

**A QUARTER-CENTURY'S EXPERIENCE WITH SEX, ALCOHOL, TOBACCO AND DRUG
EDUCATION IN THE SCHOOLS**

OR

**HOW GREAT EXPECTATIONS FOR PREVENTION PROGRAMS ARE DASHED IN 15,000
SCHOOL DISTRICTS**

OR

NOT-SO-HIGH HOPES

David L. Kirp, Aaron D. Good And Paul Sandhu¹
Goldman School of Public Policy
University of California, Berkeley

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and Violence Among School Children

1. INTRODUCTION

It's too bad you can't just throw a peace bomb and BOOM—no
more drugs and alcohol [or teen pregnancy or AIDS].

Middle school student, Chapel Hill, North Carolina

Smoking is now viewed with the zealous moral disapproval once
reserved for the ancient category of sexual deviance...Just as
the cigarette makers wanted to get the kids hooked on their
product, so the sexologists want to get the kids hooked on
theirs.

Tom Bethell, National Review (1997)

From colonial days until the present, the mission of America's
public schools has gone beyond instruction in the three Rs to encompass
character development.

Education in the Massachusetts Bay Colony had the primary moral
objective of keeping "the Old Deluder Satan" from tainting the young—and

¹David L. Kirp is Professor of Public Policy at the Goldman School
of Public Policy, University of California; Aaron D. Good and Paul
Sandhu are M.P.P. candidates at the School. Noah Cantor, J.J. Card,
Ellen Kemp, Doug Kirby, Kristen Luker, Rob MacCoun, Jane Mauldon, Joel
Moskowitz, Leah Robin and Jeff Stryker helped steer us through the
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while the rhetoric is different, those who now promote prayer in the schools have a similar objective. Beginning in the early years of this century, public schools were expected to devote time to an ever-proliferating variety of estimable causes ranging from kindness to animals to the contribution of the working man. The "life adjustment education" movement, which flourished half a century ago, eschewed academics in favor of sociability—this was Dale Carnegie come to the public schools, as everything from hygiene to hobbies became part of the curriculum.

Though some of these ideas were initiated by educators, most were proffered by outsiders. In each instance, the underlying—and untested—assumption has been that schools really *do* know how to accomplish these goals, that they can shape the character of children and, in doing so, lead the way to a better society.

While the Safe Schools and Drug Act, the focus of this conference, also calls on educators to mold the young, drug and violence prevention programs are different in important ways from these earlier ventures. The behaviors to be influenced, the rejection of drugs and violence, are more specific. The focus is on the negative, convincing students not to do something. The stakes are also higher. Popular, and hence political, passions run stronger—developing life-long hobbies is one thing, keeping children from using crack cocaine or guns something altogether different. And the development of more effective evaluation tools means that the effectiveness of the schools' programs can, at least in theory, be empirically tested.

The better analogy is to behavior change programs that schools have undertaken for the past quarter-century: those focusing on pregnancy (and, since the mid-1980s, AIDS), smoking and drinking. If drug and violence prevention programs in the schools are not working well, there is something to be learned from scrutinizing programs similar in ambition but with a longer track record. Those who develop, implement and evaluate these prevention programs have learned from—more precisely, borrowed from—one another. Whatever may be the specific behavior that educators are seeking to prevent or change, the same core issues arise: Should the program focus on imparting knowledge or sharpening behavioral

skills? Should the core message be abstinence - "just say no" - or harm reduction - "be safe(r)"?

If all school-based prevention programs really represent "symbolic pork," not sensible policy, the role of policy thinking on program design is necessarily modest². Even so, at the margin there remains a role for analysis: it still makes sense to ask the "as compared to what?" questions about the range of alternative strategies³.

The task for policy analysis is to determine, within the bounds of political and bureaucratic constraints, what constitutes good policy. Among the literally thousands of pregnancy, tobacco and alcohol prevention programs that have been more or less rigorously tested, which work best and why? And, differently, what kinds of prevention education are public schools actually delivering—to what effect? What policy levers could close—or at least narrow—the gap between best practice and real practice?

²Sherman, Lawrence. "The Safe and Drug-Free Schools Program: Symbolic Pork and Evidence-Based Government," unpublished paper prepared for the Brookings Institution conference on federal education policy (May 1999).

³Eugene Bardach. *The Eightfold Path of Policy Analysis*. Berkeley: Berkeley Academic Press (1996).

2. WHAT'S THE PROBLEM?

Health education traditionally addressed such uncontroversial matters as nutrition and exercise. In the 1970s, intense public concern about the twin perils of sex-promiscuity and pregnancy—and drugs—mainly marijuana—led to a shift in emphasis: the curriculum incorporated materials meant to prevent problematic adolescent behavior. AIDS upped the ante in the domain of sex: in addition to pregnancy and STDs, the risks included death. Crack cocaine had a similar impact on perceptions of drugs.

Despite the fact that the incidence of drug use among teenagers declined steadily between 1975 and 1990⁴, a drumbeat of fear-arousing news stories, the death, from drug overdose, of basketball star Len Bias, and Nancy Reagan's "just say 'no'" campaign, heightened popular anxieties. Similarly, while teen pregnancy rates remained relatively stable during the period⁵ there was heightened concern about a proliferation of urban Lolitas and, after the advent of AIDS, the more well-grounded fear that sex could spell death. Vigorous campaigns against smoking and abusive drinking, spearheaded by social movements like ASH (Action on Smoking and Health) and MADD (Mothers Against Drunk Driving) also made prevention education seem a vitally important undertaking⁶. If one could stop children from smoking, presumably they wouldn't fall prey to a hard-to-break habit. If the young could be kept

⁴High School and Youth Trends, National Institute on Drug Abuse, National Institutes of Health (<http://www.nida.nih.gov/Infobox/USYouthtrends.html>).

⁵US pregnancy rates for 15-19 year old females rose from 95 pregnancies per thousand a year in 1972 to 117 per thousand in 1990, before declining to 97 in 1996. Henshaw, S.K., "U.S. Teenage Pregnancy Statistics," New York: Alan Guttmacher Institute (October, 1998). www.teenpregnancy.org/factstats.htm.

⁶Tobacco use also declined among teenagers during this period. A massive advertising campaign, coupled with the rising price of cigarettes are the best explanations for this phenomenon. Chaloupka, Frank J. and Kenneth E. Warner. "Smoking," in Newhouse, JP and Culyer A (eds.) *Handbook of Health Economics*. Amsterdam: North-Holland (1998).

from drinking, at least until they reached legal age, there would be fewer road deaths, less alcoholism, and fewer instances of fetal alcohol syndrome. Billions of dollars have been devoted to these school-based prevention efforts: An estimated \$2 billion is spent annually for drug, tobacco and alcohol education; the figure for AIDS and sex education is likely at least as high⁷. In part, this represents a familiar policy calculation: the new course of instruction is justified because it will pay off in longer and more productive lives⁸. But for social conservatives, who have been prominent among the campaigners for prevention education—and, one might argue, for liberals who have led an absolutist attack on smoking while viewing other drug-related behavior in more relativistic terms—this is at bottom a moral crusade⁹.

A moralistic and absolutist conceptualization of the problem has influenced the design of prevention programs¹⁰. In many states, abstinence is effectively the only permissible form of sex education. The use of condoms frequently goes unmentioned as an alternative and

⁷Because sex education programs are funded from multiple sources, and as components of other programs, there is no reliable estimate for the amount that is spent on sex education.

⁸Some experts in the field argue that, if these policy goals are to be realized, far more money needs to be spent on prevention programs. Bosworth, Kris. "Drug Abuse Prevention: School-based Strategies that Work," in *ERIC Clearinghouse on Education*, 96(4) (1996). But given the ways in which schools use the resources they have, expanding these programs, without doing more, is not good policy.

⁹See generally Gusfield, Joseph. *Symbolic Crusade: status politics and the American temperance movement*, 2nd Ed, University of Illinois Press (1986).

¹⁰Mayer, Ruth. "1996-97 Trends in Opposition to Comprehensive Sexuality Education in Public Schools in the United States" *SIECUS Report*, 25(6);20-26 (1997).

This is not a new development. When the first survey of adolescent sexual behavior was conducted a century ago, the YMCA, which sponsored the survey, was startled to learn that even those middle class males who contemplated careers as ministers were "tempted" by sex. Those findings were used to encourage sports programs, which were supposed to sublimate these urges, and school-based programs that would show the depravity of such behaviors. Erickson, Julia A. with Sally A. Steffen, *Kiss and Tell: surveying sex in the twentieth century*. Cambridge: Harvard University Press (1999)

condom distribution in high schools is a rarity¹¹. Few, if any, schools discuss the sharing of needles as a risk factor for HIV/AIDS¹². The 1995 welfare reform law provides pregnancy prevention funds to the states—but only if the instruction focuses on abstinence¹³. So too, drug use is generally treated as always wrong, with no distinction drawn between marijuana and heroin, or between moderate use of and dependence on marijuana¹⁴. Among teens who smoke, the habit is to be broken and not tamed. Alcohol is not to be consumed responsibly by adolescents—it is not to be consumed at all. In short, political factors cause a large fraction of schools to offer *harm prevention* and not *harm reduction* programs.

Yet surveys of adolescent behavior make clear that harm prevention is a virtually unachievable objective. More than half of all high school students report having had intercourse and forty percent of women become pregnant before the age of twenty; four out of five of these pregnancies are unwanted, and eighty percent are to unmarried teens¹⁵. Half of all teenagers have taken drugs. In 1998, 22 percent of 12th-grade students reported smoking daily in the previous 30 days; 32 percent reported having five or more alcoholic beverages in a row in the previous two

¹¹One survey finds that, nationally, just three hundred high schools distribute condoms. See University of California at San Francisco.
http://hivinsite.ucsf.edu/prevention/fact_sheets/2098.20b3.html

¹²Few, if any, studies evaluate the effectiveness of HIV education on needle sharing and none have, to our knowledge, demonstrated effectiveness.

¹³The 1996 national welfare reform package, for example, contained \$50 million to implement programs that focus on the importance of abstinence from sexual intercourse until marriage. See: "Programs Help Prevent Teen Pregnancy", in *State Legislatures*, 25(1);11. (Jan 1999).

¹⁴Another reason to demand drug abstinence, of course, is that possession and sale of drugs are illegal in most states. But pregnancy and HIV/AIDS instruction also emphasizes abstinence; although sex is not (at least for the moment) unlawful.

¹⁵Henshaw, S.K., *U.S. Teenage Pregnancy Statistics*, New York: Alan Guttmacher Institute (May, 1996); Forest, J.D., *Proportion of U.S. Women Ever Pregnant Before Age 20*, New York: Alan Guttmacher Institute (1986) unpublished; Henshaw, S.K. "Unintended Pregnancy in the United States" *Family Planning Perspectives*, 30(1);24-29 (1998); and National Campaign to Prevent Teen Pregnancy. *Whatever Happened to Childhood? The Problem of Teen Pregnancy in the United States*. Washington, DC: Author (1997).

weeks¹⁶. Indeed, emphasizing the terrible consequences of sex, drugs or smoking can have the perverse effect of inclining adolescents, who are naturally given to resisting adult authority even as they claim adult prerogatives, to experimentation¹⁷.

Which institution should address these policy concerns? Without much consideration of alternatives, primary responsibility was handed over to public schools. While the fact that schools command a captive audience is a reason to concentrate prevention activities there, many children are also attached to a variety of community-based organizations whose missions focus on the non-academic aspects of childhood¹⁸. In fact, prevention programs carried on outside the school have been just as successful as school-based ventures. Nonetheless, almost all prevention instruction occurs in the schools. And despite the fact that discouraging youngsters from taking up drinking or sex is quite different from drilling them in algebra, schools have mainly defined the task of prevention education in conventional terms, as a subject of study.

Many instructional regimes have been devised. What strategies does the research suggest are most likely to be effective in changing or preventing risky behavior? And approaches do schools in fact adopt?

¹⁶Kirby, Douglas. "No Easy Answers: Research Findings on Programs to Reduce Teen Pregnancy." Washington: The National Campaign to Prevent Teen Pregnancy (1997); Center For Disease Control. "Youth Risk Behavior Surveillance - United States, 1997" SS-3:47 (1997); Federal Interagency Forum on Child and Family Statistics. "America's Children: Key National Indicators of Well-Being, 1999" (1999)
<http://www.childstats.gov/ac1999/ac99.asp>

¹⁷See generally Stinchcombe, Arthur, *Rebellion in a High School*. Chicago: Quadrangle (1964). Moreover, in sex education risk reduction programs that emphasize condom use, have not been shown to increase sexual activity. *Ibid*.

¹⁸More than ninety-five percent of youth of ages 5-17 are in school. Kahn, Laura et al. "The School Health Policies and Programs Study (SHPPS): Rationale for Nationwide Status Report on School Health Programs." *Journal of School Health*. 65(8);291-301 (1995).

3. WHAT WORKS?

Despite the quarter-century experience with school-based programs aimed at sexual and drug- or alcohol-related behavior, disappointingly little is known about what works, what doesn't, and why. In education research generally, ceaseless and inconclusive debates rage over critical pedagogical questions: phonics versus whole language instruction, critical thinking versus skill-and-drill. The state of health education research is even more parlous.

Research takes the form of small-scale studies, many of which are never replicated. Researchers are inattentive to the normal demands of analytic rigor or else unprepared to meet the demanding standards required to support scientifically useful findings. They churn out research that, although frequently published in peer-reviewed journals, often has limited value even on its own terms. Almost uniformly the research is inattentive to the relationship, if any, between small-scale studies and what is really happening in schools: the tacit, and incorrect, assumption of the literature is that these programs can be readily replicated on a broad scale. Moreover, the overly-cozy symbiotic relationship between researchers and those who fund them—the fact that carrying out this research is vital for professors who function in a publish-or-perish world, and that many studies are underwritten by organizations with a stake in proving that prevention programs work—predictably, if perniciously, affects the research results¹⁹.

However, a small number of well-executed studies do exist in each domain of prevention. The most useful research for policy makers involves sifting through literally thousands of studies to find the handful that meet basic empirical standards, and then carried out meta-

¹⁹Moskowitz, Joel. "Why Reports of Outcome Evaluations Are Often Biased or Uninterpretable: Examples from Evaluations of Drug Abuse Prevention Programs." *Evaluation and Program Planning*, 16;1-9 (1993). Other fields are plagued with similar social-structural problems. Studies of charter schools, for instance, face similar incentives to show that the innovation works.

analyses—summary evaluations—of them²⁰. The conclusions of these meta-analyses are consistent across the entire terrain of social problems, including violence prevention as well as sex education and drug abuse programs.

²⁰The most useful meta-analyses reviewed by the authors include: Dusenbery, Linda and Matheas Falco. "Eleven Components of Effective Drug Abuse Prevention Curricula." *Journal of School Health*, 65(10);420-425 (1995); Glynn, T.J. "Essential Elements of School-Based Smoking Prevention Programs." *Journal of School Health*, 59:181-188 (1989); Gorman, D.M. "Do School-Based Social Skills Training Programs Prevent Alcohol Use Among Young People?" Piscataway, NJ: Center of Alcohol Studies, Rutgers (1996); Gottfredson, Denise C. "School Based Crime Prevention," in *Preventing Crime: What Works, What Doesn't, What's Promising*, by Lawrence W. Sherman, Denise Gottfredson, Doris MacKenzie, John Eck, Peter Reuter, and Shawn Bushway. Washington, D.C.: US Department of Justice (1997, 1998). <http://www.preventingcrime.org/report/index.htm>; Kim, Nina et al. "Effectiveness of the 40 Adolescent AIDS-Risk Reduction Interventions". *Journal for Adolescent Health*, 20:204-215 (1997); Kirby, Douglas. "No Easy Answers: Research Findings on Programs to Reduce Teen Pregnancy." Washington: The National Campaign to Prevent Teen Pregnancy (1997); Kirby, Douglas, "A Review of Educational Programs Deigned to Reduce Sexual Risk-Taking Behaviors among School-Aged Youth in the United States." Washington: D.C.: US Congress Office of Technology Assessment (1995); Kirby et al. "School-Based Programs to Reduce Sexual Risk Behaviors: A Review of Effectiveness." *Public Health Reports*, 109(3): 339-360 (1995); Kirby, Douglas and Ralph J. DiClemente. "School Based Interventions to Prevent Unprotected Sex and HIV Among Adolescents" *Preventing AIDS: Theories and Methods of Behavioral Interventions*, by DiClemente, Ralph J. and John L. Peterson. New York: Plenum Press (1994); Miller, Brent C. and Roberta L. Paikoff, "Comparing Adolescent Pregnancy Prevention Programs: Methods and Results" *Preventing Adolescent Pregnancy: Model Programs and Evaluations*, by Miller et al (eds.). London: Sage Publications (1992); Moore et al. "Adolescent Pregnancy Prevention Programs: Interventions and Evaluations." Washington, D.C.: Child Trends Inc. (1995); Joel Moskowitz, "The Primary Prevention of Alcohol Problems: A Critical Review of the Research Literature" *Journal of Studies on Alcohol* 50(1);54-88 (1989); National Campaign to Prevent Teen Pregnancy. "Evaluating Abstinence Only Interventions." Washington, D.C.: Author (1998); Rooney, Brenda L. and David M. Murray. "A Meta-Analysis of Smoking Prevention Programs After Adjustment for Errors in the Unit of Analysis." *Health Education Quarterly*, February vol. 23(1): 48-64 (1996); Silvestri, Barbara and Brian R. Flay, "Smoking Education: Comparison of Practice and State-of-the-Art." *Preventive Medicine*, 18;257-266 (1989).

What *doesn't* work is pretty well established²¹. Simply providing factual information does not reduce risky behavior; indeed, some speculate that it may have the perverse consequence of inciting curiosity and increasing the behavior²². Scare tactics do not work either: at least since Holden Caulfield, teenagers have been adept at seeing through them. Didactic instruction doesn't accomplish much unless it is a component of a multi-faceted approach. At the other end of the pedagogical spectrum, unless self-esteem building is taught as part of a broader repertoire of skills, it is ineffective; indeed, it may reinforce adolescents' narcissism.²³

As is often true of school-based programs, success has proved harder to demonstrate than failure. Statistically significant effects may be of trifling magnitude. (Statistical significance means different things to researchers and practitioners. A program demonstrating effects that were significant only at the 0.25 level would not merit mention in a journal article. A school administrator would, however, unhesitatingly implement a program that when evaluated showed substantial impacts if the odds were three to one that those results were not due to chance.) From one study to the next, "effectiveness" refers to different things—attitude and behavior changes of various kinds. Increases in students' awareness of the dangers of certain types of behavior have been used as measures of the effectiveness of programs, even though changes in knowledge may not lead to changes in behavior. Evidence of effectiveness is often based on surveys that are administered within months, even weeks, of the end of the treatment, far too soon to show meaningful long-term impact. A program that appears to make a difference the first time it is tested is usually hard to replicate, even on a small scale—indeed, such replications are seldom attempted—and evaluations of re-

²¹See, e.g, Tobler, N. and Stratton, H. "Effectiveness of School-Based Drug Prevention Programs: A Meta-Analysis of the Research" *Journal of Primary Prevention*, 17 (1997).

²²There is no evidence that providing information increases (or decreases) risk taking behavior. National Campaign to Prevent Teen Pregnancy, *supra* note 20 (1998).

²³Self-esteem building can be an important component of a multi-faceted program, but tends to be ineffective as an end in and of itself.

implementation efforts are even more rare. Moreover, the relationships among the principles that underlie good programs are not easily disentangled, the relationships between them hard to specify.

Still, the meta-analyses of pregnancy, HIV/AIDS, tobacco, alcohol drug and violence prevention studies identify common features of apparently effective programs. These key features cut across the prevention landscape; in this respect, anti-violence and drug prevention programs are no different than programs targeted at smoking or teen pregnancy.²⁴ The most effective programs:

1-*Focus on broader social skills.* Positive results are associated with programs that stress broader personal and social skills training. Successful programs focus not on self-esteem but decision-making skills, goal setting, communication skills, stress management, and general life skills. In particular, the development of skills that enable an adolescent to identify pressures to engage in sex, and alcohol and tobacco use, and to resist such pressures (by being able to assert, for instance, that "I have other things to do,") appears to be critical in avoiding such behavior²⁵.

2-*Provide basic and accurate information.* Safe-sex interventions tend to have more impact when they are not overly detailed, and when instruction on collateral issues, such as gender roles and dating, is avoided²⁶. Successful programs also do not overwhelm students with information on every sexually transmitted disease. Focus is also important in alcohol and tobacco programs; results are better when the emphasis is placed on direct and immediate consequences²⁷.

²⁴The familiar statistical point is worth reiterating: The studies find correlations but cannot demonstrate causation. Moreover, they do not make plain how the several components of apparently effective programs interact. Kirby, *supra* note 20 (1997).

²⁵See, e.g, Dusenbery, *supra*, note 20 (1995); Silvestri, *supra* note 20 (1989); Rooney, *supra*, note 20 (1996); Kirby (1997), *supra*, note 20 (1997); and Gottfredson, *supra*, note 20 (1998).

²⁶Kirby, *supra*, note 20 (1997).

²⁷Rooney, *supra*, note 20 (1996); Dusenbery, *supra*, note 20 (1995); and Stein, David. "An Updated Review of Effective Components and Programs (1993 to present)"

<http://www.slcosubstanceabuse.org/px/pxreview>.

3-*Emphasize clear social norms and communicate a clear message.*

Positive results are associated with programs that go beyond identifying the costs and benefits of the activity in question in order to persuade students that certain choices are correct (using protection when engaging in sex), abnormal (drug use), less widely followed than popularly believed (alcohol consumption and drug use) or unacceptable (violence)²⁸. The best programs have simple, clear and consistent messages that are repeated throughout: "if you have sex use a condom"; "if you start smoking it may be very hard to stop."

4-*Use a variety of teaching styles.* While some programs rely almost exclusively on lectures, the more effective ones rely most heavily on participatory, rather than didactic, approaches²⁹. Experiential activities such as small group discussion, games and simulations help students personalize, learn and retain information and skills.

5-*Are culturally and experience- or age- appropriate.* Successful in-school safe-sex education interventions set goals and use methods suited to the age, sexual experience and culture of the student population³⁰. Positive results have also been associated with drug abuse prevention programs that are sensitive to the ethnic and cultural backgrounds of the youths targeted³¹.

6-*Last sufficiently long and/or provide "boosters".* The brevity of many prevention programs—a couple of class sessions—may partly explain the fact that their impact tends to diminish over time. A longer period of instruction and "booster" sessions well after the initial instruction, increase the probabilities of effectiveness³².

7-*Rely on well-trained teachers or adult leaders who believe in the program.* Successful programs have properly trained instructors³³; in

²⁸Gottfredson, *supra*, note 20 (1998); and Kirby, *supra*, note 20 (1997).

²⁹Silvestri, *supra*, note 20 (1989); Kirby (1997), *supra*, note 20; and Dusenbery, *supra*, note 20 (1995).

³⁰Kirby, *supra*, note 20 (1997).

³¹Dusenbery, *supra*, note 20 (1995).

³²Dusenbery, *supra*, note 20 (1995); Stein, *supra*, note 27 (1999); Rooney, *supra*, note 20 (1996); and Kirby, *supra*, note 20 (1997).

³³*Ibid.*

particular, the interventions that appear to work use teachers trained in conducting interactive sessions³⁴.

³⁴Though this finding is intuitively obvious, its relevance has gone unnoticed by researchers until recently, reflecting the habitual inattention to program implementation.

4. FROM STUDIES TO SCHOOLROOMS: THE FAILURE OF IMPLEMENTATION

Many programs show promise when tried on a small scale under carefully controlled conditions. The critical policy question, though, is whether they are robust: that is, whether they can be implemented in a wide variety of classrooms with different kinds of students—whether they can be “scaled up”. The data are not encouraging.

Sociometrics Corporation’s ambitious foray into this realm tells a cautionary tale. In 1996, the nonprofit research organization set out to determine whether apparently effective pregnancy and HIV/AIDS education programs that had “worked” at least once could be packaged for reimplementaion. A panel of experts selected thirty³⁵ programs, each of which had been shown, in an empirically credible study, to alter adolescents’ risky behaviors and to affect their values or attitudes toward risk-taking behavior³⁶. Materials from twenty-three of these programs were collected and packaged programs produced³⁷. Only twelve of the twenty-three programs were implemented a second time in school-based projects which (according to Sociometrics’ specifications) were supposed to enroll at least seventy students.

The results were both disappointing and informative. In only four sites were pre- and post-intervention student surveys conducted; not a single district reported statistically significant changes in the number

³⁵Fifteen were primarily AIDS programs and fifteen were primarily pregnancy programs - four of those were aimed at preventing second pregnancies. Programs were designed for both school and community delivery. Neigo, Starr, M. Jane Park, Margaret S. Kelley, James Peterson, and Josefina J. Card. “The PASHA Field Test: A window into the practitioners world.” Los Altos, CA: Sociomentrics Corporation (1998); Card, Josefina, J., Starr Niego, Alisa Mallari, and William S. Farrell. “The Program Archive on Sexuality, Health, and Adolescence: Promising Prevention Programs in a Box” *Family Planning Perspectives*, 28:210-220 (1998).

³⁶The latter criterion was only measured for programs aimed at students under 15 years of age. A demonstration of increasing knowledge was not deemed sufficient under this criterion; attitude or value change was required.

³⁷The rights holders of the other seven programs declined requests to make their materials available.

of sexual partners, contraceptive use or STD prevention methods used by the students who participated in the project.

As well, the Sociometrics study revealed the difficulty of maintaining fidelity to implementation design when re-implementing a program. Despite having committed to participating in a study of specific programs, eight of the twelve districts changed key elements of the program they were reimplementing or omitted key elements entirely. The dropout rate was high: in some cases as few as twelve students finished the program.

In general, the kinds of programs that researchers believe to be successful in reducing risky behavior are not widely used. In shaping the choices that school districts make, aggressive marketing—which accounts for much of the cost of these programs—matters much more than research results.

The DARE drug prevention program, which is far and away the most widely used in the nation's public schools, is a case in point. The instructors are not teachers but uniformed police officers, 25,000 of them in 1997. The curriculum stresses building self-esteem and helping children assert their right to "just say no"³⁸.

DARE has been carefully evaluated several times: a 1994 review of eight leading studies; a 1995 examination of data from thirty-one elementary schools; and a 1996 report based on research that tracked ten thousand fifth grade students over a four year period. The findings have been consistently negative. "DARE's limited influence on adolescent drug-use behavior contrasts with the program's popularity and prevalence"³⁹.

³⁸ Elliot, Jeff, "America's 'Just Say No' Addiction". *Albion Monitor* (December 3, 1995).

³⁹ Ennet, Susan, et al., "How Effective is Drug Abuse Education? A Meta-Analysis of Project DARE Outcome Evaluations" *American Journal of Public Health* (September, 1994); Clayton, Richard, et al., "The Effectiveness of Drug Abuse Resistance Education (Project DARE): 5-Year Follow-up Results" *Preventive Medicine*, 25 (1996); and Suyapa, Silvia E. and Judy Thorne, "School Based Drug Prevention Programs: A Longitudinal Study in Selected School Districts". Chapel Hill: Research Triangle Institute (February 1997).

While other programs such as Life Skills Training do a better job of reducing drug use and promoting anti-drug attitudes⁴⁰, DARE continues to dominate the market. It's easy on teachers, since someone else does the teaching. When it was launched by Los Angeles police chief Daryl Gates, DARE offered an apparently powerful weapon in the Reagan Administration's War on Drugs. Since then, a masterful dissemination effort has kept it going. It is hard for any school system to resist the blandishments of "a program that hands out tax breaks to businesses and candy to kids," that is tied to the local police force, and that promotes itself with giveaways of T-shirts and diplomas⁴¹. The Oakland, California school district painfully learned that lesson: its decision to stop using the program led to a fire-storm of protest⁴².

DARE defenders have steam-rolled their critics, attacking a journal article that reported the findings of an evaluation that the organization itself funded, pressing the California Department of Education to disown a study critical of DARE⁴³ that the Department had underwritten⁴⁴. Even as DARE's critics proliferate, the program prospers. What began as a fifth grade intervention has been expanded to reach first through twelfth graders; now DARE includes an out-of-school as well as an in-school component. In spring 1999, California Governor Gray Davis included a \$1 million line appropriation earmarked specifically for DARE in the state budget.

⁴⁰Gottfredson, Denise C. "School Based Crime Prevention," in *Preventing Crime: What Works, What Doesn't, What's Promising*, by Lawrence W. Sherman, Denise Gottfredson, Doris MacKenzie, John Eck, Peter Reuter, and Shawn Bushway. Washington, D.C.: US Department of Justice (1997, 1998). <http://www.preventingcrime.org/report/index.htm>.

⁴¹Conrad, Chris. "City of Oakland Eliminates DARE by Unanimous Vote." (1995) <http://turnpike.net/~jnr/oakland.htm>.

⁴²*Ibid*; Lawton, Millicent. "Study of California Anti-Drug Education Programs Stirs Debate" *Education Week*, (November 22, 1995); and Miller, Laura, "Study Critical of Anti-Drug Program Called Flawed" *Education Week* (October 12, 1995).

⁴³Brown, Joel, et al. "Students and Substances: Social Power in Drug Education" *Educational Evaluation and Policy Analysis*, 19(1):65-82 (1997).

⁴⁴At least DARE has been evaluated, unlike many substance abuse prevention programs.

In the domain of smoking, no single program dominates. Since the mid-1970s, a pedagogical approach that emphasizes peer and social influences, rather than the more traditional information-oriented approach or a combination of the two, has been commonly adopted⁴⁵. Early research appeared to support the social influences model, and contributed to its popularity. Institutional inertia has done the rest. However, a 1996 meta-analysis concludes that, when adjustments are made to adjust for the methodological problems that have plagued this research, the social influences strategy, by itself, has only limited effect⁴⁶.

By the time students are taught about sex in school, most of them have already acquired a street knowledge of, and many of them are personally well-versed in, the subject. Not surprisingly, the research on sex and AIDS education consistently shows that programs that strictly emphasize abstinence have no impact on teenagers' sexual behavior: they do not affect the incidence of sex, the number of sexual partners or the use of safer sex practices⁴⁷. Programs stressing condom use are considerably more effective in preventing pregnancy and the spread of HIV AIDS and other STDs. One particularly good study comparing an abstinence program with a safe sex program for inner city African Americans found the safe sex group students participating in the safe sex group were less likely to engage in sexual activity and more likely to use a condom 6-12 months following the intervention and in subsequent follow-ups⁴⁸. Conceivably, the safe sex program was more credible to adolescents.

⁴⁵A psychological approach may have become predominant in nicotine-prevention programs, in contrast to the didactic approach prevalent in other drug-abuse programs such as DARE, because of society's different attitudes toward the different types of drugs. Illegal substances have been treated with a zero-tolerance policy on the street and in the classroom, while a more lenient stance has been used vis a vis smoking.

⁴⁶Rooney, *supra*, note 20.

⁴⁷National Campaign to Prevent Teen Pregnancy, *supra*, note 20 (1998).

⁴⁸*Ibid*; Jemmott, John B. III, Loretta Sweet Jemmott, and Geoffrey T. Fong. "Abstinence and safer sex HIV risk-reduction interventions for African American adolescents" *The Journal of the American Medical Association*, 27(19);1529-1536 (1998); and Kirby, *supra*, note 20 (1998).

Despite this research, abstinence is the only message that many school-based prevention programs proffer. The proper use of the condom is taught in fewer than half the schools teaching HIV prevention⁴⁹. A quarter of schools with HIV education classes do not even refer to condoms as an alternative to abstinence, and many of these only point out—correctly but irrelevantly, given teenagers' behavior--that using condoms does not eliminate the risks of sex⁵⁰.

⁴⁹The median percentage of schools across States that teaches the proper use of condoms is 48.3% across 34 States on which data was available. Center for Disease Control. "Characteristics of Health Education Among Secondary Schools -- School Health Education Profiles, 1996" (1998). <http://www.cdc.gov/nccdphp/dash/MMWRFile/ss4704.htm>.

⁵⁰While, on average, 94.3% of schools had HIV education, only 75.5% of those schools, on average, taught condom efficacy. *Ibid.*

5. WHY CHANGING "REAL SCHOOL" IS HARD TO DO

Ideas are plentiful; what's rare are effective strategies for translating them into practice. That proposition, which applies across the public policy landscape, is especially true in education and truer still in "risk prevention" education.

More than thirty years after the publication of the *Equal Educational Opportunity Survey* (commonly called the Coleman Report), the "technology" of instruction—that is, the relationship between resources, broadly understood, and student outcomes—remains weak. Strategies are complex: a reading or pregnancy prevention program is much more multifaceted than, say, a sewage treatment program. As the history of the 1970s planned variation Head Start experiment and, more recently, the abandonment of a pedagogically pioneering school in the planned community of Celebration, Florida, show, parents are unwilling to submit themselves to educational "experiments; they insist, not unreasonably, on what they believe is best for their children."⁵¹ Students differ from one another in ways that may profoundly affect how they will respond to a program. The differences that matter—race, sex, ethnicity, culture, school achievement, motivation—vary with the aim of the program: in this respect, HIV education differs from instruction in reading.

Implementation of any new educational program is a multi-tiered process. It may involve the federal government (usually as a financial supporter, cheerleader, and information provider); it is likely to involve the state government; it may involve networks of school professionals working across organizations; it invariably involves the nation's fifteen thousand school districts. Decentralization allows for variation in implementation, so that programs can be adjusted to respond to local needs; it also invites greater-buy-in on the part of the street-level bureaucrats who put them in practice. In the field, however, the result of such decentralized decision-making has too often

⁵¹ See Ross, Andrew. *The Celebration Chronicles*. New York: Ballantine (1999).

been academic silliness: fishing trips and toy cop cars for students. Nor does the fledgling program stand alone. It must be linked to a host of ongoing activities—everything from racial integration to the education of students with disabilities—and related to the many, sometimes conflicting, demands that are placed on the schools.

Public education is a highly visible activity; and, since everyone has had an education, we all consider ourselves to be experts. Ideological battles are commonplace. "Critical thinking," outcomes-oriented instruction, evolution, the treatment of women (and white males) in American history texts, the permissibility of prayer, even the new math: all these and more have occasioned wars among the partisans⁵².

In reaching students, the classroom is the crucible; that means hundreds of thousands of teachers must first embrace, and then know how to enact, the program.⁵³ Veteran teachers have to be trained (as Charlie Brown once lamented, "how can I do the new math with an old math mind?")⁵⁴. The curricula of teacher training programs has to be revamped. Materials need to be kept up-to-date, new teachers have to be trained, students kept motivated, or else the program decays.

For all these and a thousand and one other reasons, what happens in the field may look nothing like what the program designer had in mind.

All of these implementation problems exist, in heightened form, in pregnancy, HIV/AIDS, violence, smoking, drinking and drug education programs.

⁵² See Kirp, David. "Textbooks and Tribalism in California." *Public Interest*, 104:20-42. (1991).

⁵³ Pauley, Edward, *The Classroom Crucible* (New York: Basic, 1991).

⁵⁴ As previously noted, teacher training is a particularly important element of success. The five HIV/AIDS programs identified by the Center for Disease Control as best practices require 2 to 3 days of teacher (or facilitator) training to be implemented effectively (see <http://www.cdc.gov/nccdphp/dash/rtc>). While almost all States provide teacher training on behavior change education, such as Alcohol- and other drug-use prevention, HIV prevention, pregnancy prevention, and tobacco-use prevention, very few teachers actually receive training on these subjects (Alcohol- and other drug-use 22.9%, HIV - 31%, pregnancy prevention - 5.7%, and tobacco-use - 9.3%. Center for Disease Control, *supra*, note 49, (1998).

Because these behavior change programs all deal with highly visible issues, they are especially subject to public scrutiny; the predictable consequence is to diminish the importance of professional judgments. Pregnancy/AIDS education is a good example. Even as messages that the research shows to be effective—reducing and making safer, rather than entirely abstaining from, sexual activity—cannot be delivered in many schools because they give offense to powerful constituencies, the only permissible lesson—an exclusive focus on abstinence—is one that is known to be ineffective.

While the tension between best practice and permissible practice is most visible in sex education, the postulate holds true for all kinds of health promotion education: the messages that are most effective stress harm reduction; those that are in widest circulation focus on prevention. Partisans of an absolutist approach may read the data differently; it is, after all, child's play to pick and choose among the findings of the myriad studies. Or else they treat empirical evidence as beside the point in designing policy. Though the left has its favored causes—notably the demand for instruction in the absolute evil of tobacco—social conservatives have been most deeply involved. Their ultimate intention is to confirm social norms of right behavior, and in that "scarlet "letter" manner influence conduct. If schools teach safe(r) sex practices, they contend, society's seal of approval is placed on behavior they regard as simply immoral. In this policy territory-- as in many others, such as abortion, needle exchange and gay rights--symbolic victories may matter as much as substantive outcomes. And because sex and drugs are hot-button issues for this constituency, social conservatives can muster the forces needed to affect local school boards' decisions.

Moreover, the structural elements of implementation—training, the evaluation of curricula and the like—have been especially badly handled in these prevention programs. During the past quarter-century, public schools have received lots of money to keep children chaste and drug-free but little guidance regarding how to spend it wisely. That has made it easy for the education hucksters to sell their wares, especially when, as with DARE, the product has ready appeal for students and

teachers. The best programs have mainly been developed by researchers who lack the taste or talent for promoting their product.

Teachers are usually called upon to teach these subjects without much training. Even when training is provided, it ignores the fact that many instructors, used to teaching the skills of soccer or parsing the sonnets of Shakespeare, find it excruciatingly difficult to talk with adolescents about condoms and binge drinking. Small wonder, then, that they prefer having policemen, rather than themselves, lecture on the perils of cocaine.

The expectation among those who design curricula is that their lesson plan will be dutifully followed. But time constraints (some programs require as many as seventeen sessions), dated materials (one expert commented that students could "not get past the hairstyles and clothes" present in the video of one "best practice" program), and a genuine desire to make the program more appropriate for their students (even if they are uniformed on "what works" in this difficult field) weaken implementation fidelity.

This hope for a "teacher-proof" curriculum is a familiar one in education—forty years ago it was a cornerstone of the Physical Sciences Study Committee (PSSC) high school physics course—but it is as unrealistic now as it was then. Such "creative" adaptations of out-of-the-box curricula are especially likely when the program is hard to teach, as is sometimes true of state-of-the-art offerings; or when the topic is one, like smoking, about which teachers feel they understand better than the experts; or one, like AIDS, about which teachers feel queasy. Those who prepare these curricula commonly bemoan this fact⁵⁵, but they would do better to adapt their program to on-the-ground reality.

⁵⁵Dusenbery, *supra* note 20 (1995).

6. TAKE-HOME LESSONS

There are no easy answers, no magic bullets that will transform all school-based behavior change programs⁵⁶. Moreover, there are real differences concerning what are generally perceived as the goals of these programs. The message in drug, smoking and violence-related programs is "no;" for alcohol, "not yet." Concerning pregnancy and AIDS/HIV, there are multiple, conflicting and competing messages: "no"; "not yet"; "safer."

Still, something of value can be gleaned, policy lessons drawn, from this comparative overview of pregnancy, AIDS/HIV, tobacco, alcohol and drug education programs. At present, the course of instruction in most public schools compartmentalizes these risky behaviors into separate instructional packages, each with its own curriculum. The reasons for this demarcation have little to do with policy logic, everything to do with policy history and bureaucratic imperialism. (As is often the case, the bureaucracy is functional for the bureaucrats but not the society.)⁵⁷ Curtailing these problem behaviors became the responsibility of the schools at different times. Each has its own funding stream and its own advocates—its own bureaucratic entrepreneurs—inside the school system. It makes better sense to combine "prevention" or "behavior change" into a broader instructional regime focusing on the macro-level antecedents to risk-taking behavior⁵⁸.

⁵⁶ Kirby, *supra* note 20 (1997).

⁵⁷ Crozier, Michel. *The Bureaucratic Phenomenon*. Chicago: University of Chicago Press (1964); Benveniste, Guy. *Bureaucracy*. Berkeley: University of California Press (1983).

⁵⁸ Consolidation is most appropriate at what might be called the macro-level of instruction, which focuses on the antecedents to risk-taking behaviors such as sexual maturity, low self-esteem, and poverty. Social learning theories, on which many effective programs are based, teach us that behavior change requires (among other elements) motivation to avoid a consequence. By supporting a guiding students toward a positive view of the future, the consequences of risk-taking behavior become relatively less desirable.

At the micro-level, programs focus on topic-specific behaviors: how to persuade adolescents to use condoms or not to smoke. Program consolidation is less effective at this level. What seems to work best

The *content* of essential information varies with the subject matter, of course: how AIDS is transmitted, the relation between smoking and cancer, the consequences of hard drug use and the like. But the *type* of information that is useful is identical—specific, limited, useful and accurate⁵⁹—and so is the pedagogical challenge. These behaviors cluster into patterns. Essentially the same underlying factors prompt teenagers to experiment with sex, tobacco and drugs⁶⁰. Success in a broad-based health promotion program potentially generates a wider array of benefits—not just with respect to particular behaviors but also attitudes about risky behavior more generally—since it gives students a better picture of the scope of the danger and a stronger set of psychological tools with which to deal with that danger⁶¹. As Douglas Kirby, one of the leading researchers in pregnancy reduction education, has recently written:

One of the underlying principles [of broad-based approaches] is to help prepare young people for adult life, not just to keep them problem-free. The programs do this by improving adolescents' life skills and increasing their opportunities or "life options"....Although the studies of youth development

is a simple and straightforward, and uncluttered message—for instance, unprotected sex can lead to AIDS—rather than, say, a meticulous detailing of the etiology of AIDS. Douglas Kirby, "Reducing Adolescent Pregnancy: Approaches That Work" *Contemporary Pediatrics*, 16:1, 83-94 (1999).

⁵⁹Accuracy increases credibility and may enhance the effectiveness of the program. The mere perception of exaggeration may undermine the effectiveness of the program. Consider, for example, the sexually active student that hears "unprotected sex WILL lead to pregnancy and HIV infection" and thinks to themselves, "I've had sex and not become pregnant or been infected."

⁶⁰These reasons range from exploration, to need for acceptance, to boredom.

⁶¹Conceivably it may affect their attitude toward school as well.

programs are {few}...the evidence to date suggests that these interventions may be effective⁶².

In short, consolidation of behavior change programs is likely to be the most pedagogically sensible and the most cost-effective approach to prevention. Since the federal legislation authorizes such comprehensive ventures, it is also a legally feasible, if politically challenging, reform.

Another sensible strategy is to concentrate prevention programs where the exposure to risk is greatest—that is, in communities with the highest incidence of teen pregnancy and HIV/AIDS, the highest rates of drug, alcohol and tobacco use, and violence. The populations most vulnerable to these risks vary: while minority adolescents are most likely to become pregnant and a relatively small number of neighborhoods are have very high crime rates, problem drinking and smoking is a more widely dispersed concern⁶³.

Because knowledge of what works is scanty among those who actually decide which programs to adopt, dissemination of reliable information is critical. For AIDS and tobacco education, the Centers for Disease Control has prepared lists of exemplary programs—smart practices—and this dissemination strategy should be applied generally. The CDC's mission, which reaches across these domains of risk, as well as its reputation for conducting and promoting unbiased analysis, makes it a good choice as the lead federal agency. As well, private groups with reputations for high quality evaluation should become involved in this task⁶⁴.

A consolidated and concentrated prevention program, one in which the content is consistent with the principles that underlie effective instruction and the most efficacious curricula have been identified by a credible agency, has the potential to influence adolescent behavior. But

⁶² Kirby, *supra*, note 58, (1999).

⁶³ For examples of such programs, see Kirby, *supra*, note 58 (1999).

⁶⁴ Such groups already perform this role in reviewing the achievement tests that states are considering adopting on a statewide bases.

since the data are so scanty, there is no assurance that even this kind of program, if carefully undertaken on a broad scale, would survive a rigorous cost-effectiveness analysis.

Focusing on the subset of instructional activities that is described as encouraging behavior change or promoting health, without situating that instruction in the context of the larger school reform movement of the day, may turn out to be a futile venture. No matter how carefully conceived, the argument runs, such a program would remain a marginal, and hence ineffective, undertaking, isolated from the ordinary—and crucial—life of the school. Yet whatever the policy merits of such an argument, these programs are not going to disappear or be folded into the larger school reform movement; politically, they are far too strong for such a fate, whatever the data appear to show. Under those circumstances, the most useful policy question to pose isn't "What's ideal?" but "As compared to what?" or "What is best under the circumstances?"

One thing *is* certain. It is unrealistic to believe that, whatever the social problem of the day, the public schools can enact a quick fix—that, through the magic powers of pedagogy, America's public schools can bring our children back to a state of innocence⁶⁵. But despite mountains of evidence and centuries of experience, faith abides.

⁶⁵Tyack, David and Larry Cuban, *Tinkering toward Utopia*. Cambridge: Harvard University Press (1995).

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