
Kevin J. Skazalski
Eastern Michigan University

An applied research project submitted to the College of Technology.
16 August 2004
Abstract

This paper reviews and analyzes a selection of scientific studies, analyses, and meta-analyses of the Drug Abuse Resistance Education Program referred to as DARE, as well as subsequent reviews and discussions of those studies published between the years 1992 and 2004. The hypothesis is that these studies in their totality confirm the results of earlier evaluations of the DARE program and show that DARE is ineffective in preventing drug abuse among its participants.

The strategies, techniques and approaches of DARE are reviewed to look at their history of effectiveness individually as well as a comprehensive approach as employed in the DARE curriculum.

Also considered is the debate as to whether other anti-drug use programs may show greater efficacy, or that no education program can truly be effective in combating drug use among adolescents.

The evidence documenting the lack of efficacy of DARE is so overwhelming as to merit a discussion as to why it remains so popular and how to harness its popularity to make a truly effective program. Consideration and review of the potential harm done by continuing to employ an ineffectual program is also given.
Table of Contents

Abstract...........................................................................................................................................2
Table of Contents..........................................................................................................................3
Introduction.......................................................................................................................................4
Background and Significance .........................................................................................................5
Methodology.....................................................................................................................................6
Literature Review...........................................................................................................................7
Results...............................................................................................................................................14
Discussion/Conclusions..................................................................................................................15
Recommendations..........................................................................................................................18
References.........................................................................................................................................19
Truth or Dare: A Literature Review of the Drug Abuse Resistance Education Program as Documented in Scientific Studies and Analyses 1992 - 2004

Introduction

Substance abuse is clearly a problem worthy of attention on a national scale in the United States. Drug abuse among adolescents is an even more critical issue since it is likely to influence their behavior for some time into their adult life. Drug abuse is associated with other crime and a degradation of society.

The DARE (Drug Abuse Resistance Education) Program in existence since 1983 is the most prevalent anti-drug use program in existence. It is used in 80% of the school districts nationwide (General Accounting Office, 2003) and in at least 41 other countries.

It is both logical and necessary that DARE be evaluated in a scientific and unbiased method as to its efficacy in meeting its goals. Fortunately, because of DARE’s long-term and widespread implementation, many studies and analysis of its effectiveness have been conducted.

Unfortunately, repeatedly and overwhelmingly DARE has been shown to be extremely ineffective at deterring adolescents from substance abuse. University studies conducted to exacting standards and held to rigorous review have failed to make DARE’s failures common knowledge to the public. Surprisingly, after original studies, meta-analysis reviews, follow-up studies, and government criticism, DARE remains more popular than ever.

Science needs to be the driving force behind not only an unbiased review of the DARE Program, but also behind finding reasons for its failure and providing
appropriate alternatives. Only science and not emotional attachment or sentimentality can provide us with a realistic foundation upon which to build a functional solution to the substance abuse problem.

Background and Significance

Drug Abuse Resistance Education (DARE) was founded in 1983 as a cooperative effort between the Los Angeles, California Police Department and the Los Angeles Unified School District. It was piloted at 10 elementary schools by 10 uniformed police officers that year.

As of 1995, DARE’s curriculum had three components: the Core Program for grades 5 and 6, the Junior High or Middle School Program aimed at grade 7, and the High School Program for grades 9 and 10 (Curtis, 1999). The Core Program consists of 17 60-minute lessons that address attitude, skills, and knowledge to help students resist peer and social pressures to use cigarettes, alcohol and/or illicit drugs.

In 1995 DARE introduced the DARE PLUS Program in Minnesota and several other cities in North America (Perry et al., 2000), which added the dimension of deterring violent behavior among 7th and 8th grade students. PLUS is an acronym for Play and Learning Under Supervision.

DARE’s Scientific Advisory Board bases the content and design of their curriculum on social influence theory. Accordingly, they postulate that knowledge and the correct attitude towards illicit drugs when combined with self-esteem, assertiveness, the ability to defend one’s position, and the facility to resist peer pressure all play a role in one’s ability to avoid drugs (Curtis, 1999).
DARE seems to always be prepared to fend off criticism with yet a new curriculum in the wings. In 2002, DARE America’s executive director, Charlie Parsons said that the negative evaluation results of a study conducted by Hallfors and Godette (2002) were based on DARE’s old curriculum which is no longer used and that DARE was in the midst of a five-year study to evaluate the new curriculum (Sullum, 2002).

In its most recent incarnation as of 2003, the DARE Program has a curriculum revised to include all grades k-12. However, its primary focus is on fifth or sixth graders, and many school districts and cooperating police departments choose to participate only in the Core Program which addresses those grade levels. Also the “New DARE” Program was condensed from 17 to ten weeks.

Methodology

Research for this project was conducted using multiple electronic literature databases covering academic fields including education, law enforcement, and social sciences of DARE efficacy, alternatives and evaluations. Emphasis was placed first upon actual primary studies and their related follow-ups. Secondary emphasis was on meta-analyses and other literature reviews of prior studies, and finally non-scientific evaluations of those studies or of the DARE program and its alternatives.

Non-scientific reviews and evaluations when not part of an academic evaluation were given more credence when cited in journals and respected magazines rather than when they were presented in a format of obvious or potential bias due to a political or other agenda.
I felt it was necessary to approach my research with an eye towards integrity and scientific method since that is what I desired in the reviews and studies of the DARE Program itself.

This paper's primary objective was to evaluate the evidence of DARE's efficacy. The hypothesis was that the lack of efficacy not only existed, but was overwhelming and incontrovertible. This study was conducted with the intention of overtly demonstrating the need for DARE to be replaced, reworked, or accepted as ineffective, so that another more efficacious program or method of dissuading youths from drug use could be widely implemented.

Literature Review

A brief search of professional journals on the internet via electronic databases will quickly yield a plethora of studies regarding the efficacy of DARE and other school based drug use prevention policies. What is surprising is the lack of any scientific, peer reviewed studies finding a positive correlation between DARE program participation and diminished drug use or anti-drug attitudes; especially results that are significant or continue over any period longer than a year after completion of DARE.

This conclusion is typical, "DARE's short-term effectiveness for reducing or preventing drug use behavior is small and is less than for interactive prevention programs" (Ennett, Tobler, Ringwalt, & Flewelling, 1994). This meta-analysis reviewed studies conducted from 1986 through 1993 conducted in British Columbia, Hawaii, Minnesota, North Carolina, South Carolina and two studies from Kentucky. Selection criteria for inclusion in this review were rigorous. Originally eighteen evaluations were located, but only eight met these requirements: (1) use
of a control group; (2) pretest-posttest design or a design with posttest and random assignment; and (3) use of reliably operationalized quantitative outcome measures (Ennett et al., 1994).

A similar scrupulous procedure was used when selecting the other comparison drug use prevention programs.

Ennett et al. (1994) also weighted the means of individual studies to diminish the biased estimate from smaller studies which are less precise against those studies having a larger sample size.

The study measured students' knowledge, attitudes towards drugs, social skills, and actual drug use. Comparing DARE with interactive drug programs indicated that DARE was significantly less effective across all four outcome domains: knowledge; attitudes; social skills; drug use.

Although the results appear conclusive, Ennett et al. (1994) consider reasons for DARE's low effectiveness on drug use behavior. They admit that DARE's supporters state that DARE may have delayed effects upon drug use when pupils reach higher grades. However they also note that of the several studies which at that time had reviewed results with later posttests one and two years after the study none had indicated any evidence of DARE's effects being activated when the subjects are older (Ennett et al., 1994).

Another consideration for DARE's failures is how DARE is taught. DARE officers receive a structured training course of 80 hours on topics including specific knowledge of drug use, consequences of drug use, instruction techniques, and classroom management skills. A considerable emphasis is put on following lesson plans and practice teaching (Clayton, Cattarello, & Johnstone, 1996). Yet despite
the extensive DARE training, the DARE officers may not be as well equipped to lead the program curriculum as teachers.

The study further notes that regardless of the curriculum leader, the traditional teaching style employed by DARE has not been shown to be as effective an interactive teaching mode as demonstrated by other studies (Tobler, 1992) (Tobler, 1986).

After time had passed and some studies were questioned as to their accuracy with regards to the efficacy of DARE over longer periods, studies began to address this controversy. A study by Clayton, Cattarello, & Johnstone, (1996) reviewed the effectiveness of DARE as a five year follow up to original posttest results, and Thombs (2000) conducted a study of undergraduates at a public university in Ohio who had participated in the DARE program in middle school. These studies draw similar conclusions. Clayton, Cattarello, and Johnstone (1996) state that not only are the 5-year results consonant with other results obtained from short term posttest evaluations, but that there is a general tendency for curriculum results to decay over time.

Thombs (2000) compares his results with the nationwide rate of substance abuse as compiled by Johnston, O’Malley, and Bachman (2000). Thombs concludes that the rates of both samples are in similar ranges, indicating that cigarette, alcohol and drug use among undergraduates who participated in DARE was comparable to that of American college students in general.

Consistency is the constant among both the first reviews of DARE’s efficacy and more recent long term analysis of the effectiveness of the program. Lynam et al. (1999) conducted a follow-up study of 1,002 students who had participated in DARE ten years prior as sixth graders in a Midwestern metropolitan area with a
population of 230,000. Lynam et al. (1999) concluded that DARE had no effect on student behavior or expectancies with regard to cigarettes, alcohol or marijuana. Also that DARE participation had no statistically significant differences with regards to the use of illicit drugs other than marijuana used. However, since no measures were taken with regards to the use of these other illicit drugs at the posttest, the means-as-outcomes hierarchical linear measurements were estimated. Further, this study indicates that DARE participation was unrelated to students’ peer pressure resistance (Lynam et al., 1999).

Lynam et al. (1999) after concluding that this and many other studies have long shown the lack of efficacy of DARE, beg the question, why is DARE so popular despite its failure to produce desired results? Two possible answers are proposed. First, that teaching adolescents to refrain from drug use is such a widely accepted concept, that few would debate its necessity or support a critical examination of its effectiveness.

A second, explanation is that the programs appear to work. Supporters and parents may be employing an odd normative comparison (Kendall & Grove, 1988), comparing children who participate in DARE with those that do not. The supporters rightly conclude that most children who go through DARE do not get involved with problematic drug use. However they fail to realize that the vast majority of children, regardless of DARE status ever engage in problematic drug use (Lynam et al., 1999).

Lynam later goes on in a separate report to explore DARE’s continued and broad popularity despite its documented lack of efficacy. Lynam and Milich (2002) note that DARE is documented to be popular with parents, teachers and police officers. To teachers and parents, having police officers talk to kids seems like a
good idea. To police, DARE is viewed as an integral part of a community policing strategy. Allowing that DARE may have favorable effects upon youths’ attitudes toward police, DARE is marketed to schools as a drug prevention program, not as a community policing program. However, if schools believe they are receiving an effective anti-drug program in DARE, the benefits of improving police-community relations are outweighed by the fact that they keep other more effective drug prevention programs out of the schools.

Lynam and Milich (2002) hypothesize as to four reasons why the DARE program doesn’t work. One, DARE may be targeting the wrong candidate mechanisms, i.e. appealing to peer pressure and self-esteem rather than rebellion, sensation seeking or availability. Two, by targeting all adolescents, rather than those most at risk (high sensation seeking, alienated children) DARE is less likely to reach those who most need such a program. DARE might need to gear its efforts towards those most at risk. Three, DARE’s zero tolerance message contradicts much of popular culture which might undermine all of DARE’s credibility among students. Four, police officers may not be a credible delivery system for those youth most at risk.

Lynam and Milich (2002) conclude:

In short, after almost 20 years, there is no evidence for the efficacy of Project DARE in preventing drug use. The study discussed in this article is only the most recent example. It certainly seems time to question the widespread implementation of this program.

Yet studies continue to replicate earlier results without diminishing DARE’s widespread use or popularity. West and O’Neal (2004) briefly but accurately
state, “Our study supports previous findings that D.A.R.E. is ineffective.” They allow for the fact that all of the studies in their meta-analysis are of the “Old DARE” and that DARE was substantially revamped in 2001. However as of the time of their article (June 2004), there were no major evaluations of the “New DARE” in research literature.

Perhaps the scientific studies are finally beginning to attract the attention of government and the media. The General Accounting Office (2003) reviewed six studies of DARE effectiveness and reached the conclusion that, “no significant differences in students who received DARE... and students who did not.”

Similarly, in 2001, the U.S. Surgeon General placed DARE under the category of “Ineffective Programs” (Zernike, 2001). Likewise, the National Academy of Sciences has called DARE ineffective (Zernike).

With recent budget constraints at federal, state and local levels DARE’s lack of efficacy is beginning to get more notice due to the costs associated with running an ineffective program. Elliot (1995) estimates DARE’s annual costs at $153 million to $750 million, including both public and private costs. More recently, the Department of Justice’s Bureau of Justice Assistance which supports various substance abuse programs for youth provided $2 million just for regional training centers to train DARE officers in fiscal year 2000 (General Accounting Office, 2003).

Nonetheless, DARE’s popularity and political pressures appear to hamper a widespread realistic review of DARE’s efficacy or appropriate action due to the lack thereof. In Suffolk County, NY, with a projected budget shortage of $250 million for 2005, lawmakers are reluctant to criticize DARE although it costs the police department almost $3 million per year (Mead, 2004).
One Suffolk legislator who chose to remain anonymous cited the political pressures, “No one’s going to risk their political future by doing anything other than standing up with parents. Parents vote (Mead, 2004).”

Even ignoring the political pressures associated with being critical of DARE, the program’s popularity limit frank discussion of its shortcomings. Dr. Lee Koppelman, the executive director of the Long Island Regional Planning Board, which had conducted its own study of drug abuse among DARE graduates in Suffolk County, stated that DARE’s popularity was “part of the problem” (Mead, 2004).

Ignorance has kept a discussion of DARE from even reaching the agenda in some locations. The Hampton Bays (NY) school board president, George Leeman not only stated that the board had not never studied DARE’s effectiveness, but that it had no intention to do so. He said, “We’ve never discussed that. We’ve always supported its continuation (Mead, 2004).”

New York City got on the bandwagon fairly late, joining DARE in 1996. They committed 100 officers and supervisors to implement the program in 1,100 schools at a cost of $8.8 million per year.

And although most other cities are continuing to foot the bill both in money and manpower for DARE, some starting to opt out of the program either for financial reasons or because they feel they have an alternative which will work better. Some major cities have bailed out of the DARE Program in the last decade include Boulder, CO; Louisville, KY; Anne Arundel County, MD; Austin, TX; San Antonio, TX; Oklahoma City, OK; Baltimore, MD; Fresno, CA; Palm Beach, FL; and Toledo, OH.

So what have some of these municipalities realized that others have not? Police Chief Norm Stamper of Seattle chose to remove the four officer $250,000
program from his budget in 1997 stating, "We’re now beginning to recognize that this enormously popular and enormously expensive program has been from a statistical point of view an enormous failure (It is the nation’s most popular drug education program, 1996).

Oklahoma City officials decided that DARE was an outdated program with too many restrictions. They chose to replace the 17 week DARE program with a local program called “Challenge” which is only six weeks long (Taylor, 2003).

In Columbus, Ohio Police Chief James G. Jackson, an outspoken critic of the DARE program, said that the 10 officers and one sergeant committed to the program could be better used in “core policing services” (Futty, 2003).

Another reason that school districts or police departments finally choose to abandon DARE is the realization that the police are not the proper institution to deliver the anti-drug message. A report by the Ashfield-Sanfield (MA) school district concluded, “There is nothing new with the police coming into schools to teach survival skills. What is new about DARE is police coming into schools to teach attitudes and mental health” (Bovard, 1996).

The question as to whether police are properly equipped or appropriate messengers for the anti-drug message within a school setting meshes with the fact that they may be better utilized in other typical police functions as Chief Jackson of Columbus noted for his department.

Results

As hypothesized, scientific studies indicate overwhelmingly that DARE is ineffective in fulfilling its objective of preventing illicit drug use by its participants. Sixteen of the sixteen major studies, follow-ups and meta-analyses
that this researcher reviewed concurred with the negative efficacy for the DARE program.

Most studies found no statistically significant correlation between DARE participation and lowered illicit drug usage. When any positive correlation was found, it was in the area of attitudes towards drug use and was only significant during the first year after participation in DARE’s Core program in seventh grade. Subsequent studies showed DARE’s influence to fade to statistically negligible and equivalent to chance after that period.

Early studies may have missed the opportunity to detect so called sleeper effects, or delays in DARE’s effectiveness not evidenced until the youth were in high school. However, follow-up studies such as Clayton, Cattarello, and Johnstone (1996), Lynam et al. (1999), Johnston, O’Malley, & Bachman, (2000), and Thombs (2000) all confirm that such effects are non-existent.

DARE’s own ubiquity has made it an easy program to analyze in various settings and at various times, yet the results have been consistently negative. Although the most recent modifications to the DARE curriculum have yet to subjected to rigorous analysis, their teaching methods and approach are fundamentally the same and therefore, it is unlikely they will offer radically differing results.

Discussion/Conclusions

The consistency and strength of the evidence of DARE’s lack of efficacy raises as many questions as it could be expected provide answers to. Most obviously why is a program that is so ineffective so popular and widespread?
One reason previously mentioned is that upon superficial review DARE may appear to work because like non-participants, the majority of DARE graduates do not succumb to troublesome drug use is one reason.

The idea that DARE fulfills a niche in the community policing arena is also an obvious possibility, despite the fact that it is not DARE’s main goal.

Regardless of the fact that the studies concur on DARE’s failure does not indicate that the message is reaching the general public. Szalavitz (2002) notes the media’s ambivalent attitude toward DARE and cites this quote from Newsday, “Different camps cite conflicting studies, some indicating that DARE is effective and some that it isn’t”. Szalavitz writes wryly, “If Newsday had done a five-second Web search to check both sides’ citations, it would have found that the real data supports only one position.”

DARE is the 500-pound gorilla of anti-drug programs. It is employed in 80% of the school districts nationwide (General Accounting Office, 2003). It will be difficult for any new program however effective to unseat DARE as America’s favorite. Cynics believe that the most obvious reason for DARE’s continued popularity is found by following the money. DARE receives hundreds of millions of dollars in annual federal aid. In addition police departments spend $215 million to pay for their officers’ participation in DARE (Ludwig von Mises Institute & Armentino).

So DARE is expensive and ineffective, is it harmful? It can be argued that as long as DARE has a solid base of support and maintains its status as the nation’s premier anti-drug program, whether it is effective or not, it will displace any new, innovative and/or potentially effective programs from getting in the door.
DARE’s continued popularity, though obvious as a potential detriment could also turn into its greatest strength. It is the only anti-drug education program with such a robust infrastructure nationwide. If it were to adopt strategies that are proven to work they could be implemented much more efficiently than designing and implementing a new program from scratch.

The individual elements of DARE’s curriculum and approaches merit evaluation and further discussion. Are police the right people to be disseminating the anti-drug message to adolescents, or is this a job for teachers or qualified social workers? Is a social influence the correct approach to use? Do interactive programs really work better than non-interactive programs as some studies have concluded (Ennett et al., 1994)?

Which of the following programs, if any, that have replaced DARE in some localities prove to be effective in reducing drug use: Psychosocial approaches such as Life Skills Training which has shown questionable results; Project ALERT; Generic Skills Intervention; Adolescent Alcohol Prevention Trial; or Interpersonal Relations Program. Perhaps comprehensive approaches hold promise: Seattle Social Development Project; Midwestern Prevention Project; Safe Haven Program; Adolescent Transitions Program; or Project Northland? The GAO cites all of the aforementioned programs as showing promise in reducing risk and drug use in youth (General Accounting Office, 2003). Interestingly enough, in that same study the GAO fails to recognize DARE as having potential (General Accounting Office). Perhaps other lesser known or widespread programs need comprehensive evaluation: Keep a Clear Mind (Toledo, OH) or Challenge (Oklahoma City).

Perhaps we’ll learn that no method exists for significantly reducing drug use and abuse. Even in that worst case scenario, removing financial and human
resources from an unproductive program such as DARE may still yield positive dividends in the form of returning police officers to other needed services, and allowing classroom time to be devoted back to either core curriculum or extra-curricular activities.

Recommendations

This review recommends that no further resources be allocated to funding and implementing the DARE program in our schools.

Return police to other priority assignments.

Continue to support scientific inquiry into effective drug resistance programs. Fund those that appear efficacious, and continue to monitor and conduct follow-up studies to verify results.

Encourage legislators to make drug policy decisions based up facts and statistics, rather than merely the winds of politics and whimsy of the moment. Similarly require that funding of programs be forbidden if they can not be shown to be effective, and be mandated if they are shown to be effectual and meet community needs.
References


Szalavitz, M. (2002, February). Dare to change: The American public supports a tough stance on drugs, even though it doesn’t work. The only way things can change is if the media start confronting some unpalatable facts. New Scientist, 173, 44.


