

# School-Based Substance Abuse Prevention: Political Finger-Pointing Does Not Work

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**THE RECENT ERUPTION** of news stories covering the poor evaluation results of the Drug Abuse Resistance Education (D.A.R.E.) program, the most widely implemented youth drug prevention program in the United States, coupled with the even more recent speculation that adolescent drug use may again be on the rise, has focused much attention on substance abuse prevention programs administered in school settings. It is not uncommon to find school-based prevention in the spotlight, as schools have traditionally been the site of both alcohol and drug education and the collection of adolescent substance use data. The centrality of schools to prevention efforts is highlighted by research revealing that the school environment may affect a young person's inclination to engage in risky behaviors, and that the onset of behaviors such as alcohol use or risky sexual behavior often begins during the school-age years (Northeast CAPT, 1999, Stovell, 1999). Many of the precursors of delinquent behavior are school-related, and therefore likely to be responsive to change through school-based intervention (Gottfredson, 1998). Thus, substance abuse prevention programs implemented in the school setting have the potential to offset or combat substance use and abuse during a child's early years and at several subsequent stages of development.

Social scientists have emphasized the importance of evaluating school-based strategies over the past two decades. Until recently, little was known about what program components and delivery methods lead to successful intervention (Eisen, et al., 2000). Classroom observations conducted by researchers revealed the central strategy used by teachers

for preventing substance use among adolescents as the simple provision of facts about drugs and alcohol, and the consequences of use. Efforts to increase students' knowledge about substance use and consequences have not been shown to significantly change student attitudes and substance-related behavior (Wyrick, et al., 2001, Sherman, 2000, Gottfredson, 1998).

Unfortunately, the evaluation of school-based substance abuse prevention programs has disclosed that, although some types of school-based programs may influence adolescent alcohol and drug use, the effects of most evaluated programs are generally minor. In addition, the few programs for which long-term evaluation findings are available demonstrate that positive effects are not maintained if the program lacks a follow-up component. More discouraging is the fact that the very prevention approaches shown to be effective are not widely used, while other approaches for which no effectiveness has been demonstrated or for which no substantial evaluation exists are the most commonly used models (Mendel, 2000, Sherman, 2000, Gottfredson, 1998, Silvia, et al., 1997).

As one of many school-based programs evaluated to be ineffective, D.A.R.E., the most widely used program in the U.S., received significant public scrutiny. Disputes between social scientists and program administrators surrounding the validity of negative research findings in the early 1990s later gave way to controversial media coverage and political finger-pointing. D.A.R.E. program administrators faced accusations of attempts to conceal evaluation findings and were publicly charged by political figures, researchers, and

the media with squandering American tax dollars. Social scientists were attacked by D.A.R.E. program officials, politicians, school districts, and law enforcement for launching a crusade against the program and conducting biased studies. It was not until 2001 that the opposing sides began to communicate productively. At present, the D.A.R.E. America program, in collaboration with social scientists, is piloting the "New D.A.R.E. Program," which has been designed based on current research findings on the effectiveness of programs and program components for targeted age groups (Miller, 2001; *Education Week*, February 21, 2001, *Newsweek*; February 26, 2001).

The need to bridge the gap between research and practice is a problem plaguing many fields. In the case of school-based substance abuse prevention programming, the controversy reached the public arena. Whereas program evaluation should be viewed as a positive step toward progress, the defensiveness of researchers, program officials, and politicians about D.A.R.E. and other school-based programs has been counterproductive for necessary efforts to design and implement effective, science-based program strategies. Political finger-pointing and ineffective communication between these parties may be the most difficult components to surmount to improve school-based substance abuse prevention. What is needed is a more productive approach, specifically one that focuses on the ways in which research findings may be adopted to develop superior programs or improve upon ineffectual components of existing programs.

## Increasing Concern Over Adolescent Substance Use

Annual findings of the Monitoring the Future (MTF) survey of American 8th, 10th, and 12th graders revealed that the early- to mid-1990s were characterized by increasing trends in overall substance use (Wyrick, et al., 2001). Later, MTF results from the mid-late 1990s showed a decline in use. However, 1999 and 2000 results indicated that overall illicit drug use among American teens was generally holding steady at the end of the decade. There were also slight increases in adolescents' use of steroids and MDMA ("ecstasy") in 1999 and 2000, as well as an increase in non-intravenous heroin use among 12th graders in 2000 (Johnston, et al., 2000; 2001).

Supporting these findings were the results from the 14th Annual Pride Survey, which revealed an increase in teen drug use during the 2000-2001 school year after three years of decline. Specifically, both annual and monthly reported usage of marijuana, uppers and heroin rose among high-school students in grades 9–12 (Pride Surveys, 2001).

A strong association has been identified between adolescent drinking and drug use behavior and teen pregnancy, delinquency, school misbehavior, aggressiveness, impulsiveness, and dropping out of school (Hawkins, Catalano, & Miller, 1992). In addition, the use of alcohol has been directly linked to increased risk of accidents, homicides, and sexually transmitted diseases (Peterson et al., 1994). Also, delinquency, alcohol and drug abuse were cited as among the six major risk factors identified by the Centers for Disease Control and Prevention as contributing to the decline in overall adolescent health (Wyrick, et al., 2001). The recent rise in the use of club drugs such as Ecstasy is especially alarming from a health perspective. According to the National Institute on Drug Abuse (NIDA) Director Dr. Alan Leshner, Ecstasy can cause short-term problems such as dramatic changes in heart rate and blood pressure, dehydration and a potentially life-threatening increase in body temperature, as well as long-term problems, including lasting changes in the brain's chemical systems that control mood and memory (Landers, 2001).

## The National Response

The prevention of youth substance abuse has been a national priority over the past two decades (Coker and Borders, 2001). In the

1980s, Congress began providing approximately \$500 million per year for the U.S. Department of Education to fund school-based drug education efforts. Through this funding initiative, a multitude of studies targeting the prevention of adolescent substance use were undertaken and theories were produced to guide efforts toward identifying substance use prevention strategies most effective with adolescents (Wyrick, et al., 2001). In 1997, the U.S. Department of Education added requirements to the \$500 million Safe and Drug Free Schools program requiring that states and localities measure the results of programs funded with federal monies and that they select program strategies that have been evaluated and for which there exists demonstrated evidence of effectiveness (Mendel, 2000). By fiscal year 2000, the U.S. Department of Health and Human Services (DHHS) had invested approximately \$350 million in youth-focused substance abuse activities, which worked to raise awareness among youth and support communities of the need to adopt science-based substance abuse prevention strategies (U.S. Department of Health and Human Services 2000).

Despite the considerable emphasis on research-driven approaches by the mid 1990s, a 1997 federally-funded study of school-based prevention programs in 19 school districts by Silvia, et al. found that few districts seemed familiar with research findings, or showed evidence of considering research findings when planning their prevention strategies. In addition, few districts conducted program evaluations to assess their programs' effectiveness (Mendel, 2000).

## School-Based Substance-Abuse Prevention Programs

Alcohol and drug prevention programs have traditionally been school based, and schools are a suitable location for educating adolescents about health risks, as schools have access to the majority of the nation's youth, and likewise have the potential to address diverse adolescent groups (Wyrick, et al., 2001; Coker and Borders, 2001; Eisen, et al., 2000; Gottfredson, 1998). In addition, schools provide regular access to students throughout their developmental years, and may offer the only consistent access to the most crime-prone youth during their early school years (Gottfredson, 1998). A school implementing and maintaining an effective substance abuse prevention program may improve overall

school climate to reduce youth drug use during and after school hours. In a study of the predictors of in-school substance use among high school students, Voelkl and Frone (2000) found that students' identification with school was significantly and negatively related to both in-school alcohol and marijuana use. Consistent with these findings, prevention programs that have the capacity to build students' attachment to their school are often highlighted as models for prevention.

## Drug Abuse Resistance Education (D.A.R.E.)

Developed in 1983 by the Los Angeles Police Department and the Los Angeles Unified School District, the D.A.R.E. (Drug Abuse Resistance Education) America program has been the most popular school-based substance abuse program in the nation. The program is the most prominent in school districts, and has been embraced by police departments, parents, and politicians. D.A.R.E. is a collaborative effort by law enforcement officers, educators, students, parents and communities to provide classroom-based education to prevent or reduce drug abuse and violence among children and youth. The goal of the D.A.R.E. program is to help students both recognize and resist pressures to experiment with alcohol, tobacco, marijuana, inhalants, or other drugs or to engage in violence. The program includes "visitation" lessons on a variety of drug- and law-related topics delivered by police officers to students in kindergarten through fourth grade; a 17-week core curriculum for fifth or sixth graders; and a 10-week junior high school program on peer pressure resistance, improving decision-making skills, anger management and conflict resolution. In addition, a 10-week senior high school program (taught in collaboration with teachers) on decision making and anger management was developed. D.A.R.E. also developed an after-school program for middle-school-aged students. Programs for parents and special education populations were also made available. Despite the multitude of components, the core 17-lesson curriculum delivered to students in grades 5 or 6 has traditionally been the most frequently used form of the program (Official DARE Website, <http://www.dare.com>).

Over the last decade, however, the program has come under serious scrutiny by researchers whose studies have revealed that the

program does not show signs of reducing drug use among children exposed to the program (Miller, 2001; Mendel, 2000; Sherman, et al., 1998; Rosenbaum and Hanson, 1998). While D.A.R.E. gained such popularity that it was eventually active in 80 percent of the school districts in the U.S., review of research reveals that students who completed the D.A.R.E. program used drugs at the same rate as those who had not taken the course, or even slightly higher rates (*Education Week*, February 21, 2001; *U.S. News & World Report*, February 26, 2001; *Newsweek*, February 26, 2001).

Since the first negative evaluation results were released in 1994, researchers, politicians, and D.A.R.E. program officials have been at odds over the program. When the Research Triangle Institute presented negative results from the first comprehensive review of the program, the U.S. Department of Justice did not want to release the study results (although they were published by the *American Journal of Public Health*). D.A.R.E. program officials have repeatedly contested negative findings, and have also made attempts to demonstrate effectiveness by having the program re-evaluated by their own assigned researchers. However, D.A.R.E.'s attempts to conduct counter-studies were unsuccessful, as these studies were criticized for using questionable methodologies. A later study by Rosenbaum and Hanson (1998) provoked arguments between the researchers and D.A.R.E. officials, who Rosenbaum claimed misrepresented his findings on their program website by implying positive outcomes. Although discussion of program overhaul began in the late 1990s, it was not until 2001 that the intention to improve the program was publicized, and communication between the two sides became conducive to positive change. Since that time, there has been general agreement that the program needs renovation (Miller, 2001; Rosenbaum and Hanson 1998).

Less clear, however, are the ways in which the discord between the highly verbal critics of ineffective prevention programming and those program administrators, school representatives, and program staff will be broken down so that efforts may be redirected toward producing competent programs to protect our nation's youth.

The attacks on D.A.R.E. have been brutal. In the summer of 2001, Salt Lake City Mayor Rocky Anderson was among one of the first leaders in the nation to cancel the D.A.R.E. initiative, which he publicly attacked, calling the program "completely ineffective" and "a

complete waste of money, a fraud on the American people." Anderson wrote in *The Salt Lake Tribune*, "our drug prevention policies have been driven by mindless adherence to a wasteful, ineffective, feel good program." DA.R.E. supporters were unable to successfully rebut his charge that published, peer-reviewed research indicated that the program is ineffective at best (*U.S. News & World Report*, Feb 26, 2001; *Newsweek*, Feb 26, 2001). The D.A.R.E. program heads have continued to insist that their program works, but have been unable to produce any evidence to support their argument. At this point, the fact that the program does not serve the purpose for which it was designed is evident.

While program effectiveness, the central component in effective programming, is generally the focus of attention among all parties interested in substance abuse programs, some non-evaluated accomplishments pertinent to effective program implementation may be overlooked. Even the most effective program model will not achieve the intended results if the program is not executed with consistency, and does not reach the population in need of services. Although the D.A.R.E. program evaluations were poor, the program administrators did achieve great success in marketing and networking their program.

### What D.A.R.E. Did Not Accomplish

In more than 30 studies, although results have varied, collectively there has been no tangible evidence that the program deters drug use by the time participants enter high school or college. Negative results have been shown for both short- and long-term outcomes ((Miller, 2001; *The New York Times*, Thursday, February 15, 2001; Sherman, 2000; Rosenbaum and Hanson 1998; Gottfredson, 1998).

### What D.A.R.E. Did Accomplish

The D.A.R.E. organization has demonstrated a successful delivery system, supported by a strong marketing package (Rosenbaum and Hanson, 1998). Ultimately, the program became active in 80 percent of the country. By 1998, over 25,000 police officers were trained to teach D.A.R.E., and 44 other countries had adopted the curriculum. In addition, the program was developed to be cost-effective, as it relied almost exclusively on the efforts of trained volunteer law enforcement officers. While D.A.R.E. did not accomplish its main

goal, the program was effective in implementing strategies and achieving community buy-in, as well as law enforcement and school-district support. These are important elements in any successful substance abuse prevention efforts.

### What the Research Says About School-based Program Strategies

Towards the end of the century, several specialists in the field of prevention undertook efforts to both comprehend and itemize the wide assortment of school-based and other types of adolescent substance abuse and delinquency prevention program approaches currently in place, comparing these models with available evaluation results. From these endeavors a body of literature was formed which increasingly serves as a standard for research-based program development. These works include the "Sherman Report" to the U.S. Congress (Sherman, et al., 1998); the "Blueprints Project" established at the Center for the Study and Prevention of Violence (CSPV) at the University of Colorado at Boulder in 1996; the "Mendel Report" (Mendel, 2000); and program evaluation reviews regularly released by the several agencies under the National Institutes of Health (NIH) and U.S. Department of Health and Human Services (DHHS), including the National Institute on Drug Abuse (NIDA), the Substance Abuse and Mental Health Services Administration's Knowledge Exchange Network (KEN), the Center for Substance Abuse Prevention (CSAP), as well as CSAP's several Centers for the Application of Prevention Technologies (CAPT), among several others.

The "Sherman Report," released in 1998, published results from a meta-analysis of prevention programs and available evaluation information performed by Lawrence Sherman and many other well-known prevention scholars. The report set new standards for assessing current and previously implemented program types. Many consider the Sherman Report's categorization of effective and promising programs to be a paradigm for prevention information available today. In this report, Denise Gottfredson disclosed the results from her examination of some of the most popular and widespread school-based approaches, which have been developed and promoted by strong advocates and have been both federally and non-federally funded.

The research team categorized the following programs as effective, ineffective, and promising (Sherman, et al., 1998).

### *Ineffective School-based Substance Abuse Prevention*

- **Counseling, peer counseling, and peer leadership programs.** Gottfredson and her team found that these programs, which are popular and based on the expectation that the anti-substance-abuse message will be more effective coming from a peer, fail to reduce substance abuse or delinquency and even have the potential to increase delinquency by increasing the association with deviant peers. In addition, the team found that some of these approaches, such as peer mediation, have not been substantially evaluated.
- **“Information dissemination” instructional programs, fear arousal approaches, moral appeal approaches.** This classic approach of teaching youth about the harmful effects of alcohol and drug use is widely utilized; however, it has not been found to reduce substance use. According to Dr. Gilbert J. Botvin, founder of Life Skills Training program, programs in the past were largely based on the notion that making students aware of and dramatizing dangers through the use of scare tactics would be effective. However, impact of the knowledge does not translate into a reduction in behavior (interview in *The New York Times*, Sunday, February 17, 2002). In the discussion of ineffective school-based programs, D.A.R.E. generally fits into this category.
- **Alternative activities and school-based leisure time enrichment programs, including supervised homework, self-esteem exercises, community service, and field trips.** Although a successful program may include an alternative activity or leisure enrichment component, depending on these strategies alone to reduce substance abuse has not shown any effect.

### *Effective School-based Substance Abuse Prevention*

The programs identified by Gottfredson and her team as being effective are strongly linked to social organization theory, as they have a “holistic” approach, addressing the notion that all aspects of school life can affect violence and substance abuse (Sherman, 2000). The effective program list is as follows:

- **Programs aimed at clarifying and communicating norms about behaviors.** One example of such an approach is Project PATHE. This comprehensive program, deemed “Promising” by the Center for the Study and Prevention of Violence, is implemented in secondary schools and reduces school disorder while improving the school environment to enhance students’ experiences and attitudes about school. Although more rigorous evaluation is desired, the evaluation data currently available shows an effect on self-reported delinquency, including drug involvement, as compared with control schools (CSPV Blueprints, 2002).
- **Comprehensive instructional programs that focus on a range of social competency skills (e.g., developing self-control, stress-management, responsible decision-making, social problem-solving, and communication skills) and that are delivered over a long period of time to continually reinforce skills.** Many scholars have agreed that skills-based components are central to effective prevention programs. These approaches may include skill-building methods such as role-playing, improving verbal and nonverbal communication skills, teaching resistance skills, and providing behavioral modeling (Eisen, 2000).
- **Behavior modification programs and programs that teach “thinking skills.”** The Urban Institute further supports the effectiveness of this program type by noting that specific behavioral goals are targeted in effective programs. The most effective programs have a few clearly delineated and articulated goals for behavior change (Eisen, 2000).

### *Promising School-based Substance Abuse Prevention*

Several strategies have been shown in only one rigorous study to reduce delinquency or substance use. These strategies are:

- Programs aimed at building school capacity to initiate and sustain innovation.
- Programs that group youths into smaller “schools-within-schools” to create smaller units, more supportive interactions, or greater flexibility in instruction.
- Programs that improve classroom management and that use effective instructional techniques.

## **Programs Identified as Effective Through Research and Evaluation**

### *The Life Skills Training Program (LST)*

Developed in 1979 by Dr. Gilbert J. Botvin, professor of public health at Weill Medical College of Cornell University, the Life Skills Training Program has been shown through evaluation to produce positive results. LST is a three-year intervention designed to be conducted in classrooms. The program is a universal classroom-based substance abuse prevention program and teaches self-management skills, general personal and social skills, as well as drug resistance skills and normative education. The curriculum for middle or junior-high school students includes three major content areas supplemented by booster sessions: 1) drug resistance skills and information, 2) self-management skills, and 3) general social skills. In 1994, the follow-up results of a six-year study conducted by Cornell University Medical College’s Institute for Prevention research provided important evidence that drug abuse prevention programs conducted in school classrooms can positively affect substance use. The large-scale study involving nearly 6,000 students from 56 schools found that students were less likely to have used tobacco, alcohol, and marijuana by the end of high school after receiving the Life Skills Training Program (NIDA, 1997; CSAP, 1999; Midwest Forum, 1994).

### *Student Training through Urban Strategies Program (Project “STATUS”)*

Programs found to be most effective are those treating the entire school rather than just supplementing the curriculum (Sherman, 2000). Through Project STATUS, students are grouped into smaller subgroups to achieve supportive interaction. The goal of Project STATUS was to assist students in becoming active, responsible members of their community. Among many other positive results, Project STATUS showed significant beneficial effects for intervention students, compared to control students, and showed less total delinquency for all students and less serious delinquency for high school students, as well as less drug involvement for junior high students (CSPV Blueprints, 2002).

## What These Programs Did Accomplish

Both the Life Skills Training Program and Project Status showed potential for reducing student alcohol or drug use. The Life Skills Training Program was rated “effective” by the Center for Substance Abuse Prevention, the National Institute on Drug Abuse, the Office of Juvenile Justice and Delinquency Prevention, the Center for Disease Control and Prevention, the Center for the Study of the Prevention of Violence, and the Department of Education. Project STATUS was rated “effective” by the Office of Juvenile Justice and Delinquency Prevention and the Educational Development Center, and “promising” by the Center for the Study of the Prevention of Violence. The Life Skills Training program has been extensively studied over the past 20 years, and results have indicated that this prevention approach can reduce tobacco, alcohol and marijuana use from 59 percent to 87 percent relative to controls, and that booster sessions can help maintain program effects. In addition, long-term follow-up data from a randomized field trial involving nearly 6,000 students from 56 schools found significantly lower smoking, alcohol, and marijuana use 6 years after the initial baseline assessment. More, the prevalence of cigarette smoking, alcohol use, and marijuana use for the students who received the Life Skills Training program was 44 percent lower than for control students, and the regular (weekly) use of multiple drugs was 66 percent lower. Project STATUS showed significant beneficial effects for intervention students, compared to control students, and among the high school sample, those receiving the program showed less total delinquency for and less serious delinquency. Less drug involvement was also revealed among junior high students (CSPV Blueprints, 2002).

## What These Programs Did Not Accomplish

Neither the Life Skills Training Program nor Project STATUS have achieved the popularity of the D.A.R.E. program. Although the Life Skills Training Program was developed a few years before D.A.R.E., and is currently used in schools worldwide, including Japan, Korea, Mexico, Sweden, New Zealand and Argentina, it has yet to come close to being adopted by the number of schools and communities that embraced the D.A.R.E. Pro-

gram. Project STATUS is no longer operational, although elements of the program have been incorporated into new programs (CSPV Blueprints, 2002).

## Lessons Learned from the School-Based Prevention Debate

Review of the literature on program evaluation, as well as the press coverage given to the subject in recent years, reveals a critical need for research-based approaches for school-based substance abuse prevention. Accordingly, the Department of Education has prohibited schools from using grants from the federal Safe and Drug-Free Schools and Communities Program for any anti-drug-abuse program that has not proved its effectiveness within two years, including D.A.R.E. (*Education Week*, February 21, 2001).

Very few school-based substance abuse prevention programs have been identified as having a deterrent effect on adolescent substance abuse, and the components that are likely to be key in effective programs have been identified. However, the expert marketing and community and school buy-in techniques developed and employed by D.A.R.E. program officials and staff should be integrated into new science-based approaches, and adopted by those already existing. It is in the best interests of both social scientists and practitioners to provide competent, state-of-the-art prevention efforts to as many students as possible. While the media seeks to create provocative headlines by pointing out the failure of D.A.R.E. and other programs, more attention should be given to the productive improvement efforts of the developers of both D.A.R.E. and other programs. Although many have suggested that unsatisfactory programs should be abandoned, D.A.R.E. and other programs did in fact include many of the types of elements identified as effective through research. For example, like the Life Skills Training Program, the D.A.R.E. curriculum contained elements of skills training; however, it may have focused less on social competency building skills than on information dissemination, and the two programs differed vastly in delivery methods. (One instance of such differences is that D.A.R.E. was administered by uniformed police officers, and the effect of law enforcement delivery on program effectiveness has not been established). The identification of effective versus non-effective components may also be observed from Project PATHE,

another program that has gained much attention, and has been labeled a “promising” program by the Center for the Study and Prevention of Violence. Project PATHE focuses on school climate change, and among its components are extra-curricular activities and peer counseling services (CSPV Blueprints, 2002). Yet neither programs that focus solely on extra-curricular activities nor peer counseling alone have been shown to be affective for reducing substance use (Sherman, 2000; Gottfredson, 1998). It would appear that not all components of ineffective programs necessarily need to be abandoned; some may be used as part of multicomponent programs. Prevention specialists often assert that multi-component interventions have the greatest potential for positive outcomes (Eisen, 2000).

In addition, while program developers have access to the most current research on prevention programming, equal attention should be given to the importance of proper program implementation. Gilbert Botvin, in reviewing the Life Skills Training Program, found that the percentage of curricular materials covered in the classroom varied widely from school to school, and the level of implementation directly affected results. According to Botvin, when less than 60 percent of the program elements are taught, the program fails to prevent drug abuse (Sherman, et al., 1998).

Finally, it is unlikely that one magic bullet will be developed for school-based substance abuse prevention. Much evidence suggests that developmental changes in childhood and adolescence may affect the type of strategy that would best influence these young people. Although not all children will reach developmental stages simultaneously, some patterns have been observed that could be used to guide research efforts. For example, changes due to maturation may affect both the context and the behavior of substance abuse, and research has shown that attachment to parents or peers fluctuates during different stages of adolescence (Baily and Hubbard, 1990). Several theories suggest that beginning at about age 12, peer influence takes precedence over all other sources of influence, including parents, school, and the mass media, becoming the single most important factor in determining a variety of behaviors throughout adolescence (Stovell, 1999). These findings hold important policy implications, as different strategies may be more effective for different groups.

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