

Chapter 2

Reviews of Prevention Programs

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The three most commonly used resources in California classrooms for which there are evaluation data are Here's Looking at You (HLAY), DARE (Drug Abuse Resistance

Education), and Quest. This update commenced with a thorough search for research studies and evaluation reports about the effectiveness of those programs.

Criteria of Effectiveness

Getting Results, Parts I and II, presented 12 criteria that leading researchers say should be met for a prevention program to be considered effective. The criteria may be stated as questions to be answered by a school district that is reviewing or selecting a classroom-based prevention program. The first two sets of questions relate to a

program's theory base and the rigor of its evaluation design in determining student outcomes; these questions can be answered by reviewing research and evaluation studies. If the research shows the program to be effective, the district should use the third set of questions to decide whether the program is appropriate for its particular use.

Logic and Theory

Determined by reviewing research and evaluation studies

1. Is the program based on theory that is accepted by experts in the field?
2. Does the theory provide a logical explanation of why the program should work?

Rigor of Evaluation

Determined by reviewing research and evaluation studies

3. Did the program produce the desired changes in the target population?
4. Was the research conducted by reputable researchers and published in a reputable journal (preferably a peer-reviewed or refereed journal)?
5. Did the study use a rigorous evaluation design?

6. Did the study show few negative effects?
7. Was the study replicated at more than one site?
8. Was the program implemented by school staff in the study?

District-specific Issues

Determined by district self-assessment

9. Were the students in the research similar to students in our district — socially, ethnically, and culturally?
10. Does the program appear to be cost-effective?
11. Does the program address a perceived, pressing need in the district?
12. Is the program a logical piece of our districtwide, comprehensive effort?

Fidelity of Implementation

Merely adopting a research-based program for the classroom is not enough. To be effective, a prevention program must be taught as it was designed. This principle is called *fidelity of implementation* and means that all lessons and steps in the lesson should be taught unless

specified otherwise by the program's developer. Without this adherence to the program's design, the program will not "work." In other words, if not all the lessons were taught as designed, then the program may not necessarily be considered effective.

Effectiveness of the Programs

Any program can make the claim that it is based on research. This claim does not mean the program has been *evaluated* for effectiveness. Effective programs are not only based on research about what works, they also show (1) how the particular components of the program can affect substance abuse behaviors or at least some known mediators of behavior (for example, increased bonding with school or with positive peers); and (2) that it produced the desired changes in students as evidenced by evaluations of the curriculum.

This chapter summarizes findings from the evaluation studies and reports on HLAY, DARE, and Quest. The three programs were evaluated according to the first two sets of criteria of effectiveness in *Getting Results*: (1) logic and theory; and (2) rigor of evaluation. Table 3 shows to what extent each criterion was met by each program.

The most important overall criterion is *whether the program produced the desired changes* (criterion 3). However, the relationship of criterion 3 to others in the category "Rigor of Evaluation" should be noted. A program that produced the desired changes would be considered unassailably effective if the research was conducted by reputable researchers and published in reputable journals, used a rigorous design, showed few negative effects, and was replicated at more than one site. Alternatively, if the program produced the desired changes, but the evaluations were not conducted by reputable researchers or published and did not use rigorous designs, and so forth, it would be considered only promising. Finally, if evaluations by reputable researchers were published and concluded that the program did not produce the desired changes yet used rigorous designs and were replicated, it would be considered definitely ineffective.

Table 3

Ratings of Effectiveness for Here's Looking at You, DARE, and Quest

| <i>Getting Results</i> Criteria of Effectiveness | Here's Looking at You | DARE | Quest |
|--|-----------------------|------|-------|
| Logic and Theory | | | |
| 1. Program is based on theory | 2 | 2 | 2 |
| 2. Theory provides logical explanation | 2 | 2 | 2 |
| Rigor of Evaluation | | | |
| 3. Program produced desired changes | 3 | 3 | 2 |
| 4. Research conducted by reputable researchers published in reputable journal(s) | 3 | 1 | 2 |
| 5. Studies use rigorous design | 3 | 1 | 2 |
| 6. Studies show few negative effects | 2 | 2 | 2 |
| 7. Studies replicated at more than one site | 2 | 1 | 2 |
| 8. Program implemented by school staff in study | 1 | 3 | 1 |

1 = Criterion was fully met. 2 = Criterion was moderately met. 3 = Criterion was not met.

Here's Looking at You

Review and Summary by Denise Hallfors, Ph.D., and Amy Sporer, M.S.

According to the *Alcohol, Tobacco, Other Drug and Violence Programs in California Schools: 1998-99 Annual Report* (2000), 419 local educational agencies (LEAs) of 883 (47 percent) report that they are using Here's Looking at You (HLAY), making it the single most widely used program in the state.

We reviewed all available studies related to HLAY. Most were unpublished but cited by (and available from) the distributor, ACG/United Learning. Although these studies were provided as evidence of program effectiveness, most measured only knowledge gain or knowledge and the ability to make decisions in hypothetical situations. These are weak outcomes as increases in knowledge are no guarantee that behavior will change. Moreover, the reports lacked information about the reliability and validity of evaluation instruments so it is not known, for example, whether the decision-making questions are good examples of how a student will behave in a real situation. Appendix B contains summaries of the studies.

Most studies evaluated HLAY 2000, and a few evaluated an even earlier version. All studies of HLAY (two published, seven unpublished) are more than seven years old; most are more than ten years old. The program was significantly updated in 1999, but it is not known whether or how these changes might influence current program effectiveness.

The program is currently being evaluated by Farley and Associates, under contract to ACG/United Learning.⁶ The contract authorizes a two-year evaluation of fourth- and fifth-grade students in Chicago who are exposed to the HLAY curriculum. In the second year, they will evaluate outcomes for those students in the 5th and 6th grades and compare the outcomes with those for students in a control group of schools. The outcomes are student use behaviors, knowledge, attitudes, and intentions. However, evidence of effects on student use behaviors will be very limited, because the oldest students will still be at an age when use of substances is very low.

In the following section, we will review HLAY by using the criteria of effectiveness from *Getting Results*.

⁶ Evaluations of HLAY have not been published in journals. The authors of this review recommend that an independent funding source, such as the Robert Wood Johnson Foundation (RWJF) or the National Institute on Drug Abuse, issue an RFP for an effectiveness trial of HLAY and that the results be published in a peer-reviewed journal. The program is one of the two most widely used programs in the country and, as such, deserves a full evaluation of efficacy and effectiveness. RWJF is currently funding a similar study of the DARE program. HLAY does seem to adhere to accepted principles, such as those outlined in NIDA's *Preventing Drug Use Among Children and Adolescents: A Research-Based Guide*, and evaluation of the effects of the program would make a contribution to both science and field practice.

The program is based on theory that is accepted by experts in the field.

There are two types of theories pertaining to the evaluation of programs: *program impact theory* and the *program process theory*. The *program impact theory* describes the cause-and-effect sequence through which the program is expected to prevent substance use. The *program process theory* describes how and what the program will provide: the “essential ingredients” (e.g., lesson plans, teaching strategies) to cause the desired effects.

JoAnn Farley, current HLAY evaluator, reports that the program is designed to:

- (1) provide students with current information about alcohol, tobacco, and other drugs; (2) teach social skills; and (3) provide students with opportunities to bond with their schoolmates, families, and communities. . . . Properly implemented, this program, through student learning, acquisition of key skills, and development of bonding with important institutions, is designed to impact the behavior and attitudes toward the use and abuse of alcohol, tobacco, and other drugs.

HLAY’s program impact theory does not provide an explicit explanation of why or how the combination of information, social skills, and bonding should affect students’ behavior and their attitudes toward the use and abuse of ATOD.

HLAY lessons were designed to reduce risk factors for ATOD use and promote protective factors, but there is no information about how the lessons do this. Descriptions of the lessons say that the lessons reduce risk factors by “explain[ing] the consequences of drug use and provid[ing] transfer activities for students to their homes and communities.”

HLAY addresses protective factors “by giving students the skills to build healthy friendships and make good decisions.” Apparently, HLAY draws from both the social influences model and the social development model (Catalano & Hawkins 1996) for its program theory. The social influences model hypothesizes that students can be “inoculated” against social influences that promote substance use. The model further specifies the necessary components of a prevention program: lessons that present basic information, normative social influences, and informational social influences. The social development model describes the role of risk and protective factors and how these factors lead to students bonding with either prosocial or antisocial institutions and peers, leading to either positive or negative outcomes related to substance abuse and delinquency.

The next step in evaluating program theory is to examine whether the content of the curriculum actually addresses the components that are theorized to be important and whether those components are adequately covered. *Making the Grade* (1999) described HLAY content as based on the social influences model, with very good coverage of refusal, decision-making, and assertiveness skills, and adequate coverage of normative education, awareness of social influences, advertising pressures, stress management, communication skills, and social skills.⁷ Drug Strategies did not look, however, for evidence of the curriculum’s effectiveness in reducing risk factors, increasing protective factors, or promoting bonding. A review of the content related to these concepts would be useful.

⁷ The Drug Strategies organization relied on a panel of experts in prevention, public health, and education to guide the development of its review of school alcohol, tobacco, and other drug use prevention programs in *Making the Grade*.

An evaluation of the program would also look for evidence that students showed increased bonding with prosocial institutions and peers and had more protective factors and fewer risk factors. Unfortunately, it is difficult to “inoculate” students against risk factors. Increasing the protective factors, which are often demographic (e.g., gender, ethnicity, age, social class) or environmental (family structure and functioning, home neighborhood, school), is also difficult.

The theory provides a logical explanation of why the program should work.

There is no explicit logical explanation provided for why the program should work except by reducing risk factors and increasing protective factors. HLAY states that children with higher risk factors (found in the family, peers, schools, and communities) have increased chances of developing a problem with drug use. HLAY defines protective factors as (1) establishment of healthy friendships with peers who do not use tobacco, alcohol, or other drugs; and (2) opportunities for decision making. However, there is no description of how the program intervenes at those two levels. The program theory should be evaluated for at least two outcomes: (1) whether HLAY-exposed children increase their prosocial bonding skills and their decision-making skills through practice; and (2) whether these initial or proximal outcomes lead to decreased drug use in late middle school and high school.

The program produced the desired changes in the target population.

No published studies to date have found significant effects on outcome variables related to students’ exposure to the HLAY program. Reviewed unpublished studies showed some short-term effects on knowledge gain or knowledge and the ability to make decisions in hypothetical situations. Appendix B provides detailed information on the findings of each evaluation.

The research was conducted by reputable researchers and published in a reputable journal (preferably a peer-reviewed or refereed journal).

Two evaluation studies were found in the published literature, and neither one showed positive findings. Nine studies were listed in the HLAY promotional materials, but none were published in any journal.

The studies use a rigorous evaluation design.

Many studies were found to have weak designs or insufficient information about instrumentation or other methods.

The studies show few negative effects.

Two of the evaluations showed that students in the control group did better than students exposed to HLAY. Both studies also showed negative effects for students exposed to HLAY. One showed the incidence of use of chewing tobacco was worse for students exposed to HLAY; another showed that HLAY students' knowledge was worse in three grade levels.

The studies were replicated at more than one site.

Although evaluations were conducted at multiple sites, none of them was replicated (each of the evaluations used different measurement instruments, different grades, and different designs).

The program was implemented by school staff in the studies.

This appears to be true in most of the reviewed studies, although in some studies implementation is not specified.

Summary

HLAY uses the components of two well-known theoretical models: the social influences model and the social development model. A review of the curriculum showed that it had adequate or very good coverage of concepts from the social influences model, but no similar review of curriculum coverage of the social development model (i.e., enhancing protective factors and decreasing risk factors) has been done. The description of theory found in HLAY materials and in the current evaluators' report failed to articulate how the program would address risk and protective factors among youths and how the specific program activities were expected to prevent substance abuse. Such a description is an important first step before the program can be evaluated.

No published studies to date have found significant effects on important outcome variables from exposure to the HLAY

program. Reviewed unpublished studies showed some short-term effects on knowledge gain or on knowledge and the ability to make decisions in hypothetical situations. Findings should be interpreted with caution; the design and instrumentation were poorly reported and appear to be generally weak. No follow-up studies have been done to show the persistence of any positive effects. Because of the lack of peer-reviewed studies and the weakness of unpublished study designs, HLAY should not be considered a research-based program that works.

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DARE

Review and Summary by Denise Hallfors, Ph.D.

DARE (Drug Abuse Resistance Education) was created in 1981 as a joint project of the Los Angeles Police Department and the Los Angeles Unified School District. Since then, the program has grown through aggressive marketing and considerable public support and funding. In 1993 a reported 6 million students were exposed to DARE at a cost of \$750 million (Hansen & McNeal 1997). Most of these students received a version of DARE that had been implemented with 5th grade students in elementary schools.

The *Alcohol, Tobacco, Other Drug and Violence Programs in California Schools: 1998-99 Annual Report* shows that 251 (28 percent) of California's school districts use the DARE program, making DARE the second most popular program in the state. DARE is the only ATOD prevention program that is taught by a police officer and not by the classroom teacher. DARE is used even more widely in other states outside California. A recent survey of 81 school districts in 11 states found that 82 percent of districts use the DARE program, indicating that it is by far the most popular program in the country.

The 1994 revision of the curriculum has not been evaluated in peer-reviewed published research studies, however. The DARE Web site <<http://www.dare.com>> says that only

one study has evaluated DARE since the major curriculum revision in 1994. That report was published in the March 1999 newsletter of the Pennsylvania Commission on Crime and Delinquency, *The Justice Analyst*, and findings are discussed further below.

The remainder of this section reviews evaluation findings according to the criteria of effectiveness in *Getting Results*.⁸

The program is based on theory that is accepted by experts in the field.

No specific information about a theory base for DARE was found in any of the reviewed documents. However, Richard Clayton and colleagues (1996) from the University of Kentucky concluded that the DARE curriculum contains elements of the informational, affective, and social influence approaches to drug abuse prevention. *Making the Grade* (1999) described DARE content as based on the social influences model, with good coverage of rehearsal and role plays and adequate coverage of normative education, awareness of social influences, advertising pressures, refusal skills, decision making, stress management, communication skills, social skills, and assertiveness skills.⁹

⁸ A large number of unpublished evaluation studies on DARE have been done. Therefore, we chose only peer-reviewed published studies that were either meta-analyses of studies with rigorous designs or rigorously designed studies with one or more years of follow-up. The exception is the inclusion of the one study conducted on the most recent update of the DARE curriculum.

⁹ The Drug Strategies organization relied on a panel of experts in prevention, public health, and education to guide the development of their review of school alcohol, tobacco, and other drug use prevention programs in *Making the Grade*.

The curriculum was originally developed from prototype versions of two Project SMART programs, experimental curricula that were neither fully developed nor equally successful (Hansen & McNeal 1997).

Approaches adopted by DARE directly from Project SMART include resistance skill training, self-esteem building, stress management, demonstration of a public commitment, and information about short-term consequences. Additional information on gangs and legal issues surrounding drug use were included.

The theory provides a logical explanation of why the program should work.

DARE provides no clear explanation of why the program should work. The DARE Web site states, "Like similar Life Skills curriculum, DARE reinforces resistance to peer and media pressure among children who have not become substance-involved and emphasizes law enforcement authorities as partners with the community in promoting individual safety and common efforts against drugs and crime. It, therefore, can be used to complement other universal prevention interventions, as well as interventions for high-risk youth, such as Student Assistance Programs."

DARE has many features in common with other universal drug prevention programs using informational, affective, and social influences approaches. The defining aspect of DARE is that lessons are presented by a police officer. There is no clear explanation to account for why uniformed police officers are the optimal agent to influence children not to use drugs or why they are the best teachers to teach children resistance

skills, self-esteem, or stress management. The benefits of using DARE are positive public perceptions of and genial relations between the police and the schools.

The program produced the desired changes in the target population.

DARE is by far the most studied prevention program in the country. Almost all peer-reviewed published reports have shown DARE to have small positive effects that gradually deteriorate. Positive effects are seen mostly in mediator variables rather than in drug use variables. Mediator variables are thought to influence behavior by raising resistance to or reducing risk for drug use. Tested mediator variables include self-esteem; resistance to peer pressure; family, teacher, and police bonds; acceptance of risky behaviors (Dukes, Ullman, & Stein 1995); a manifest commitment not to use drugs; social and life skills; normative beliefs; stress management skills; and beliefs about consequences (Hansen & McNeal 1997).

A seminal study by Ennett and colleagues (1994) meta-analyzed results from eight well-controlled studies to find the overall sizes of short-term effects on important mediator and outcome variables. All six outcomes tended toward the positive (indicating positive effects), but most were small; the largest was for the variable knowledge of alcohol, tobacco, and other drugs. Other outcomes included social skills (including resistance to peer pressure), positive attitudes toward police, anti-drug attitudes, increased self-esteem, and self-reported drug use. All effects were significant except the composite drug use variable. When individual drugs were examined separately, only tobacco use showed a

significant effect with DARE; marijuana use actually showed a negative effect but was not statistically significant. Other programs categorized as interactive programs showed much larger effects than did DARE on outcomes. For example, they showed an effect size of 0.18 for drug use (compared with 0.06 for DARE) and an effect size of 0.75 for social skills (compared with 0.19 for DARE).¹⁰

Because the DARE program is implemented before most young people have initiated any drug use, follow-up longitudinal studies have been critical in assessing whether DARE is effective in preventing future drug use behavior. Longitudinal studies have shown that the short-term effects of DARE deteriorate over time. Richard Clayton published the first rigorous longitudinal study of DARE in the *Journal of Preventive Medicine* in 1996. Schools were randomly assigned to DARE (23 schools) or regular prevention programs (eight schools). Regular prevention consisted of drug education units, taught as part of the standard health education curriculum (the exposure varied in content and amount at the teacher's discretion but was generally much smaller than that of DARE). Students received the program in 6th grade and were surveyed one year after completion of the program and again five years after completion. No significant differences were found between students in DARE and students in the comparison group for cigarette, alcohol, or marijuana use, either during the 7th grade (one year after completion of the program) or after the full five years. DARE

students did show significant positive effects in attitude toward drugs, ability to resist peer pressure, and estimated level of drug use by peers after the first year; but at year five, even these variables were no longer significantly different between the two groups.

Study participants were again assessed ten years after the DARE program, when they were approximately 20 years old (Lyman et al. 1999), to determine whether any residual effects could be found. No significant differences were found between the two groups on the drug use variables. The only significant finding related to DARE status was lower self-esteem among members of the DARE group; however, because the theoretical basis of DARE could not account for this finding, the authors concluded that this outcome may be attributed to chance.

As this update was going to press, DARE administrators announced that the program is being redesigned. The new DARE program will focus on grades 7 and 9 and will continue to reach out to elementary grades. According to DARE, the curriculum will be based on proven research strategies and will use DARE police officers as facilitators rather than instructors to give students more involvement in the lessons. Furthermore, the Robert Wood Johnson Foundation is funding a five-year evaluation of the new DARE program with 50,000 students in six metropolitan areas.

¹⁰ These results did not come from using the current version of DARE, which has not yet been evaluated.

The research was conducted by reputable researchers and published in a reputable journal (preferably a peer-reviewed or refereed journal).

Published studies, conducted by highly regarded researchers, have consistently shown DARE to have very modest short-term effects and no long-term effects. The positive effects that have been cited by DARE officials have generally been from unpublished studies and reports. There are two exceptions: one from a study led by Richard Dukes and one led by Joseph Donnermeyer. Dukes and colleagues published a series of articles in *Evaluation Review* on a longitudinal study of the DARE program. The first report showed significant effects of DARE on the four short-term study outcomes: self-esteem; resistance to peer pressure; family, teacher, and police bonds; and acceptance of risky behaviors. Dukes's findings showed higher effect sizes for resistance to peer pressure and acceptance of risky behaviors than those calculated by Ennett et al. (1994). At the three-year follow-up study, however, no significant differences in drug use or in mediating variables between students exposed to DARE or comparison students were found (Dukes, Ullman, & Stein 1996). At the six-year follow-up study, Dukes found a single gender-related significant difference among eight outcome variables: male DARE participants were less likely to report use of illegal drugs, not including marijuana (Dukes, Stein, & Ullman 1997). All other variables for both genders were nonsignificant.

Joseph Donnermeyer and Russell Davis (1998) published a study in the *Journal of School Health* that compared drug involve-

ment with self-report of prevention program involvement (from a list of ten programs) among 11th grade students in 36 randomly selected high schools in Ohio. About 42 percent of students reported that they had never participated in school-based prevention, and 27 percent said they had participated in DARE in elementary school. No attempt was made to corroborate whether students had actually participated in these programs, and the extent that students could accurately recall such information is not known. Nevertheless, Donnermeyer and Davis's results showed that the more exposures to prevention programs that students had, the lower the drug involvement. The study design was not appropriate for determining causality and was particularly weak in determining causal relationships between drug involvement and any one program.

The only study that evaluates the revised DARE curriculum was not published in a peer-reviewed journal but in a newsletter *The Justice Analyst* (March 1999) published by the Pennsylvania Crime Commission. The study selected seven DARE and seven non-DARE schools in the state in a nonrandom process that attempted to match schools' socioeconomic factors. Schools were not identified as high schools even though students in the 9th grade were surveyed. Students were asked whether they had ever participated in DARE or other prevention programs, and results were analyzed following the model of Donnermeyer's Ohio research. Results were mixed, with DARE students reporting significantly less use of other drugs (e.g., crack, cocaine, inhalants, tranquilizers) or use of smokeless tobacco. DARE students were also more likely to indicate "a lot of respect"

for DARE officers but not for other police officers or teachers. DARE students, however, were significantly more likely to have tried marijuana, and fewer DARE students answered affirmatively that they had “never used drugs and never will” (55 percent compared with 61 percent). More DARE students than students in the control group also said they “had never used drugs but may in the future.” Students who said that they had been exposed to DARE and another program showed better results than students who had either never participated in a program or participated only in DARE; the most positive results were found for students who had not participated in DARE at all but had participated in other prevention programs.

The studies use a rigorous evaluation design.

All the studies cited above except those by Donnermeyer and Davis (1998) and the study cited in *The Justice Analyst* (Pennsylvania Commission 1999) used an appropriately rigorous evaluation design for determining the effectiveness of the prevention program.

Summary

Although DARE shows some positive short-term effects in students’ knowledge and attitudes, there is little or no evidence that DARE has an impact on behavior (i.e., prevents drug use) either one year after the program or five years later. The goal of drug prevention programs is to prevent actual drug use; therefore, DARE cannot be considered an effective program.

The studies show few negative effects.

In a few studies, the DARE program has shown negative effects. For example, in some studies students in DARE have actually shown more use of marijuana (Clayton et al. 1991) and hallucinogens (Wysong, Aniskiewicz, & Wright 1994) than control groups have over time. As noted above, *The Justice Analyst* study (1999) also indicated some negative findings for DARE students related to marijuana use and intent to use drugs. This phenomenon has sometimes been referred to as the “boomerang effect” when education meant to prevent use of drugs actually results in higher use.

The studies were replicated at more than one site.

Studies on DARE have been replicated widely. The meta-analysis by Ennett and colleagues (1994) is particularly useful in looking across studies for results.

The program was implemented by school staff in the studies.

The DARE program is implemented by police officers.

In addition, one study showed DARE to have a negative impact on students’ self-esteem. The one study that was cited as evaluating the revised curriculum does not provide any additional support for the DARE program. That study, along with the meta-analysis cited in this report, show that other programs are more effective than DARE in preventing substance use.

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Quest

Review and Summary by Denise Hallfors, Ph.D. and Amy Sporer, M.S.

Originally developed as a “Skills for Living” program for high school students, Quest International has expanded its programs to cover three age groups: *Skills for Growing* (SFG) for grades K–5, *Skills for Adolescence* (SFA) for grades 6–8, and *Skills for Action* (SFC) for grades 9–12. Lions Clubs International (LCI) has supported the introduction, promotion, and dissemination of these programs worldwide. Evaluation data are not available for the most current versions of all Quest programs.

Lions-Quest programs are reported to be “serving more than two million young people each year in more than 30 countries,” with corporate offices represented in 20 countries. Quest International’s Web site may be found at <http://www.quest.edu>. Lions-Quest programs are used by 113 (13 percent) of California’s school districts, as reported by the *Alcohol, Tobacco, Other Drug, and Violence Programs in California Schools: 1998-99 Annual Report* (2000).

The Quest International Web site states that the mission is “to empower and support adults throughout the world to nurture responsibility and caring in young people where they live, learn, work, and play” <http://www.quest.edu>. The programs are comprehensive and preventive by design and incorporate the school, family, and community environments. Components of the program are based on research “with a strong focus on key elements of prevention” *Making the Grade* (1999). Components are also consistent with principles of prevention from *Preventing Drug Use Among Children*

and Adolescents: A Research-Based Guide (National Institute on Drug Abuse 1997). The developers report that the programs have undergone multiple revisions and cultural adaptations. Published program materials are available in 11 languages.

The Quest curriculum aims to give children many opportunities to learn, practice, and apply thinking skills (e.g., problem solving, decision making, and goal setting) and emotional–social skills (e.g., communication, making friends, and refusal skills). These interactions are introduced in school, home, and community settings in an attempt to reinforce the behaviors through consistent modeling. The participation of parents and the community is also encouraged through involvement in classroom activities and service-learning community projects.

The curriculum is unusually long (88-118 lessons/year for SFG, 103 lessons/year for SFA, 48 lessons/year for SFC; some lessons take more than one class period to implement). To assist teachers, developers have designed each curriculum unit in accord with competency skills developed by the U.S. Department of Labor Secretary’s Commission on Achieving Necessary Skills (SCANS) (1991) for the world of work. A guide is provided that correlates the curriculum units with the SCANS competencies for success.

The U.S. Department of Education’s Expert Panel on Safe, Disciplined, and Drug-Free Schools gave the middle-school component, *Skills for Adolescence*, a designation of

promising.¹¹ The panel noted that the skill-building activities in the program are based on research and clearly contribute to the attainment of the stated goals. The program content and examples take into consideration the diverse needs of students, and content delivery takes into consideration multiple learning styles.

In the following section, all three programs will be reviewed collectively according to the criteria from *Getting Results*. Findings from research studies on specific programs will be presented in a subsequent section. Appendix B presents a summary table of research.

Review of All Lions-Quest Programs

This section reviews findings on all three components of Quest according to the criteria of effectiveness in *Getting Results*.

The program is based on theory that is accepted by experts in the field.

Quest International materials state that the Lions-Quest programs are based on research and the following theories and models of a child's development of positive behaviors and attachments: the information-rational model (Ajzen & Fishbein 1973, 1980), social bonding theory (Hirschi 1969), social learning theory (Akers 1977; Akers et al. 1979; Bandura 1977), the social development model (Hawkins et al. 1986; Solomon et al. 1985; Hawkins & Weis 1985; Weis & Hawkins 1981; Elliot, Huizinga, & Ageton 1982; Kim 1981; Jessor 1982), self-derogation theory (Kaplan, Martin, & Robbins 1982; Kaplan 1980; Kaplan, Martin, & Johnson 1986), and moral development theory (Kohlberg 1981).

As discussed in the review of Here's Looking at You, the next step in evaluating program theory is to examine whether the content of the curriculum addresses the elements that are theorized to be important. *Making the Grade* (1999) described the content of *Skills for Growing* (grades K–5) as having very good coverage of awareness of social influences, advertising pressures, refusal skills, decision making; and adequate coverage of normative education, stress management, communication skills, social skills, and assertiveness skills.¹² Rehearsal and role play (interactive techniques) were deemed good. *Skills for Adolescence* (grades 6–8) had adequate coverage of awareness of social influences, advertising pressures, refusal skills, decision making, stress management, communication skills, social skills, and assertiveness skills but had inadequate coverage of normative education. Rehearsal and role play (interactive techniques) were described as very good. *Skills for Action*

¹¹ The panel was composed of educators, researchers, evaluators, program developers, and representatives from local and state educational agencies, businesses, institutions of higher education, and medical and legal communities. Its task was to develop and oversee a process for identifying and designating ATOD and violence prevention programs as promising and exemplary. See Appendix A for the list of expert panel programs.

¹² The Drug Strategies organization relied on a panel of experts in prevention, public health, and education to guide the development of its review of alcohol, tobacco, and other drug use prevention programs used in schools.

(grades 9–12) had adequate coverage of normative education, awareness of social influences, advertising pressures, refusal skills, decision making, stress management, communication skills, social skills, and assertiveness skills. Rehearsal and role play (interactive techniques) skills were good.

The theory provides a logical explanation of why the program should work.

According to Quest International, the program is designed to promote social and emotional development. The program has two primary goals: (1) to help young people develop positive social behaviors (e.g., self-discipline, responsibility, good judgment, and getting along with others; and (2) to help young people develop positive commitments (e.g., prosocial bonds and attachments) to their families, schools, peers, and communities by leading a healthy and drug-free life.

The suggested rationale is that a nurturing *external* environment that encourages the development of critical life skills supports young people's *internal* conditions to develop positive social behaviors and relationships and discourages the development of risk behaviors, such as violence and substance abuse. Research cited by the developers suggests that an environment that supports the comprehensive development of cognitive, social, and emotional skills also promotes positive social behaviors, which become a part of a child's overall standard of behavior (Elias et al. 1997; Goleman 1995; Mayer & Salvey 1995).

Quest does not articulate, however, how the program fosters a nurturing external environment through its program curriculum. It implies that the lesson plans focus on

students' cognitive, social, and emotional skills, which in turn promote positive social behaviors, and that positive social behaviors lead to a lower likelihood of drug use.

The program produced the desired changes in the target population.

The most recently published evaluation of *Skills for Adolescence* showed a small but significant delay of initiation of substance use (particularly cigarettes and marijuana) and a delay in transition to additional substances for students in the Quest group compared with a control group. No evidence of effect on substance use was substantiated in any of the unpublished studies; such behavior was rarely measured.

The research was conducted by reputable researchers in a reputable journal (preferably a peer-reviewed or refereed journal).

Only one study of Quest programs (*Skills for Adolescence*) has been accepted for publication (2001) in the peer-reviewed journal, *Addictive Behaviors*. This evaluation was conducted by researchers at the Urban Institute, RAND, and the University of Memphis, with funding from the National Institute on Drug Abuse.

Quest International provided several in-house evaluation reports. These reports were submitted to the U.S. Department of Education. The Safe and Drug-Free Schools office examined the evaluations for a review by its expert panel. Abstracts from three dissertation studies were also found; all studies were done in the early 1990s.

The studies use a rigorous evaluation design.

The study to be published in *Addictive Behaviors* used a rigorous experimental design. The remaining unpublished studies had relatively weak designs (e.g., no randomized control trials) and reported only short-term effects.

The studies show few negative effects.

Negative effects of the program were not reported.

The studies were replicated at more than one site.

Although most data were collected from multiple schools, studies were not replicated at different sites.

The program was implemented by school staff in the studies.

In all studies the teachers at each school implemented the program.

*Review of Unpublished Reports on Specific Quest Components***Quest: Skills for Growing (Grades K–5)**

Sehwan Kim and Molly Laird conducted an evaluation of *Skills for Growing* in 1995. The study was conducted prior to the latest versions of the curriculum, which was revised in 1998. Evaluators used a quasi-experimental design, with pre- and post-tests administered at six- or seven-month intervals to an intervention group (1,304 students exposed to the curriculum) and comparison group (612 students). Students were selected from 14 schools in North America: 13 in the U.S. and one in Canada. All schools included both experimental and control groups. Classrooms were randomly assigned to each group, matched by grade level. All students were assessed by teachers using the Student Assessment Survey (an instrument developed by the evaluators), but different domains within the survey were assessed for different grades.

Students in K–1 were assessed in eight school sites. The intervention group showed a significant positive impact on

only health-oriented behaviors (e.g., caution expressed about harmful substances, demonstrates some healthy eating habits) compared with that of the control group. Student responsibility, social behavior, and rule-abiding behavior were also evaluated, but no significant differences between groups were found.

Students in grades 2–3 were assessed at 11 school sites; no significant differences were found between intervention and comparison groups on any of the dependent measures (e.g., attitude toward their classroom environment, student life skills, drug knowledge, and the student's behavioral intention to either use drugs or not).

Students in grades 4–5 were assessed at ten school sites; for the intervention group the study showed a significant positive effect on life skills, conflict resolution skills, and the students' attitude toward their classroom environment compared to that of the control group.

No negative effects were reported for any group. The program was implemented as intended by the regular classroom teachers.

Quest: *Skills for Adolescence* (Grades 6–8)

Molly Laird, Michael Syropoulos, and Steven Black conducted an evaluation in 1996. They used a quasi-experimental design with a stratified random sample of schools from six areas of Detroit, Michigan. The first year of the study was used as a pilot for refining the process and outcome measures to increase the reliability of the data collection method. The second-year sample consisted of 12 schools; regular classroom teachers were randomly assigned to intervention (151 students) and comparison groups (176 students). Immediately after the intervention and follow-up five months later, students were tested on the Anger Management Test (Laird 1993), and their academic and achievement test records were examined. The teachers also maintained a daily log of individual students' behavior and attendance.

The quality of implementation was also measured to determine the effects of fidelity to the curriculum on student outcome measures. Teachers in the intervention group received training in the curriculum and in data collection methods. Teachers in the comparison group were also trained in data collection methods and attended research meetings on general issues of cooperative learning. An "implementation fidelity" variable was created by a composite score of a teacher questionnaire (measuring the extent of curriculum coverage) and investigator observations of the intervention teachers' use of prevention material. On average, teachers covered only 40 of the 103 lessons.

The intervention group maintained a low rate of misconduct events, while the comparison

group's rate increased at post-test follow-up. Misconduct included truancy, insubordination, verbal abuse, loitering or trespassing, refusal to identify self, smoking in school or on school property, gambling, demonstration, disruptive conduct, and unauthorized use of materials or equipment. When all the truancy reports were totaled for the entire study, the SFA students were shown to have a lower number of misconduct events compared with that of the control group; the evaluators suggest that this finding offers support to their hypothesis that SFA would reduce school absences. The intervention group members also increased their knowledge of how to handle anger situations; the gains in knowledge and positive attitudes were significant and were maintained at the five-month follow-up. No negative effects were reported. Students taught by teachers with the highest implementation fidelity scores had the highest knowledge gains.

Three dissertations evaluated *Skills for Adolescence*. Gloria Heinemann (1990) evaluated the effect of *Skills for Adolescence* on students' self-esteem enhancement and academic achievement by using a quasi-experimental design with 1,177 middle school students in a northern California school district. Three hundred eighty-four intervention students and 793 control students were pre- and post-tested on the Coopersmith Self-Esteem Inventory (CSEI), and the Comprehensive Test of Basic Skills (CTBS). The analyses showed no significant relationship between intervention and comparison students on enhancement of self-esteem or academic achievement. A random sample of the original participants in the intervention and comparison groups was delay-tested on the CSEI. The follow-

up testing showed a significant decrease in the School-Academic area of self-esteem on the CSEI among the limited-English-proficient students of the intervention group and a significant increase of CSEI School-Academic subtest scores by 8th-grade students in the intervention group.

Norman Ray (1990) found a significant increase in self-concept scores (as measured by the Piers-Harris Children's Self-Concept Scale) on post-tests and pre-tests in a study of 142 students exposed to the program (no comparison group).

Lloyd Goldsmith (1990) found no significant difference between intervention students and nonequivalent comparison students on a change in self-esteem scores (as measured by the Coopersmith Self-Esteem Inventory), but there was a significant difference in attitude toward school: intervention students were more positive than were comparison students. Both groups were Mexican American 6th-graders in a county in south Texas.

Quest: Skills for Action (Grades 9–12)

In 1998 Quest researchers Laird, Bradley, and Black evaluated the impact of the *Skills for Action* service-learning component on students in 25 high schools in seven states, with funding from the W. K. Kellogg

Foundation. They used a quasi-experimental design, administering a pre-test in January and post-test in June to intervention and comparison groups over one school semester. Three surveys, created or modified from existing surveys by the evaluators, were used to measure changes in social development (e.g., empathy or motivation to help others), communication skills, career or job skills, interest in future community service, and self-reports of risk behaviors, including risk for school dropout. The number of students that could be linked or matched for each survey varies between 542 and 753 because of attrition.

The intervention students maintained a low risk for dropping out of school, whereas the comparison students increased their risk of dropping out as the semester progressed ($p = .059$). Attitudes about interpersonal competence in helping others and responsibility to the community showed an overall increase in the intervention group compared with the comparison group. Few other significant effects were found. The evaluators suggest that the modest findings could be due to the control groups' exposure to service-learning in other classes and the post-testing at the end of the year when students are potentially less engaged in schoolwork.

Summary

A report from a new study, funded by the National Institute on Drug Abuse and accepted for 2001 publication in a peer-reviewed journal, describes analyses of short-term follow-up data on more than 6,000 middle school students. Schools were

assigned randomly to be in either a control group or an experimental group. The experimental group was exposed to Quest *Skills for Adolescence*, and the control group was exposed to the usual prevention programming. The report shows small but

significant effects on the delay of initiation of substance use (particularly cigarettes and marijuana) and a delay in transition to additional substances (e.g., from drinking alcohol to using marijuana) for the Quest group. Authors note that none of the schools implemented the entire program; most teachers delivered approximately 40 of the 103 lesson plans in the curriculum.

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