Results from a multi-site evaluation of the G.R.E.A.T. program*

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ABSTRACT: Results from a multi-site evaluation of the G.R.E.A.T. program

Despite a long history of youth gang problems in the US, there remains a paucity of evaluations identifying promising or effective gang prevention and intervention programs. One primary prevention program that has received limited support is the Gang Resistance Education and Training (G.R.E.A.T.) program. An earlier national evaluation of the G.R.E.A.T. program’s core middle school curriculum reported modest program effects but, importantly, did not find any programmatic effect on gang membership or delinquency. In this manuscript, we present results from a second national evaluation of the revised G.R.E.A.T. core curriculum. This current evaluation utilizes a randomized field trial in which classrooms were randomly assigned to treatment and control conditions. Approximately 4,000 students attending 31 schools in seven cities comprise the initial sample. Analyses of one-year post-treatment data indicate that students receiving the program had lower odds of gang membership compared to the control group. Additionally, the treatment groups also reported more pro-social attitudes on a number of program-specific outcomes.
Youth delinquent gangs received considerable academic and media attention during the 1990s. Much of this attention focused on the violence and drug dealing in which gang members are involved. To help combat this problem, a number of prevention, intervention, and suppression programs were developed (e.g., Decker, 2002; Klein and Maxson, 2006; Reed and Decker, 2002). However, in spite of the widespread concern with gangs and associated program development, there has been a paucity of research and evaluation of gang-specific prevention programs. One notable exception is the NIJ-funded evaluation of the Gang Resistance Education and Training (G.R.E.A.T.) program (Esbensen and Osgood 1997, 1999; Esbensen, Osgood, Taylor, Peterson, and Freng 2001). The G.R.E.A.T. program was developed in 1991 by law enforcement agencies in the greater Phoenix area (for a detailed accounting of the program history, consult Winfree, Peterson Lynskey, and Maupin,1999) and experienced exponential growth calling for a national evaluation in 1994. That evaluation consisted of two separate studies: a cross-sectional design in which students receiving the G.R.E.A.T. program’s core middle school curriculum were surveyed one year after program delivery and that relied upon student self-report of program participation; and a longitudinal study with matched control classrooms. The cross-sectional study identified favorable outcome results, including lower rates of gang membership among the treatment group (Esbensen and Osgood, 1997, 1999) and held considerable promise for the program model. The findings from the more rigorous longitudinal design with matched classrooms and four-year follow-up were more ambiguous. No behavioral effects were found but a lagged or sleeper effect was found for five mediating/proximal factors. Based in part on these modest findings, the G.R.E.A.T. program underwent a rigorous program review that culminated in a redesign of the curriculum, expanding the core middle school component from nine to 13 lessons, focusing more attention on skills building through
interactive and cooperative learning strategies, and encouraging greater involvement of classroom teachers in program delivery. We have described this program revision process and results elsewhere (Esbensen, Freng, Taylor, Peterson, and Osgood, 2002; Esbensen, Peterson, Taylor, Freng, Osgood, Carson, and Matsuda, 2011).

Given the plethora of school-based prevention programs that have been designed to reduce an array of adolescent behaviors (delinquency, bullying, victimization, and gang membership), school administrators are challenged to select a program that is optimal in light of the time and resource constraints of their facilities. Thus, it is imperative this choice be guided by a well-informed sense of program effectiveness. Several attempts in the past decade have sought to provide administrators with such knowledge. For example, the Blueprint Series (Mihalic, Fagan, Irwin, Ballard, & Elliott, 2002; Mihalic and Irwin, 2003) identified model programs that have withstood rigorous scientific evaluations and the Maryland Report (Sherman, Gottfredson, MacKenzie, Eck, Reuter, & Bushway, 1997) assessed the effectiveness of a broad range of projects. In 2005, the Helping America’s Youth (HAY) Community Guide (Howell 2009) rated programs identified by non federal agencies on three levels: Level 1 identifies exemplary or model programs; Level 2 includes programs that have been “scientifically demonstrated to prevent delinquency, reduce risk factors, or enhance protective factors” (Howell, 2009:150); and Level 3 lists programs that “display a strong theoretical base and have been demonstrated to prevent delinquency and other child and youthful problems or to reduce risk factors or enhance protective factors using limited research methods…. The programs in this category appear promising but must be confirmed using more rigorous scientific techniques” (Howell, 2009:150). The Office of Juvenile Justice and Delinquency Prevention also provides a listing of effective or promising programs (OJJDP, 2010). One notable aspect of these reviews is
the paucity of “model” or “effective” programs. This is not to say that most of the extant programs are ineffective; rather, the majority has not been evaluated in a manner that allows for assessment of their effectiveness (see, for instance, Dusenbury, Brannigan, Falco, and Hansen, 2003; Lillehoj, Griffin, and Spath, 2004). Another concern is that some programs have experienced implementation failure that is then interpreted as program failure. In another manuscript, we have reported on the high level of program fidelity associated with delivery of the G.R.E.A.T. program in classrooms participating in the current evaluation, allowing outcome evaluation results to be attributed with confidence to the program (Esbensen, Matsuda, Taylor, and Peterson, in press). In this manuscript we report on the evaluation of the revised program, assessing the extent to which middle school students participating in G.R.E.A.T. express attitudes and engage in behaviors that are measurably different from those of a control group of students.

**REVIEW OF RELEVANT LITERATURE**

Youth violence, specifically gang violence, is a community problem - that is, gang violence does not occur in a vacuum and must be considered within the larger contextual setting. When the G.R.E.A.T. program was initially developed in 1991, youth and gang violence were at “epidemic” proportions (Snyder and Sickmund 2006). Since then rates of youth and gang violence have decreased substantially, although the past few years have witnessed a new increase in gangs and gang membership (Egley, Howell, and Moore 2010). A number of explanations have been offered for the decrease in gang problems between 1995 and 2001, including a change in handgun availability, the crack market decline, an improved economy, and increased incarceration rates (Blumstein and Wallman 2000). The increase in prevention and intervention
programming during the 1990s may also have played a contributing role in this crime drop. Because virtually all American youths attend school, this setting has considerable potential for programs to prevent or intervene with gang violence.

**Risk Factors and Prevention Strategies**

Research has identified a number of risk factors associated with violent offending and gang affiliation and these risk factors can inform prevention programs (e.g., Esbensen and Deschenes 1998; Esbensen, Huizinga, and Weiher, 1993; Esbensen, Peterson, Taylor, and Freng, 2010; Hill, Howell, Hawkins, Battin-Pearson, 1999; Howell 2003; Klein and Maxson 2006; Maxson, Whitlock, and Klein, 1998; Thornberry, Krohn, Lizotte, Smith, and Tobin, 2003). This growing body of research has identified risk factors within multiple domains, including community, family, school, peer, and individual. Representative of these risk factors are the following: poverty, social disorganization, low parental monitoring, low attachment to parents, low involvement in conventional family activities, low commitment to school, poor school performance, association with few conventional or many delinquent peers, lack of empathy, impulsiveness, and moral disengagement (e.g., Battin, Hill, Abbott, Catalano, and Hawkins, 1998; Esbensen and Deschenes 1998; Esbensen et al. 1993, 2010; Fleisher 1998; Hill et al. 1999; Howell 1998; Klein and Maxson 2006; Maxson et al. 1998; Thornberry 1998; Thornberry et al. 2003).

While many studies treat gangs as a phenomenon distinct from the general study of delinquency, there is considerable overlap between risk factors associated with delinquency and gang membership. The works of Battin et al. (1998), Esbensen and Huizinga (1993), Gatti et al. (2005), and Thornberry et al. (1993, 2003), for example, suggest that while the gang
environment facilitates delinquency, many gang members are already delinquent prior to joining the gang (Melde and Esbensen, 2011). The rates of delinquent activity, however, increase dramatically during gang membership. This finding that delinquency generally precedes gang membership highlights the importance of universal gang prevention efforts (i.e., programs that target the entire adolescent population). Additionally, the link between risk factors associated with gang membership and delinquent behavior reinforces the relevance of two of the goals of the G.R.E.A.T. program: to reduce delinquent activity and gang involvement.

Schools provide one of the common grounds for American youth and, in recent years, have become a focal point for general prevention programming. In fact, Gottfredson and colleagues (2000) reported the average middle school provides 14 different and unique prevention programs that address violence, drug abuse, and other social problems. How does the G.R.E.A.T. program fit into this diversity of prevention efforts?

THE G.R.E.A.T. PROGRAM

The Gang Resistance Education and Training (G.R.E.A.T.) program is a school-based gang and violence prevention program with three primary goals: 1) teach youths to avoid gang membership; 2) prevent violence and criminal activity; and 3) assist youths to develop positive relationships with law enforcement. The original G.R.E.A.T. program\(^1\) consisted of nine lessons and was modeled after the Drug Abuse Resistance Education (DARE) program. Developed by the Phoenix Police Department in 1991, G.R.E.A.T. was a cognitive based program that taught students about crime and its effect on victims, cultural diversity, conflict resolution skills, meeting basic needs (without a gang), responsibility, and goal setting. Uniformed law enforcement

\(^1\) The core program component of G.R.E.A.T. is its middle school curriculum, and this is often what is referred to with the term “G.R.E.A.T. program.” Other optional components of G.R.E.A.T. are an elementary school curriculum, a summer program, and G.R.E.A.T. Families.
enforcement officers taught the curriculum in schools and teachers were requested to complement the program content during regular classes. The revised G.R.E.A.T. program contains much of the substance of the original program but, importantly, was also informed by the work of educators and prevention specialists. As a result, the new G.R.E.A.T. program was expanded to 13 lessons; is still primarily taught by uniformed law enforcement officers (Federal agents from the US Marshalls and the Bureau of Alcohol, Tobacco, and Firearms as well as District Attorneys have also been trained and certified to teach G.R.E.A.T.); and incorporates classroom management training of officers and a focus on students’ skill development through cooperative learning strategies: important pedagogical tools for educational settings (Gottfredson, 2001).

Two school-based programs guiding the revision of the G.R.E.A.T. program were the Seattle Social Development Model (SSDM) and Life Skills Training (LST). The SSDM is a comprehensive model that seeks to reduce delinquency and violence by building a positive learning environment incorporating several different classroom management components, including cooperative learning, proactive classroom management, and interactive teaching (Catalano, Arthur, Hawkins, Berglund, & Olson, 1998). The LST program is a three-year intervention in which two annual booster sessions supplement the initial program (Dusenbury & Botvin, 1992). LST consists of three components: 1) self-management skills; 2) social skills; and 3) information and skills that are directly related to the problem of drug abuse. The revised G.R.E.A.T. program has adopted some of the strategies from LST (in fact, some of the LST curriculum writers participated in the rewriting of the G.R.E.A.T. program), including an emphasis on the development of skills, rather than on the assimilation of knowledge, and has also incorporated problem-solving exercises and cooperative learning strategies. With this
revised program fully implemented by 2003, there was renewed interest in the question of program effectiveness. In July 2006, the National Institute of Justice selected the University of Missouri-St. Louis to conduct a process and outcome evaluation of the revised G.R.E.A.T. program. This report focuses upon sustained program effects one-year post treatment (consistent with the Blueprint standard), while results from the process evaluation, which indicated a strong degree of implementation fidelity, are reported in Esbensen et al. (in press).

METHODS

Site and School Selection

Site selection was driven by the presence of the G.R.E.A.T. program and willingness of the police departments and school districts to agree to the evaluation design. In addition, three main criteria guided site selection: 1) existence of an established G.R.E.A.T. program\(^2\), 2) geographic and demographic diversity, and 3) evidence of gang activity. The first step in the process was to secure a listing of potential program sites based upon the existence of the G.R.E.A.T. program. The research staff contacted the G.R.E.A.T. Regional Administrators\(^3\) and Bureau of Justice Assistance\(^4\) personnel to identify locales with institutionalized programs.

Consideration was given to factors such as the length of time the program had been in operation, \(^2\) Length of time the locale had operated the program and the extent to which school students had been exposed to the program were assessed when sites were selected for the national evaluation. Sites where the program was just beginning were excluded because they were deemed to be likely to have had less time to “work out the kinks” associated with delivering the program with fidelity. Conversely, some sites with a long history of delivering the program were excluded from consideration because it was deemed to be likely that the program had saturated the entire school and/or community context.

\(^3\) G.R.E.A.T. is a national program overseen by the G.R.E.A.T. National Policy Board (NPB). For administrative purposes, responsibilities for program oversight are held by (or “given to”) agencies operating in different geographic regions: Midwest Atlantic, Southeast, Southwest, and West. Additionally, two federal partners—the Bureau of Alcohol, Tobacco, Firearms, and Explosives (BATF) and the Federal Law Enforcement Training Center (FLETC)—are involved in program training and oversight.

\(^4\) The Bureau of Justice Assistance (BJA) oversees the allocation of federal funds and grant compliance associated with the G.R.E.A.T. program.
number of G.R.E.A.T.-trained officers, number of schools in which the program was offered, and
the components of the G.R.E.A.T. program implemented. Also of interest were police
department characteristics that could affect program delivery, including department size and
organizational structure. Some G.R.E.A.T. programs, for instance, utilize School Resource
Officers (SRO) to teach the program while others use the “Portland” model in which “street
cops” teach the program on an overtime basis in schools on their beat. Once this list of potential
agencies was constructed, the research staff contacted representatives in these cities to obtain
more information about the delivery of the G.R.E.A.T. program (e.g., school district size, length
of program history at a site, and degree of program implementation). Additional site
characteristics (i.e., race and ethnic composition, and population size) were also taken into
account at this time. A last criterion considered was the volume of youth crime (based on police
reports) and gang activity (information was obtained from the National Youth Gang Center) in
each site. Ultimately, a list of seven cities varying in size, region, and level of gang activity were
identified (Albuquerque, NM; Chicago, IL; a Dallas-Fort Worth area district; Greeley, CO;
Nashville, TN; Philadelphia, PA; and Portland, OR).

Upon selection of the cities, the research staff worked with the primary local law
enforcement agency and the school district in each city to secure their cooperation. Upon district
approval, between four and six schools in each site were identified for study participation and
principals were contacted. The goal of the school selection was to identify schools that, taken as
a whole, would be representative of the districts. Once initial agreement to participate was
obtained from the school administrator, more detailed discussions/meetings were held between
school personnel, G.R.E.A.T. officers, and the research team. Whenever possible, face-to-face
meetings were held, but in some instances final arrangements were made via telephone. School
and police personnel were informed of the purpose of the evaluation, issues related to the random assignment of classrooms to the treatment condition (i.e., receive G.R.E.A.T./not receive G.R.E.A.T.), procedures to obtain active parental consent for students in these classrooms to participate in the evaluation, scheduling the G.R.E.A.T. program delivery, and other logistical issues associated with the study design.

Once school district approval was obtained, the targeted schools were contacted. In two instances, the principals declined to participate\(^5\). These schools were then replaced with a comparable school in the district\(^6\). This process produced a final sample of 31 schools and 195 classrooms (102 received G.R.E.A.T. and 93 did not receive the program), and 4,905 students during the 2006-2007 school year.

School configuration varied somewhat, with twenty schools having the traditional middle school organization of grades six through eight, five schools having grades five through eight, and six schools organized as kindergarten through eighth grade. For the evaluation, classes in the G.R.E.A.T. grade level were selected, and this varied slightly; while most officers taught the program to sixth-graders, some taught at the seventh-grade level. Thus, sixth grade students were included from twenty-six schools, and seventh grade students comprised the sample in the remaining five schools.

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\(^5\) Principals declined their schools’ participation for a number of reasons. One principal indicated that he had previously been a police gang investigator, and, therefore, knew the program worked; the second principal would not agree to random assignment and withholding some students from the program.

\(^6\) One of the five originally-selected Chicago schools, comprised of nearly 100 percent African American students, agreed to participate in the evaluations but was unable to meet the requirements of the study and was dropped from the sample. Given time constraints (i.e., too late in the school year to select a comparable school and implement the program with fidelity), we were unable to replace the excluded school during 2006-2007. Thus, the resulting sample was largely Hispanic, while the district was largely African American. To increase representativeness of the sample, the decision was made to add two primarily African American schools to the evaluation in the 2007-2008 school year, even though this meant that these schools would be one year behind other schools in the evaluation.
Active Parental Consent

Due to the nature of the evaluation, active parental consent was required for student participation. We utilized a strategy that had proven successful in prior studies (Ellickson & Hawes 1989; Esbensen et al. 1996; McMorris et al. 2004; Unger et al. 2004). Specifically, teachers were recruited and compensated for their assistance collecting the consent forms from their students. Regardless of whether permission was granted or denied by the parent, teachers received $2.00 for each returned form. Additionally, for each classroom, there was an incentive for teachers based upon classroom-level return rates: The teachers would receive a $10 bonus if 70 percent or more of students returned consent forms, $20 if the class reached 80 percent or more, and $30 if 90 percent or more of the students in the classroom returned a form. In three cities, the school districts would not allow direct compensation to teachers but we were allowed to provide compensation to the school or district in the teachers’ honor. In addition to compensating teachers, students were also provided with an incentive for returning the form – a small portable FM radio with headphones (cost of approximately $3.00 wholesale). Letters to parents and active consent forms were distributed to students and their return recorded on class rosters. This documentation allowed for follow-up forms to be sent home with students who failed to return the initial form. In addition to these incentives, teachers were contacted on a regular basis, in most instances daily, to monitor return rates. In most schools, this consent process was completed in less than two weeks, and in several instances, in just three days. (For more detailed description of the active consent process, consult Esbensen et al. 2008.)

This strategy of compensating teachers and students, while costly, is to be recommended because it rewards teachers and students for their assistance and allows the active consent process to be completed in a relatively short timeframe. Overall, 89.1% of youths (N=4,372)
returned a completed consent form, with 77.9% of parents/guardians (N=3,820) allowing their child’s participation. It should be noted that while Esbensen et al., 2008, reported a 79% consent rate, the addition of two schools to the evaluation after the publication of that article resulted in the 78% overall consent rate reported here. The direct cost of the teacher incentives was $12,894 and the cost of the 4,750 radios was $14,250 for a total of $27,144. This translates into a cost of approximately $3,878 per city, $936 per school, $146 per classroom, and $7.39 per active consent participant.

Research Design and Random Assignment of Classrooms

The outcome evaluation employs an experimental longitudinal panel design (a randomized control trial with long-term follow-up) in which classrooms in each of the participating schools were randomly assigned to the treatment (i.e., G.R.E.A.T.) or control condition. The G.R.E.A.T. program was taught in sixth grade in 26 of the 31 schools and in seventh grade in the remaining five schools. Once it was determined in which core subject area (commonly Social Studies but also in English and Science classes) the program was to be taught, we enumerated all of the grade-level classes (ranging from 3 to 12). In situations with an odd number of classes, we made the a priori decision to oversample treatment classes (in partial recognition of the fact that many of the principals were reluctant to “deprive” any of their students of the program). The list of classes was then numbered from one through highest and a table of random numbers was consulted to select the classrooms in which G.R.E.A.T. would be taught. Unselected classrooms comprised the control group.

All students in the treatment and control classrooms were eligible to participate in the evaluation. All students for whom active parental consent was obtained were then asked to
participate in the evaluation by completing a confidential group-administered pre-test questionnaire. Upon completion of the G.R.E.A.T. program in each school, students were then requested to complete post-tests and four annual follow-up surveys. Completion rates for the pre-, post-, and one-year surveys were 98, 95, and 87 percent respectively. These response rates are excellent, especially given the highly mobile nature of the sample: compared to being enrolled in 31 middle schools at pretest, at wave 3 students were surveyed in 121 different schools (although we identified students enrolled in a total 180 different schools, most of the schools in which students were not surveyed were outside the original seven districts). We obtained permission from principals at the new schools to survey the transfer students – clearly, a time and labor-intensive effort, but one well worth achieving these high response rates.

Student sample characteristics

The sample is evenly split between males and females; most (55%) youths reside with both biological parents; and the majority (88%) was born in the United States (see Table 1). The sample is racially/ethnically diverse, with Hispanic youths (37%), White youths (27%), and African American (17%) youths accounting for 81% of the sample. Approximately two-thirds of the youths (61%) were aged 11 or younger at the pre-test, representing the fact that 26 of the 31 schools delivered the G.R.E.A.T. program in 6th grade. Three of the six Chicago schools and two of four schools in Albuquerque taught G.R.E.A.T. in 7th grade; thus, students in these sites were somewhat older than students in the other sites.
## Table 1: Sample Characteristics at Wave 1

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<th>DFW area</th>
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<th>NSH</th>
<th>PHL</th>
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<td>N=500</td>
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<td>54</td>
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<td>74</td>
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<td>--Other Living Arrangement</td>
<td>2</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>3</td>
<td>2</td>
<td>2</td>
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<tr>
<td>--Born outside U.S.</td>
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<td>10</td>
<td>9</td>
<td>13</td>
<td>11</td>
<td>15</td>
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<td>15</td>
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<tr>
<td>--Born in U.S.</td>
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<td>87</td>
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<td>85</td>
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MEASUREMENT

Outcome Measures

To assess program effectiveness, it was essential that measures of the three program goals be included in the student surveys. Additionally, the G.R.E.A.T. lessons introduced a number of secondary (proximal) outcomes that sought to reduce known risk factors for delinquency and gang joining. We developed a student questionnaire that captured the essence of this skills building program; that is, identifying the mediating variables that could explain the mechanisms through which behavioral outcomes could be achieved. If the program is determined to reduce rates of gang membership and youth violence, it is important to understand how these goals are achieved. To reiterate, the G.R.E.A.T. program has three primary goals: (a) to help youths avoid gang membership, (b) to reduce violence and criminal activity, and (c) to help youths develop a positive relationship with law enforcement. In the current analyses, gang membership is measured by a single-item question that is part of a larger set of questions about youth gangs. Specifically, students were asked to answer the following question: “Are you now in a gang?” This self-nomination approach has been found to be a valid and robust measure of gang affiliation, at least in American settings (e.g., Esbensen, Winfree, He, & Taylor, 2001; Thornberry et al., 2003). To measure delinquency and violent offending, students completed a 15-item self-reported delinquency inventory, including response categories that allowed for assessment of both ever and annual prevalence as well as frequency of offending during the past six months. We treated this self-report inventory as a composite measure of general delinquency (examined both a variety and frequency score) but also created a separate measure of violent offending consisting of three items (attacked someone with a weapon, used a weapon or force to get money or things from people, been involved in gang fights). To measure the third specific
program goal (improving relations with law enforcement), students were asked to respond to six questions tapping global attitudes to the police as well as two additional questions measuring students’ attitudes about police officers as teachers.

In addition to these preceding three program goals, the 13 G.R.E.A.T. lessons are intended to teach youths the life-skills thought necessary to prevent involvement in gangs and delinquency (see, e.g., Hill et al., 1999; Maxson & Whitlock, 2002; Maxson et al., 1998) by reducing the effect of a range of risk factors. These mediating or proximal variables are treated as implied program objectives and are included in our outcome analyses. We therefore examined the extent to which students exposed to G.R.E.A.T. had improved or enhanced skills that would enable them to better resist the lures of gang membership and resist peer pressure to engage in illegal activities. The G.R.E.A.T. lessons encourage students to make healthy choices such as being involved in more pro-social activities and associating more with pro-social peers and less with delinquent peers. The lessons also teach students to improve their communication skills by being active listeners and being better able to interpret verbal and non-verbal communication. The program targets these skills in order to improve students’ empathy for others. Risk factors associated with youth violence and joining gangs are also addressed in the curriculum. The program seeks to increase the levels of guilt associated with norm violation and to reduce the neutralization of illegal acts (i.e., moral disengagement). For a full listing of program goals and objectives, and measures used to assess these goals, see Appendix A.⁷

ANALYSIS STRATEGY

Our highly nested research design requires a multilevel analysis, which we implemented

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⁷ For information concerning the construction, measurement, and scale qualities of outcome measures, consult the first author.
with the MLwiN software (Rasbash, Steele, Brown, and Goldstein, 2009). The design includes two waves (Waves 2 and 3) of outcome observations (level 1) for 3,427 individual students (level 2), who are nested within 195 classrooms in which the program was or was not delivered (level 3), which are, in turn, nested within 31 schools (level 4) located in 7 cities (level 5). Given the small number of cities, we treated this level as a fixed effect through a set of dummy variables. The model included random effects for the remaining four levels. To insure that school differences were not confounded with the program effect, the treatment versus control contrast was centered within schools. The analysis controlled for the pretest measure of the outcome and for the difference between waves two and three (coded -.5 for wave 2 and +.5 for wave 3). The treatment effect was allowed to vary randomly across schools in order to insure a conservative test. A logistic model was applied to the dichotomous measure of gang membership and a negative binomial model was used for the highly skewed measures of self-reported general delinquency and violent offending. All other models were linear.

RESULTS

To assess program effectiveness, we compare responses from students in G.R.E.A.T. classes to students in control classrooms using the post-test and one-year follow-up questionnaires. Results presented here represent the average treatment effects over Waves 2 and 3. We also control for pre-test measures of the outcome to increase statistical power. To assess initial comparability of the groups, we compared them on pre-test measures.

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8 Analyses were also conducted separately by wave, to assess treatment effects at post-test and treatment effects at the one-year follow-up. For all but 5 measures, there was a significant treatment effect at both time points. For the five that differed, the difference in effect between Wave 2 and Wave 3 was not statistically significant, and there was a statistically-significant average treatment effect across the time periods.
In these analyses, we examined 28 attitudinal or perceptual measures that address potential outcomes of the G.R.E.A.T. program. Additionally we examined program effect on five behavioral outcomes: delinquency (variety and frequency), violent offending (variety and frequency), and gang membership. Of the 33 outcome measures included in the analyses, 10 attitudinal/perceptual differences were revealed between the G.R.E.A.T. and non-G.R.E.A.T. students (p<.05) and an additional three attitudinal differences at the .10 level (lie neutralization, pro-social activities, and pro-social peers). Importantly, the G.R.E.A.T. students also had significantly lower odds of belonging to a gang. Specifically, the G.R.E.A.T. students compared to non-G.R.E.A.T. students reported (see Table 2):

- More positive attitudes to police
- More positive attitudes about police in classrooms
- Less positive attitudes about gangs
- More use of refusal skills
- More resistance to peer pressure
- Higher collective efficacy
- Less use of hitting neutralizations
- Fewer associations with delinquent peers
- Less self-centeredness
- Less anger
- Lower rates of gang membership

There were no statistically significant differences between the groups on 15 of the attitudinal measures: empathy, impulsivity, risk-seeking, pro-social peers, negative peer commitment, positive peer commitment, neutralization for theft, guilt, conflict resolution, calming others,
active listening, problem solving, self-efficacy, awareness of services, and altruism. Differences in rates of delinquency (while 7% lower for G.R.E.A.T. students) and violent offending (10% lower for G.R.E.A.T. students) were also not statistically significant.
Table 2: Program Effect Estimates for Attitudinal and Behavioral Measures Controlling for Between City Differences and Overall Change over Time.

<table>
<thead>
<tr>
<th>Program</th>
<th>Effect</th>
<th>B</th>
<th>S.E.</th>
<th>T</th>
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<tr>
<td><strong>Attitudinal Measures</strong></td>
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<td>Impulsivity</td>
<td>0.015</td>
<td>-0.012</td>
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<td>Risk-Seeking</td>
<td>0.041</td>
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<td>Anger</td>
<td>0.057</td>
<td>-0.056</td>
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<td>Self-Centeredness</td>
<td>0.054</td>
<td>-0.046</td>
<td>0.022</td>
<td>-2.060*</td>
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<td>Attitudes Toward the Police (ATP)</td>
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<td>0.070</td>
<td>0.024</td>
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<td>GREAT ATP</td>
<td>0.204</td>
<td>0.190</td>
<td>0.033</td>
<td>5.720*</td>
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<tr>
<td>Prosocial Peers</td>
<td>0.051</td>
<td>0.050</td>
<td>0.030</td>
<td>1.685**</td>
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<tr>
<td>Peer Pressure</td>
<td>0.079</td>
<td>-0.050</td>
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<td>-2.465*</td>
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<td>Negative Peer Commitment</td>
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<td>-0.047</td>
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<td>Positive Peer Commitment</td>
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<td>0.037</td>
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<td>Delinquent Peers</td>
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<td>-0.051</td>
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<td>Lying Neutralizations</td>
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<td>-0.066</td>
<td>0.034</td>
<td>-1.951**</td>
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<td>Stealing Neutralizations</td>
<td>0.018</td>
<td>-0.016</td>
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<td>Hitting Neutralizations</td>
<td>0.105</td>
<td>-0.122</td>
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<td>Guilt</td>
<td>0.028</td>
<td>0.016</td>
<td>0.016</td>
<td>1.005</td>
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<td>Conflict Resolution</td>
<td>-0.018</td>
<td>-0.008</td>
<td>0.013</td>
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<td>Calming Others</td>
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<td>Refusal Skills</td>
<td>0.090</td>
<td>0.043</td>
<td>0.013</td>
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<td>Prosocial Involvement Index</td>
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<td>0.056</td>
<td>0.030</td>
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<td>Empathy</td>
<td>-0.008</td>
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<td>0.020</td>
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<td>Problem Solving</td>
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<td>Self-Efficacy</td>
<td>-0.004</td>
<td>-0.003</td>
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<tr>
<td>Awareness of Services</td>
<td>0.015</td>
<td>0.012</td>
<td>0.021</td>
<td>0.539</td>
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<tr>
<td>Collective Efficacy</td>
<td>0.125</td>
<td>0.075</td>
<td>0.021</td>
<td>3.554*</td>
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<td>Attitudes about Gangs</td>
<td>0.114</td>
<td>0.102</td>
<td>0.031</td>
<td>3.313*</td>
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<td>Altruism</td>
<td>0.051</td>
<td>0.031</td>
<td>0.019</td>
<td>1.612</td>
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<td><strong>Behavioral</strong></td>
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<tr>
<td>Delinquency (Frequency)</td>
<td>7.0%</td>
<td>-0.073</td>
<td>0.072</td>
<td>-1.019</td>
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<tr>
<td>Delinquency (Variety)</td>
<td>7.0%</td>
<td>-0.072</td>
<td>0.048</td>
<td>-1.495</td>
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<tr>
<td>Violent Offending (Frequency)</td>
<td>10.0%</td>
<td>-0.107</td>
<td>0.179</td>
<td>-0.597</td>
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<tr>
<td>Violent Offending (Variety)</td>
<td>-1.0%</td>
<td>0.007</td>
<td>0.108</td>
<td>0.060</td>
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<tr>
<td>Gang</td>
<td>53.9%</td>
<td>-0.775</td>
<td>0.236</td>
<td>-3.278*</td>
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</tbody>
</table>

*Significant at p<0.05
** Significant at p<0.10

*a Program Effect as Percent Reduction
*b Negative Binomial Model
*c Logistic Regression Model
DISCUSSION

Schools have become a common setting in which delinquency prevention programs are delivered (Gottfredson, 2001). There is no shortage of available programs from which to choose, and schools—especially middle schools—often have multiple programs operating during the school year (Gottfredson, 2001). Given resource limitations, however, school administrators need to weigh the “costs and benefits” of each program when making their decisions. Research evolving from the movement toward “evidence-based practices” (e.g., Sherman et al., 1997; Elliott, 1997) has provided a wealth of information regarding the implementation and effectiveness of specific prevention programs, although the evidence base on gang prevention programs is still insufficient.

During the past twenty years, there has been a commensurate increase in the inclusion of police officers on school campuses, as both School Resource Officers (e.g., Finn and McDevitt, 2005; Gottfredson and Na, 2010) and prevention program providers (e.g., DARE and G.R.E.A.T.). In this report we have addressed the efficacy of one such program that utilizes law enforcement officers to deliver a gang prevention and violence reduction program. A third objective of this program is related to the program provider: that is, improving police – youth relationships.

The current report highlights the key sustained outcome findings (average program effects for post-test and one-year follow-up) from the ongoing Process & Outcome Evaluation of G.R.E.A.T. Results from analyses of three waves of survey data collected from students in seven U.S. public school districts indicate that the program is meeting its primary objective of preventing gang membership; the analyses indicate a 54 percent reduction in the odds of gang joining one year post-program. In spite of the research showing a number of shared risk factors
between delinquency and gang membership (and few or no factors unique to gang membership),
we did not find a significant program effect on rates of offending. The third goal of the
G.R.E.A.T. program, to improve youths’ attitudes towards the police (ATP), was met, with an
effect size of .11 for the global measure of ATP and an effect size of .20 for the more specific
measure of ATP related to G.R.E.A.T.

These findings suggest that a relatively short-term (13 lessons) primary prevention
program can have measurable effects on a diverse sample of students. The evaluation was
conducted in seven cities representing a cross-section of the United States. The process
evaluation indicated that the program was implemented with fidelity (Esbensen et al., in press),
providing confidence that the outcomes can be attributed to the G.R.E.A.T. program. Active
parental consent rates for the students’ participation in the outcome evaluation were quite high,
thereby reducing the potential bias of selective loss. The high retention rates from Wave 1 to
Wave 3 surveys also add confidence to the robustness of the outcome results.

In addition to examining direct effects of G.R.E.A.T. on the three main program goals,
we explored several mediating or proximal factors. Our results identify positive program effects
on many of these program objectives. Compared with students in the control classrooms,
students in G.R.E.A.T. classrooms illustrated less susceptibility to peer pressure, better refusal
skills, and less involvement with delinquent peers; lower support for neutralizations regarding
violence; less favorable attitudes about gangs; lower levels of self-centeredness and anger; and a
higher degree of collective efficacy. Thinking about these findings from a logical perspective,
the results are quite promising: G.R.E.A.T. appears to reduce key underlying risk factors (e.g.,
self-centeredness, anger); reduce the situational contexts where delinquency and gang
membership is most likely to flourish (i.e., associations with delinquent peers); and provide
youth with the skills necessary to recognize and resist temptations of peer pressure (e.g., peer pressure susceptibility and use of refusal skills), including a greater belief that offending is universally “wrong” (i.e., fewer neutralizations).

Clearly, however, this program is no “silver bullet”. It is important to note that no differences were found between students in G.R.E.A.T. and non-G.R.E.A.T. classrooms for a number of important mediating factors: empathy, impulsivity, risk-seeking, pro-social peers, negative peer commitment, positive peer commitment, neutralizations for theft, guilt, conflict resolution, calming others, active listening, problem solving, self-efficacy, awareness of services, and altruism. In other words, more than half of the factors examined were not significantly affected by exposure to the G.R.E.A.T. program.

CONCLUSION

At this juncture, we can say that these results are supportive of a one-year post-program effect. That is, students completing the G.R.E.A.T. program have lower odds of gang affiliation than do students in the control group, experiencing a 54% reduction in the odds of gang membership. Additionally, the G.R.E.A.T. students report a number of more pro-social attitudes, including more positive attitudes to the police, than do the control students. Two important questions remain: 1) are these results consistent across the seven sites and 2) will these one-year post program effects be sustained across time? The longitudinal design of the evaluation will allow us to answer the latter question of whether the program has long-term effects on student attitudes and behavior. With regard to the former question of replication and exportability, we are currently engaged in these analyses.
References


doi: 0.1177/0022427899036003003.


APPENDIX A: G.R.E.A.T. Program Goals and Objectives by Lesson

Program Goals:
1. avoid gang membership
2. prevent violence and criminal activity
3. develop positive relationship with law enforcement
Measures: gang affiliation and attitudes about gangs; self-reported delinquency (including violence), drug use, and victimization; attitudes toward police.

Lesson 1 – Introduction to G.R.E.A.T.
Introduction and the relationship between gangs, violence, drug abuse, and crime
Measures: Involvement H1 - 4 (1)
Neutralization (lie, steal, hit) F1 - 9 (1 & 3)
Guilt F17 – 23 (1 & 3)

Lesson 2 – Facts and Fiction about Gangs
Message analysis, facts, and fiction about gangs and violence
Collective efficacy P1 – 5 (2 & 3)
Attitudes about gangs N1 & 2 and P9 – 11 (2)
Neutralization (lie, steal, hit) F1 - 9 (1 & 3)
Guilt F17 – 23 (1 & 3)

Lesson 3 – Community
Community, student roles, and responsibilities, what you can do about gangs
Measures: Collective efficacy P1 – 5 (2 & 3)
School and community disorder B1 – 6 and B7 – 12 (3)
Team player, altruism P12 – 17 (3)

Lesson 4 – Goal-Setting Skills
Setting realistic and achievable goals, having a plan
Measures: School Commitment F10 - 16 (4)
Self-efficacy J12 - 16 (4)
Self-control – Impulsivity, Risk-seeking, Anger, Self-centered (C5 - 20) (4, 5, 7, & 10)

Lesson 5 – Decision-Making Skills
G.R.E.A.T. decision-making model, the impact of decisions on goals, decision-making practice
Measures: Peer commitment (Negative and Positive) E12 – 14 & E15 – 16) (5 & 9); Reporting questions (W3)
Self-control – Impulsivity, Risk-seeking, Anger, Self-centered (C5 - 20) (4, 5, 7, & 10)

Lesson 6 – Communication Skills
Effective communication, verbal vs. nonverbal communication
Active listening J7 – 9 (7), Refusal skills G10 – 14 (8 & 6), Conflict resolution G1 - 5 (6, 8 & 10)
Lesson 7 – Active-Listening Skills and Empathy
Active listening, identification of different emotional states, empathy for others
Measures: Active listening J7 – 9 (7)
Empathy J1 – 5 (7)
Self-control, self-centered subscale (C17 - 20)

Lesson 8 – Refusal Skills
Body language, tone of voice, refusal skills practice
Measures: Refusal skills G10 – 14 (8)
Conflict resolution G1 - 5 (8 & 10)

Lesson 9 – Peer Pressure and Refusal Skills (continued)
Influences, peer pressure, refusal skills practice
Routine activities E17 - 18 (9)
Prosocial peers E1 – 4 (9)
Peer pressure E5 – 11 (9)
Delinquent peers E19 – 25 (9)

Lesson 10 – Anger Management Skills
G.R.E.A.T. anger management tips, practice cooling off
Measures: Conflict resolution G1 - 5 (8 & 10)
Self-control, anger sub-scale C11 – 16

Lesson 11 – Calming Others
Recognizing anger in others, tips for calming others
Measures: Calming others G6 – 9 (11 & 12)

Lesson 12 – Conflict Resolution Skills
Consequences of fighting, G.R.E.A.T. tips for conflict resolution, conflict resolution practice, where to go for help
Measures: Awareness of services O1 – 4 (12)
Calming others G6 – 9 (11 & 12)
Talk to friends/adults J10 – 11 (12)

Lesson 13 – Looking Back
Program review, making my school G.R.E.A.T. project presentations