

## **Chapter 3**

# **Let's Use Effective Drug Abuse Prevention Programs: A Researcher's Commentary**



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# Let's Use Effective Drug Abuse Prevention Programs: A Researcher's Commentary

This chapter contains an essay by Steve Sussman, Ph.D., the developer of a comprehensive social influences prevention program that focuses on tobacco: Project TNT (Project Towards No Tobacco Use). In his commentary, Dr. Sussman points out that of the nine effective programs that have been presented in *Getting Results*, only two were being used by California districts in 1998-99: Project ALERT (used by 9 percent of schools) and Life Skills Training (used by 2 percent). Although schools may be tempted to use heavily

marketed programs that are easy to implement, Dr. Sussman states that schools cannot afford to use programs that are ineffective.

Dr. Sussman outlines the evolution of drug abuse prevention programming and offers detailed information on an effective approach in preventing alcohol, tobacco, and other drug use: comprehensive social influences programming. His commentary concludes with suggestions for overcoming the many real barriers to providing good prevention programs for students.

### Commentary by Steve Sussman, Ph.D.

Youths gradually or suddenly join the 15 percent of the adult population that suffers from drug abuse.<sup>14</sup> However, prevention is a remedy for the problem. Prevention that works well is effective for addressing multiple issues. In addition to decreasing drug abuse, prevention programs can also reduce students' violent and disruptive behavior and mood disorders; increase youths' involvement in the community and their attendance at school; and improve their grades (Eggert et al. 1994; Jessor 1984; Johnson, MacKinnon, & Pentz 1996).

There is a large gap between programs that are implemented widely and programs that have been shown to work well to reduce

unhealthy risk behavior. Alcohol, tobacco, and other drug (ATOD) abuse prevention programs that are aggressively marketed are the ones most often selected and used. However, the most widely used programs for the prevention of ATOD abuse and violence have failed to show evidence of effectiveness or have not been evaluated adequately (*Alcohol, Tobacco, Other Drug and Violence Programs in California Schools* 2000). In other words, if effects were claimed, these effects were on knowledge or attitudes alone, not behavior, or they were based on individual testimonials or weak evaluation designs (e.g., small groups rather than large groups).

#### *The Use of Effective Programs*

In Chapter 2 Denise Hallfors and Amy Sporer of the University of North Carolina reviewed three widely implemented programs: HLAY, DARE, and Quest. Their reviews underscore what the available research evidence shows: two of those programs are ineffective. I hope and believe that the programs will be reinvented and evaluated and will be shown to be effective in preventing risk behavior. A change in students' knowledge and attitudes about drugs is a precursor to behavioral change (the ultimate criterion of the effectiveness of drug abuse prevention programs). In the meantime, which programs have been shown to be effective?

*Getting Results* was designed by CDE to help educators select exemplary and promising programs.<sup>15</sup> For educators, other practitioners, and researchers, the publication is one of the best compilations of useful prevention information available. Parts I and II of *Getting Results* present several programs that work well. Generally, the knowledge, attitudes, and behavior of students using these programs were compared with those of students in control groups within rigorously careful evaluation designs that measured behavior at least one year after the program was implemented. This was done to demonstrate effectiveness.

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<sup>14</sup> With nicotine addiction, the total rises to 30 percent.

<sup>15</sup> Exemplary programs have been proven to be effective through the use of rigorous research designs. Promising programs have not yet been shown to be effective but are based on models or logic that deserve further testing. Promising programs might also show results related to behavior but have weak evaluation designs.

See Table 4 (page 38) for the classroom-based programs that have been reviewed as being effective in *Getting Results* and the sources of the reviews. Across both parts of the *Getting Results* series, a total of nine effective classroom-based programs are presented. (There are many other effective programs in *Getting Results* that are not classroom-based or school-based.) Are these programs being used in California? In 1993 none were represented among the 12 curricula most commonly used in

California districts (Southwest Regional Laboratory 1993). By 1998 Project ALERT had reached 9 percent of schools in California, Life Skills Training had reached 2 percent, but none of the other effectively classroom programs were represented (*Alcohol, Tobacco, Other Drug and Violence Programs in California Schools* 2000). In brief, exemplary and promising programs are hardly being used in California. Something is wrong here.

### *The History of Effective Drug Abuse Prevention Programming*

Back in the early 1970s, there were no known effective drug abuse prevention programs. Scare tactics, values clarification, or mere provision of information on long-term physical consequences had little impact on drug-use behavior. In fact, activities such as the use of ethical/moral decision making, instruction in values clarification, or a focus solely on intrapersonal skills could be harmful (Tobler 2000).

Then in 1976, Richard Evans and his colleagues at the University of Houston made an interesting discovery. In early adolescence, youths very rapidly begin trying tobacco and then other drugs. Early adolescence was determined to be a critical period for the onset of drug use. In addition, various social influences were identified to be among the strongest reasons youths began to use drugs. Youths perceive that drug use is acceptable and occurs widely among peers and adults. In spite of efforts to reduce the supply of drugs, youths report that alcohol, tobacco, and other drugs are readily available. This research group reasoned that if youths could be “inoculated” in a safe context against these influences (analogous to an

injection at the doctor’s office), they would not begin to use drugs (Evans 1976; also see Ellickson’s piece in *Getting Results*, Part I 1998, 91). This belief was the beginning of social influence programming. Many generations of social influence programs subsequently evolved. Gradually, the content of social influence programming became more comprehensive and fine-tuned.

Early programs focused on direct confrontation of social influences (e.g., training in refusal skills, public commitment to refrain from using tobacco). The focus of these programs soon broadened to include more of an emphasis on normative education (e.g., changing the social norms), life skills instruction (e.g., listening and conversation skills, decision making), and instruction in activism (e.g., letter writing to those who portray tobacco use positively). This comprehensive approach is, perhaps, 40 percent more effective than the more narrow one (Tobler et al. 2000).

“Comprehensive social influences programming” (as it is now called, or “comprehensive life skills programming” [Tobler et al. 2000]) is the best approach to universal prevention

Table 4

## Effective Classroom-Based Prevention Programs Reviewed in *Getting Results*

Program Title	Program Approach and Focus	Outcomes	<i>Getting Results</i> Review
The Alcohol Misuse Prevention Study	Alcohol; social influences approach (grades 6–8)	Showed effects on alcohol misuse over at least 3 years	Part I, pages 92-93
Life Skills Training	ATOD prevention, life skills, and social influences approach (grades 7–9)	With exposure to 60 percent or more of the lessons, showed effects on cigarette smoking, and alcohol, marijuana, and drug use 6 years post-program	Part I, pages 102-103
Project ALERT	ATOD prevention; social influences approach (grades 7–8)	Showed effects on marijuana and cigarette smoking 15 months post-program	Part I, pages 111-112 Part II, pages 59-60
Project STAR (Midwestern Prevention Project)	ATOD prevention, school-based social influences approach with community components (grades 6–7)	Showed effects on cigarette smoking, alcohol use, and marijuana use for over 3 years post-program	Part I, pages 113-115 Part II, pages 86-87
The Minnesota Heart Health Program	Tobacco use prevention, communitywide intervention with school component, social influences approach (grades 7–10)	Showed effects on smoking 5 years post-program	Part II, pages 81-82
The Tobacco and Alcohol Prevention Program (TAPP)*	Tobacco and alcohol prevention; social influences approach (grades 6–7)	Effect on smoking prevalence 2 years post-program in 1 of 2 cohorts	Part II, pages 60-61
Programs to Advance Teen Health (PATH)	Tobacco prevention, social influences approach	Showed effects on experimental smokeless tobacco use approximately 1 year post-program	Part II, pages 62-63
Project Towards No Tobacco Use (TNT)	Tobacco use prevention and cessation, social influences approach (grades 6–8)	Showed effects on onset and weekly use of smokeless tobacco and cigarette smoking 2 years post-program	Part II, pages 63-66
Project SHOUT	Tobacco use prevention, social influences approach (grades 7–12)	Showed effects on smoking over 4 years post-program	Part II, pages 76-79

\* This program is no longer in print. The new version of TAPP is called All Stars.

of drug abuse to date. *Universal* drug use prevention programs are meant to reach all subjects in a particular context. These programs' primary goals are to keep a school or community drug-free and prevent youths from initiating use of alcohol, tobacco, or other drugs. Comprehensive social influences programs are intended to be most relevant to young teens. Family-based programming, instruction on emotional development, and provision of tobacco facts are relatively likely to be important to younger children, whereas motivation enhancement is relatively likely to be important to older teens and young adults (Sussman et al. 1995).

There are several research sources that now describe the components of effective teen drug abuse prevention programs (e.g., Centers for Disease Control and Prevention 1994; Donaldson et al. 1996; Glynn 1989; Hansen 1992; Silvestri & Flay 1989; Sussman et al. 1995; Tobler 1986; Tobler et al. 2000; U.S. Department of Health and Human Services 1994). Effective programs have three components: theory/substantive content (material), process (means of delivery), and modality features (settings of delivery).

**Substantive Contents.** A comprehensive prevention curriculum based on the social influences approach can be categorized into three main types of lessons: basic information, normative social influence-oriented, and informational social influence-oriented (Sussman et al. 1995).

**Basic information lessons** are intended to introduce the program, involve youths, and address the following issues: listening/involvement (e.g., keeping an open mind), long- and short-term physical consequences (e.g., cigarette breath, shortness of breath),

and decision making and public commitment. By providing correct information about the course of addiction and disease, a teacher can correct cognitive misperceptions about drug use outcomes. For example, the myth is that continued cigarette smoking helps one learn how to smoke correctly. However, the truth is that the human body's warning signals of poison (e.g., coughing and nausea) are triggered, ultimately "give up," and diminish.

**Normative social influence** refers to direct pressures to comply with drug offers to win group acceptance. Lessons designed to counteract those social pressures address changing the social norm and learning how to say no. For example, youths tend to think that although they do not approve of drug use, their peers are much more approving of drug use. In a typical activity on changing the social norm, youths stand in groups under Approve or Disapprove signs regarding the use of a drug, and a conservative shift in attitude results as almost the entire group is observed to disapprove of use. Interestingly, changing young teens' perceptions of social norms appears to influence them more than teaching them how to refuse. In fact, several studies have found that perceived peer disapproval, negative expectations about drug effects, and relatively low estimates of prevalence rates influence the effectiveness of drug abuse prevention programs, not teaching teens how to refuse drugs (see Donaldson et al. 1996; MacKinnon et al. 1991). Training in refusal skills may be an effective strategy among those teens who are not curious about drug use but generally only if it is closely linked to changing their perceptions of social norms (Donaldson et al. 1996; Sussman et al. 1995; Tobler 2000). If training in refusal skills alone is offered,

teens may come to believe that everyone uses drugs and that drug offers will be everywhere. Therefore, their use of refusal skills may decrease, and their intention to conform to such perceived pressures by using drugs may increase.

**Informational social influence** refers to covert, indirect pressures to adopt attitudes favorable to drug use. The lessons counteract those pressures by modifying prevalence overestimates (through taking group polls); raising social awareness of adult and media influences (and learning social skills to obtain correct information); and “correcting” ads and writing to policy-makers (activism). A lesson involving modification of prevalence overestimates involves making a comparison. For example, the teacher calculates how many students in a classroom or other group self-report using a drug in the last seven days. Then the teacher has each student make a judgment regarding how many peers in the room have used that drug in the last seven days. The anonymity of the respondents is protected, and the results are carefully tallied. The results are then presented to the class. Youths see that they tend to overestimate ATOD use among their peers. They then see there is much less pressure to use drugs than they previously thought (few youths actually use them).

**Processes of Delivery.** Regarding processes of delivery, programs that are highly interactive (interaction among teacher or facilitator with students and students with each other) are the most successful (Tobler 2000). Eliciting pertinent prevention information from students by asking a series of questions is preferable to the didactic approach because it reduces resistance to the message and encourages discussion and

### Prototype Lessons in a Comprehensive Prevention Curriculum Based on the Social Influences Approach

#### Basic Information

- Listening/involvement
- Long- and short-term physical consequences
- Decision-making and public commitment

#### Normative Social Influence

- Changing the social norm
- Refusal skills—learning how to say no
- Practice in refusal skills

#### Informational Social Influence

- Modifying prevalence overestimates
- Raising social awareness of adult and media influences
- “Correcting” ads and writing to policymakers (activism)

consensus among group members. Group members are also likely to value self-generated information. Training of instructors may be needed to lead such programs.

High-intensity interactive programs (i.e., around 16 hours) are more effective than lower-intensity programs (i.e., 6 hours). Delivery of a daily program is superior to more intermittent delivery, although it is more important to provide all lessons of a program, even if they are presented over many weeks, than to deliver only a part of the program. The use of booster lessons to supplement a drug abuse core prevention program may significantly enhance program effects, especially when repeated over a number of years (Sussman et al. 1995).

Previously, I mentioned that social influence programming was analogous to an inoculation. One receives a “shot” of education to be able to resist drug use in high-risk situations. If the program “dosage” is reduced (i.e., lessons or steps of the lesson, such as application activities, are dropped), if intervals between a “dose” are changed frequently (i.e., the schedule of implementation is erratic), or if new “ingredients” are added to the injection (i.e., new material is provided), the inoculation may not work. One must implement a research-based program as it was intended.

**Delivery Modalities.** By receiving instruction in several ways, youths hear a consistent message from both the school and community, and program effects are most likely to be maintained. Systemwide approaches achieve the largest effects (although methodological designs often are less strong than are studies of single schools). School-based instruction is a central means of delivering programming because youths are a captive audience. Evidence also indicates that this mode of delivery can be successful (Sussman et al. 1995; Tobler 2000).

### *Getting Past the Hurdles for Educators*

Educators are asked to do so many things: attend events, accept an increased workload and voluntary duties, take additional training—all with a positive spirit. Drug abuse prevention is just one more responsibility. There are at least three hurdles for educators in providing effective prevention programming (Petosa 2001).

The first obvious hurdle is **feasibility**. Small budgets, limited staff training, and lack of time make it difficult to launch a program. Programs that are widely used may be considered successful in terms of implementation. These widely implemented programs do communicate the message, “Don’t use drugs”; however, they have not been shown anywhere to affect ATOD behaviors.

There are at least two solutions to this problem. One is that widely implemented programs should be reinvented to become effective. Close partnerships between educators and researchers are needed for a

program to be both realistic to implement and rigorously evaluated. Another option is that effective programs should become more widely implemented with fidelity. This can happen as school-based programs become partners with more and more groups. Project TNT (Towards No Tobacco Use) is a good example. Although *Getting Results*, the U.S. Department of Education Expert Panel, the Centers for Disease Control and Prevention, and the Centers for Substance Abuse Prevention Model Programs have listed Project TNT among effective programs, it has not been widely disseminated in California.

The second hurdle is one of **priorities**. ATOD prevention programming is not the primary goal of educational systems. Some may argue that it is the youths’ own business what they want to do in their personal lives. If they do develop ATOD problems, it is their parents’ responsibility to help them. On the other hand, ATOD abuse is not

simply a personal problem; it is a communitywide problem. Prevention programming can bolster students' school attendance and improve their cooperative behavior at school, their grades and standardized test scores, and a school's ranking in the state. It does so by improving students' self-care (Eggert et al. 1994; Petosa 2001).

The third hurdle is one of **knowledge (skills)**. Delivery of effective programs requires training. For example, if educators learn how to teach students to estimate correctly the prevalence of drug use among their peers, that is a step forward. This lesson involves "threading a needle." The teacher must establish trust with the students, ensure the anonymity of data collected, and may need to understand that this type of lesson has been used over a million times with the same results (i.e., it is a reliable finding). Not only does good programming take training; teachers must also teach the lessons of a program as they were designed (and proven effective).

Unfortunately, some people may think that only knowledge instruction—as in academic lessons in history or social studies—is sufficient to change drug use behavior. Knowledge alone will not lead to behavioral change. For example, alcohol use may kill teen drivers, but knowledge of that fact will not stop teens from drinking and driving. Students' behavioral skills, prosocial motivation, negative attitudes toward ATOD use, and the choice not to use drugs are the signs that a program is working.

Overcoming those hurdles is not easy; however, they are surmountable. The *Getting Results* series provides information on programs that do and do not work. Realizing that school involvement and drug abuse are inversely related (Jessor 1984) can make it easier to defend drug abuse prevention programs. The educator can help students to pursue lifestyles conducive to learning. There is nothing like the experience of using an effective drug prevention program. The students like it, they really seem to change, and the educator becomes much happier.

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# The Hutchinson Smoking Prevention Project: A Response from the Research Community

As this update was being written, an article appeared in the *Journal of the National Cancer Institute* (Peterson et al. 2000) that created headlines in the media and confusion among school-based prevention educators. The article reported the results of a long-term evaluation of a school-based tobacco use prevention program — the Hutchinson Smoking Prevention Project (HSPP) — and concluded that social influence-based programs do not work. This conclusion leaves school staff with some thorny problems: *Getting Results* says social influences curricula are the “state of the art” and have been shown to work under rigorous evaluation conditions, yet now research appears to demonstrate that this was wrong.

It is too early to draw this conclusion. The HSPP study does point to the need for a careful reexamination of the theoretical approaches currently underway in the ATOD prevention field. Among other things, it calls for further investigation into the effectiveness of life skills curricula and strong school-community designs. Although the strength of the HSPP study was its rigorous research design, some experts in prevention research say it is still too soon to jump to conclusions.

Several researchers submitted a formal response to the *Journal* (Sussman et al. 2001) that questioned the conclusions of the HSPP study. This response has been used to guide answers to the questions as noted below. A review and summary of HSPP, written by William B. Hansen, will appear in *Getting Results*, Update 3 (in prep.).

### **What is the Hutchinson study?**

The Hutchinson Smoking Prevention Project was a 15-year study funded by the National Cancer Institute (NCI) designed to test a school-based “state-of-the-art” smoking prevention program. The study consisted of 8,388 students from 40 school districts in Washington state who were randomly assigned to intervention and control groups. Students in the control group received health curricula normally taught in those districts. Students in the intervention group participated in HSPP yearly from grade 3 through grade 12. HSPP is characterized as a social influence program and contains all the components recommended by the NCI-sponsored expert advisory panel and by the Centers for Disease Control and Prevention’s guidelines for tobacco use prevention programs in school.

### **What were the major findings from the study?**

Students completed questionnaires in their senior year and again two years after high school; saliva samples of the seniors were tested to verify the students’ self-reports. At grade 12, the smoking prevalence rates for the control group (25.7 percent) and the intervention group (25.4 percent) were nearly identical. This trend was

maintained at the two-year follow-up. Students who participated in HSPP were no different from nonparticipating students, and researchers conclude that HSPP had very little to no impact on smoking prevalence.

### **The evaluation concluded that social influences approaches were shown not to work. Is this a valid assessment?**

No, this conclusion is not definitive given the rather substantial body of evidence to the contrary. A recent meta-analysis by Tobler and colleagues (2000) that included 207 universal school-based drug prevention programs (including 138 social influence-related programs) clearly reveals the efficacy of comprehensive social influence programming. In the context of all the other studies, many of which are well designed with rigorous methods and large sample sizes, it is not clear whether HSPP can disprove the rest of the studies.

There are other possible interpretations of the HSPP data. It is possible that social influences approaches do not work equally well with all youths in all situations. The HSPP study was conducted in predominantly white suburban and highly rural schools; the schools were relatively small; and 11.3 percent of the students reported having tried a cigarette prior to 3rd grade, which is a little higher than the national average. The conclusion of HSPP may not be applicable to all students, particularly those in urban settings.

Further, the HSPP investigators have not yet presented data about whether the program had any impact on tobacco use during middle school or early high school or whether it affected key mediators of change. To date comprehensive social influences programming has been found to be among the most effective with tobacco and other drug use among middle school youths for at least one year after the program (and up to six years after implementation). The earlier in life one begins to smoke, the more likely one is to smoke as an adult, and the more likely one is to use tobacco more heavily. Preventing tobacco use among young people is likely to affect both the duration and intensity of total use of tobacco (U.S. Department of Health and Human Services 1994).

Before more data analysis is done, one can only say at this time that this particular prevention approach, when used with a particular population of students, was ineffective by 12th grade and two years thereafter.

### **What did HSPP add to our knowledge of prevention?**

The HSPP study is a reminder of the vital need for further research. We need to define more precisely what is and is not a social influence approach and the “active ingredients” in effective tobacco use prevention approaches. We also need more work on understanding the effect of environmental contexts, including school-level or district-level cultures, on youths’ smoking behavior.

We also have a responsibility to ensure that the findings from studies with the potential for impact on policy and practice are interpreted in a thoughtful, balanced manner. In the meantime it continues to be important to use curricula that have been shown to be effective with the kinds of students served by the school district. A careful review of the curriculum and its research base is a critical step in selecting a classroom program that really meets the needs of students (see Chapter 4).

### Other Responses

In response to the publication of the Hutchinson study findings, the Centers for Disease Control and Prevention (CDC) (2001) sent recommendations to the field about school-based programs.

CDC recommends that school-based programs, in order to be effective, involve much more than classroom curricula alone. Schools should implement curricula within a broader context of strictly enforced school tobacco-free policies; active parent and community involvement; tobacco cessation services for students and staff; and coordination of these programs with community and media efforts to reduce tobacco use.

CDC recommends that the curriculum components of a comprehensive program be based on programs that have demonstrated long-term efficacy in research trials.

Additionally, CDC recommends that school-based tobacco use prevention programs be integrated into comprehensive school health education because tobacco use is one of several risk behaviors that place young people at an increased risk for serious health problems both now and in the future.

Although more research is needed, the Surgeon General's report, *Reducing Tobacco Use* (2000) concluded that we know more than enough to act now. The report concludes that educational strategies conducted in conjunction with community- and media-based activities can postpone or prevent smoking onset in 20 to 40 percent of adolescents.

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