



Effectiveness of School-based Alcohol Misuse and Drinking/Driving Programs

Education has been the cornerstone of many traffic safety campaigns. In addition to improving knowledge about rules of the road and safer practices, informing and educating road users can foster a climate of concern and develop support towards effective interventions, creating shared social norms for traffic safety. Changing social norms leads to a general deterrence effect of undesirable behavior. This is an essential component of an effective impaired driving program. However, prevention through education as a stand-alone strategy has not been shown to be effective in reducing traffic crashes and has little effect on specific deterrence.

School-based educational prevention programs have been studied extensively for the past two decades. While most studies fail to show any significant effects of these programs, there is a lack of strong evaluation design, evaluation of long-term outcomes, and evaluation of alcohol-related crashes as an outcome measure. Generally, school-based alcohol misuse and drinking/driving interventions have been shown to produce short-term changes in knowledge and attitudes, but do not produce changes in behavior. Statistically significant changes in knowledge and attitudes are not sustained. Well known alcohol prevention school-based programs, such as DARE, Every 15 Minutes, and Grim Reaper/Mock Crashes, have not produced significant, long-term outcomes on attitudes or behavior.

School-based alcohol prevention programs that have produced effective outcomes, ranging from short- to long-term, share some essential components. These programs are developed from existing evidence-based learning principles, such as SAFE (sequenced, active, focused, and explicit). Programs tailored to be culturally relevant also show greater positive effects. Successful programs involve parents; not only educating parents but also providing skills for addressing and discussing alcohol-related issues at home. The most recent *Cochrane* meta-study conducted on this topic suggests that more generic life-skills training interventions that address the full spectrum of potential problem behaviors are more effective for long-term outcomes than the topic-specific interventions (like focusing on just alcohol). Community support and involvement also greatly contributes to the success of school-based intervention programs. Even with evidence-based principles, sufficient planning and strong implementation of any program is absolutely essential to its success.

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Reference Summaries:

Foxcroft & Tsertsvadze. (2011). **Universal School-Based Prevention Programs for Alcohol Misuse in Young People**. *Cochrane Database of Systematic Reviews*. 5, Art. No. CD009113.

This Cochrane meta-review analyzed 53 studies, 41 of which conducted in the U.S., focused on school-based programs for alcohol prevention. Six of eleven alcohol-specific interventions found statistically significant positive outcomes, however the outcomes were limited to certain subgroups (such as pupils whom had never used alcohol) and not all drinking outcomes were significantly affected. Fourteen out of 39 studies of more generic programs found statistically significant reductions in drink-related outcomes relative to a standard curriculum, however in three of these studies outcomes were confined to certain subgroups. All relevant studies of programs including life skills training produced positive results, whereas programs typically delivered by law enforcement, such as DARE, showed no statistically significant outcomes. Generally, it appears that more generic programs centered on social, behavior, and skills training based on psychosocial and developmental approaches are most likely to result in positive outcomes than alcohol-specific programs.

Durlak, Weissberg, Dymnicki, Taylor, & Schellinger. (2011). **The Impact of Enhancing Students' Social Emotional Learning: A Meta-Analysis of School-Based Universal Interventions**. *Child Development*, 82(1), 405-432.

Schools have a major role to play in social and emotional development of children but have limited resources and experience intensive pressures to enhance academic and cognitive performance. Failure to achieve social-emotional competence can lead to a variety of personal, social, and academic difficulties. This meta-review analyzed 213 studies (involving 270,034 students) of universal school-based interventions in the context of social and emotional learning across multiple outcomes. Programs that include emphasis on social-emotional competencies and attitudes yielded statistically significant positive effects. Two variables moderated positive student outcomes: using recommended SAFE practices (Sequenced approach, Active learning, Focused time on skill development, Explicit learning goals) and implementation problems. Developing an evidence-based intervention and delivering a well executed program are the most significant factors in determining outcome effectiveness.

Prevention First. (2010). **Effectiveness of Fatal Vision® Goggles in Youth Alcohol, Tobacco, and Other Drug (ATOD) Prevention**. Springfield, IL: *Prevention First*.

Fatal Vision® Goggles (FVG) are used in interventions to educate participants about the impairing effects of alcohol and prevent drunk driving behavior. While limited evaluations exist, studies to date suggest the FVG use has no impact on behavioral outcomes and have been shown to be no more effective among observers than watching a five-minute anti-drunk driving video. Some studies have shown a change in self-reported attitudes toward drunk driving, but those effects dissipated within four weeks of the FVG intervention. These short-term changes in attitudes were not accompanied by a decrease in drunk driving. FVG does not meet the criteria to qualify as evidence-based practice.

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Anderson, Chisholm, & Fuhr. (2009). **Effectiveness and Cost-Effectiveness of Policies and Programmes to Reduce the Harm Caused by Alcohol.** *Lancet*. 373, 2234-2246.

This article provides a systematic review of the effectiveness and cost-effectiveness of policies and programs to reduce harm caused by alcohol. Although the article reviews several areas of alcohol-related prevention, this summary focuses on school-based programs and education. School-based education does not reduce alcohol-related harm, however public information and education-type programs play a significant role in providing information and increasing awareness and changing acceptance of alcohol on political and public agendas. Evidence has shown that school-based education for alcohol prevention show some positive effects on increased knowledge and improved attitudes, but there is no sustained effect on behavior. Parenting programs have shown noted reductions in alcohol use, however outcomes are not consistent among studies. Devotion of scarce resources to interventions that do not reduce harm caused by alcohol, as seen for information and education delivered independently, is not economically rational and serves only to divert resources away from efficient prevention and control strategies.

Jones, James, Jefferson, Lushey, Morleo, Stokes, et. al. (2007). **A Review of the Effectiveness and Cost-Effectiveness of Interventions Delivered in Primary and Secondary Schools to Prevent and/or Reduce Alcohol Use by Young People under 18 years old.** *National Collaborating Centre for Drug Prevention*.

This meta-review examined the effectiveness of interventions delivered in primary and secondary schools for preventing or reducing alcohol use in young people. The review included 14 meta-analyses, 134 primary studies, and covered 52 programs. Programs producing long-term positive effects included family-based components, life skills training, and were culturally targeted. Successful classroom-based, teacher-led programs included a life skills approach and skills-based activities. These programs produced long-term reductions in alcohol use and risky behaviors. Evidence suggests that classroom-based programs led by external contributors (such as the DARE program) have no medium- or long-term effects on alcohol use. Other school-based programs, such as counseling, peer support, and teacher training, have also shown little to no effect on underage alcohol use. Programs that begin early in childhood, combine school-based curricula with parent education, and which target a range of problem behaviors do show long-term effects on drinking patterns. Short-term effects were also shown when similar curricula was introduced in secondary schools, but long-term effects were not examined. There is inconsistent and insufficient evidence supporting the cost-effectiveness of school-based interventions aimed at reducing underage alcohol use. School-based brief interventions, family-inclusion programs, and harm-reduction through skill-based activities were less costly and more beneficial than classroom-based drug prevention programs.

Salazar, Firestone, Price, Villarreal, Guerra, & Harris. (2006). **Evaluation of an Underage Drinking and Driving Prevention Program.** *American Journal of Health Studies*. 21(1), 49-56.

This study evaluated the outcomes of a drinking and driving prevention program for high school students, *Shattered Dreams*. *Shattered Dreams* is a model of both school and community-based alcohol prevention that incorporates simulated alcohol-related consequences with 14 community

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elements that include students, parents, educators, administrators, health systems, and law enforcement. Modeled after *Every 15 Minutes* and *Grim Reaper*, *Shattered Dreams* is more comprehensive and intensive, including events spanning two full days and planning at least six months in advance to organize and develop the specific program teams to solicit community participation and support. Direct student volunteers also attend an overnight retreat prior to the event where the central focus is skill-building activities. The evaluation showed positive immediate effects on attitudes toward drinking and driving, however long-term impacts were not evaluated and no control group comparisons were included.

Price, Salazar, Munoz, & Owen. (2004). **A Quasi-Experimental Evaluation of the Shattered Dreams Program.** University of Texas Health Science Center at San Antonio, South Texas Injury Prevention and Research Center.

This study evaluated the same *Shattered Dreams* program reported in Salazar, et. al. (2006). Overall, the evaluation showed that the program improved student confidence in refusing alcohol and managing peer influence and risk situations, at least in the immediate short-term among direct student participants. The program showed improved knowledge among the parent participants of zero tolerance laws and consequences of underage drinking. The evaluation did not show significant changes among student observers of the program.

Bordin, Bumpus, & Hunt. (2003). **Every 15 Minutes: A Preliminary Evaluation of a School-Based Drinking/Driving Prevention Program.** *Californian Journal of Health Promotion.* 1(3), 1-6.

This study evaluated the effectiveness of the *Every 15 Minutes* program administered to 1,651 students in 81 California high schools. Among students directly participating in the program (i.e. 'the living dead'), positive outcomes were found immediately and six months following the program in areas of alcohol self management, peer intervention, and self-reporting driving intentions, however the lasting effects were waning by the six month follow-up. Student observers of the program were not evaluated. The evaluation also showed minor positive outcomes among parental attitudes about alcohol. Long-term outcomes and actual alcohol use and driving behavior were not evaluated.

Foxcroft, Ireland, Lowe, & Green. (2002). **Primary Prevention for Alcohol Misuse in Young People (Review).** *Cochrane Database of Systematic Reviews.* 3, Art. No. CD003024.

This meta-review included studies evaluating educational and psychosocial prevention programs targeted at youth. Several programs showed evidence of ineffectiveness. Programs found to be the most effective centered on family and culturally focused skills training. Among studies reporting only short-term outcomes, 15 reported partially effective programs whereas 24 reported non-significant outcomes. Four studies actually showed increases in drinking behaviors. Among studies evaluating medium-term outcomes, 12 studies reported partially effective interventions, however after further review, these studies had substantial methodological shortcomings. An additional 19 studies showed no evidence of effectiveness. The most effective programs with long-term evaluation follow-up included life skills training, culturally focused school and community interventions with Native Americans, and family-based interventions. Several programs were

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determined ineffective after long-term follow-up, including DARE and Project ALERT (the review provides a complete list of specific programs evaluated). Although 56 studies total were included in this review, the diversity of interventions, settings, and outcome measurement precluded a formal meta-analytic synthesis of results.

Shope, Elliot, Raghunathan, & Waller. (2001). **Long-Term Follow-up of a High School Alcohol Misuse Prevention Program's Effect on Students' Subsequent Driving.** *Alcoholism: Clinical and Experimental Research.* 25(3), 403-410.

This study evaluated the effects of an alcohol misuse prevention curriculum conducted among 10th-grade students. Intervention (1,820 students) and control (2,815 students) groups were followed for an average of 7.6 years after licensure. The evaluation showed a marginally significant effect on serious offenses, including alcohol-related offenses, after controlling for several other variables, however the effect was only found following the first year of licensure. This positive effect was strongest among students who initially reported drinking less than one drink per week. These findings suggest that high-school based alcohol prevention programs can positively affect subsequent driving behaviors, but this effect is not sustained and limited to students who do not use alcohol regularly.

Hover, Hover, & Young. (2000). **Measuring the Effectiveness of a Community-Sponsored DWI Intervention for Teens.** *American Journal of Health Studies.* 16(4), 171-176.

The Greene County DWI task force requested an evaluation of the Springfield, Missouri *Every 15 Minutes* program before deciding to sponsor the program for a third time. As a result, this study evaluated the pre- and post-intervention prevalence of alcohol consumption, student attitudes, and behaviors toward drinking and driving. The program had a statistically significant improvement in student attitudes towards drinking and driving, but the change was small. The evaluation showed no changes in self-reported drinking and driving behavior. Focus groups suggested that behavior change may be accomplished by combining the program with stronger enforcement, community support, and sustained educational programs.

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