Prevention as cumulative protection: Effects of early family support and education on chronic delinquency and its risks. *Psychological Bulletin*, 115(1), pp. 28–54.

5. The sites replicating RCCP are: Anchorage, Alaska; Atlanta, Georgia; Lawrence, New York; New Orleans, Louisiana; Vista Unified Schools and Modesta City Schools, California; Newark, West Orange, and South Orange-Maplewood, New Jersey School Districts; Lincoln County, Oregon; Roosevelt School District, Arizona; and Boston, Massachusetts.

6. Ba, H. & Hawkins, J. (1996). *Resolving Conflict Creatively Program evaluation project.* New York, NY: Education Development Center, Inc.

7. Ray, P.; Alson, S.; Lantieri, L.; & Roderick, T. (1996). *Resolving conflict creatively: A teaching guide for grades kindergarten through six.* New York, NY: Educators for Social Responsibility Metropolitan Area.

8. See Metis Associates. (1990). *The Resolving Conflict Creatively Program: 1988–1989. Summary of significant findings.* New York, NY: Metis Associates. Also see Ba & Hawkins in endnote 6.

9. Teacher perceptions of the RCCP were examined in two prior evaluations conducted by Metis Associates and the Education Development Center. These evaluations found that teachers were pleased with the implementation of the RCCP at their schools and the training they received in the RCCP. They also perceived a positive impact of the program on child behavior. Teachers used the RCCP curriculum more when: (1) there was a high level of conflict in their classroom, (2) they perceived their students as having a particular need for the RCCP skills, and (3) they taught children in the higher grades. For further information about these evaluations see Metis Associates in endnote 8, Ba and Hawkins in endnote 6, and Aber, J. L.; Brown, J. L.; & Henrich, C. C. (1999). *Teaching conflict resolution: An effective school-based approach to violence prevention.* New York, NY: National Center for Children in Poverty, Columbia University, Mailman School of Public Health.

10. The NCCP evaluation was designed to ensure that its results would reflect the effectiveness of the RCCP as it has been implemented for the past decade in the New York City public schools. A quasi-experimental design was used in which comparisons were made between classrooms based on the extent to which teachers were involved with the RCCP and implemented its components (number of classroom lessons, amount of teacher training and coaching received from RCCP staff developers, and percentage of peer mediators in the classroom). Because of the nature of the RCCP teacher recruitment and implementation, random assignment of teachers was not possible. However, there was no systematic placement of children into classes based on level of RCCP implementation, so child assignment was, for all intents and purposes, random. Furthermore, the groups of children did not significantly differ on any of the pre-test measures, indicating that the groups were equivalent at baseline.

11. Aber, J. L.; Brown, J. L.; & Jones, S. M. (2003). Developmental trajectories toward violence in middle childhood: Course, demographic differences, and response to school-based intervention. *Developmental Psychology*, 39(2), pp. 324–348.

12. These findings have been published in a peer-reviewed scientific journal. See Aber, Brown, & Jones in endnote 11.

13. These findings have been published in a peer-reviewed scientific journal. See Aber, Brown, & Jones in endnote 11.

14. These analyses control for levels of teacher training and coaching (TTC). In these and previous analyses, we found that children whose teachers received more TTC became more aggressive over time. This suggests that the TTC went to teachers with the greatest need for such support and guidance. In the figures of this report, the children whom we describe as exposed to high lessons also had teachers who received average levels of TTC. The children who were exposed to average lessons had teachers who received high levels of TTC.

15. These findings have been published in a peer-reviewed scientific journal. See Aber, Brown, & Jones in endnote 11.

16. These analyses also control for levels of TTC. See endnotes 12 and 14.

17. These findings have not yet been published in a peer-reviewed scientific journal. See Brown, J. L. (2003). *The direct and indirect effects of a school-based social-emotional learning program on trajectories of children's academic achievement.* Unpublished doctoral dissertation, Teachers College, Columbia University.

18. The Conduct Problems Prevention Research Group. (1999). Initial impact of the FAST Track prevention trial for conduct problems: II. Classroom effects. *Journal of Consulting and Clinical Psychology*, 67(5), pp. 648–657.

19. This figure is based on an Educators for Social Responsibility estimate for training 25 teachers in five schools, which totals approximately \$61,232. The cost includes all program expenditures, including teacher stipends and refreshments. Currently, school districts pay for 80 percent of this cost, with the remaining 20 percent covered by private foundations.

20. See, for example, Greenberg, M. T.; Kusche, C.; & Mihalick, S. F. (1998). *Blueprints for violence prevention, Book 10: Promoting Alternative Thinking Strategies (PATHS).* Boulder, CO: Center for the Study and Prevention of Violence.

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