
Some Thoughts About Research on Youth Violence Prevention

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In this supplement to the *American Journal of Preventive Medicine*, the Task Force on Community Preventive Services recommends ways to reduce youth violence among school-aged children.¹ These recommendations are based on a review of universal school-based programs by Robert Hahn and colleagues, the findings from which are also published in this issue.²

The article by Hahn et al.² updates and extends earlier reviews of the effectiveness of school-based programs that have found positive effects for reducing conduct problems.³⁻⁷ The review reported in this issue focuses on one type of school-based programming and includes only studies that assessed program effects on aggression, violence, or "proxies" for these violent outcomes. By narrowing the focus relative to most other reviews, this work provides a stronger basis for the recommendation by the Task Force that universal, school-based programs should be implemented to decrease rates of violence among school-aged children and youth. This recommendation should encourage funding agencies to fund, and practitioners to adopt, these strategies.

As we encourage schools to adopt universal, school-based violence prevention programs, we must simultaneously develop a richer understanding of both the efficacy and effectiveness of violence prevention interventions. The research base supporting violence prevention can be strengthened in four ways: (1) designing studies that assess program effects on serious, violent behavior; (2) conducting long-term follow-ups of the efficacy of prevention programs; (3) broadening the array of different types of prevention strategies subjected to rigorous study; and (4) understanding the role of implementation quality in explaining program effectiveness.

Reviews of violence prevention programs usually begin with a description of the problem such programs are designed to address. They generally cite criminal justice statistics on the rates of violent juvenile crime and incidents of violent victimization by juvenile perpetrators. Sometimes they recall the spate of school

shootings that occurred in the late 1990s. The Hahn et al.² systematic review also states that universal, school-based programs may be useful in reaching several of the *Healthy People 2010* objectives.⁸ As shown in the Hahn et al. Table 1, these objectives include reductions in serious violent acts such as weapon carrying, rape, homicide, as well as reductions in injuries resulting from violent acts. Most studies of the effectiveness of school-based prevention do not measure these serious, violent outcomes. Of 178 studies of school-based crime prevention examined in a meta-analysis of school-based crime prevention programs,⁴ for example, only 13 (7%) measured serious crimes committed against people. Only 39 (22%) measured any type of criminal behavior at all. Most studies measured less serious forms of conduct problems. Hahn et al. report that 41 (77%) of the 53 studies included in their meta-analysis contained measures of violence or aggression. The seriousness level of these measures of violence and aggression was not provided. The remaining 12 (24%) included proxy outcome measures such as rule breaking, lying, talking in class, teasing, and being suspended from school. It is important to know that universal school-based violence prevention programs can reduce some forms of violence and aggression, given that all problem behaviors tend to co-occur in the same individuals and have the same general risk factors. At the same time, the impetus for adopting violence prevention programs comes from the serious, violent behaviors that capture the public's attention. An estimate of the effectiveness of school-based interventions for reducing these behaviors would therefore be most valuable. Future studies should be designed to capture information on these outcomes, and systematic reviews should, to the extent possible, report effects by the seriousness level of the outcome.

Our studies of youth violence prevention are also limited in their measurement of long-term program effects. Evaluations most often assess program effects only immediately following the intervention's conclusion and are thus unable either to detect effects that may be less immediate or to determine whether immediate effects deteriorate over time. Studies included in the Hahn et al.² review have a median time from close of intervention to follow-up assessment of 6 months. As more than half of the studies were of elementary school aged children and only four of high school students,

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the follow-up period generally does not include the developmental period when serious violent behavior is most common in the youth population. Also of interest is the finding (Figure 3 in Hahn et al.²) that the effectiveness of the programs appears to decrease as time since the conclusion of the program increases. Only by encouraging more studies of the long-term effectiveness of violence prevention interventions and by measuring more serious forms of violent behavior will we learn about the lasting effect of these programs on the behaviors of most urgent concern.

Hahn et al.² are careful to note that their study assesses the effects of one type of school-based violence prevention program: universal programs with the objective to reduce violent or aggressive behavior. Most of the programs included in the review were classroom-based, delivered over a semester or a school year. Studying such programs is a good place to start, as Hahn et al.² point out, because more than 90% of schools make use of this type of instruction. Much violent behavior can potentially be prevented if practitioners can be influenced to shift the type of curriculum they employ toward the types of programs that have been shown to be effective.

Of course, schools also use other approaches with the intention of preventing violence and aggression, and these other strategies may be more easily integrated into the school setting than classroom-based curricula. Some of these interventions include reorganizing grades, classes, or school schedules to prevent problem behavior (e.g., team teaching or “school-within-a-school” type organizations that limit youth mobility and reduce the number of different students and teachers with whom youth come into regular contact), enhancing school security and surveillance practices, and improving the clarity and consistency of school rule enforcement. Reviews that have included a broader array of possible preventive intervention strategies^{4,5} show that studies of the effectiveness of environmental-change strategies are rare relative to studies of the effects of interventions delivered to individuals in the form of classroom curricula, counseling, or behavioral interventions. Yet, most schools make use of these strategies in some form, and the available evidence suggests that manipulating these school-level practices can be an effective tool for reducing conduct problems.^{4,5}

Similarly, other reviews⁵⁻⁷ covering a broader range of school-based prevention strategies have demonstrated that interventions targeting at-risk populations are more effective for reducing delinquent, disruptive, and aggressive behavior than strategies targeting the general population. Given that serious criminal behavior is concentrated in a relatively small portion of the population,⁹ the use of such targeted programs has the potential to prevent much violent behavior. For example, Elliott et al.⁹ show that the 8.6% of their national

sample that was identified as “serious” offenders was responsible for more than 75% of the reported index crimes. More work is needed to ensure that such programming can reliably be targeted at youths most likely to become chronic and serious offenders.

Finally, the role of implementation quality in program effectiveness demands more attention. Quality and quantity of implementation predict program effectiveness.¹⁰⁻¹² But evidence implies that the quality of implementation in research studies (and captured in systematic reviews) is generally higher than the quality of implementation in typical school-based interventions.¹³⁻¹⁵ Substantial barriers to high-quality implementation (especially achieving the required dosage levels) are observed when schools attempt to use research-based practices.¹⁶ Accordingly, we do not know the extent to which positive outcomes reported in reviews of research projects are replicated when translated into actual practice in typical schools. As Hahn et al.² note, an important topic for future research is understanding the conditions necessary to support high-quality implementation of school-based programs.

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