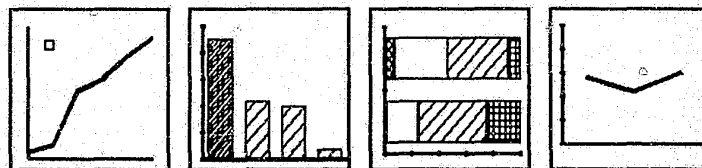


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# DARE in Kentucky Schools 1988-89

*An Evaluation of the Drug Abuse  
Resistance Education Program*



124379

*Social Research Laboratory*  
*Western Kentucky University*

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U.S. Department of Justice  
National Institute of Justice

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August 1, 1989

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## **Highlights**

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## Highlights

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This report summarizes the results of an evaluation of the 1988-89 Drug Abuse Resistance Education (DARE) effort across the state. The data for this report span a two-year period and a number of different dimensions of the program ranging from program implementation to assessments of the attitude changes following the program.

As documented in the following pages, this evaluation effort has four major components. These were 1) how effective were the Kentucky State Police and Lexington-Fayette Police efforts at recruiting and training qualified law enforcement officers to serve as DARE instructors? 2) how successful was this training effort in terms of leading to the actual delivery of the DARE program in the classroom by trained officers? 3) how well received was the program by school teachers and principals? and 4) how successful was the DARE curriculum in terms of increasing peer resistance skills, drug attitudes and attitudes toward the police?

The actual assessment of the short- and long-term effects of the program on students was investigated in three separate studies. The first followed the attitude change of students over a two-year span starting in the 1987-88 DARE effort. A second analysis compared these same students to matched students in other counties who had not received DARE (though they had received some drug education). The third study looked at the short-term impact of the program among inner-city students in a large metropolitan area.

While the total findings of the study follow in this report, the major results of each of the four areas are highlighted below.

### **DARE Officer Training Program:**

- \* In the past two years a total of 9 instructor training workshops have been conducted (4 by KSP, 4 by Lexington and 1 combined effort).
- \* By August, 1989, 184 Kentucky law enforcement officers had completed the 80-hour DARE

training. An additional 59 out-of-state officers were also trained.

- \* DARE instructors were trained in over 91 different law enforcement agencies from within the state, representing agencies from 57 different counties.

#### DARE Instruction:

- \* The core curriculum of the DARE program was taught in 50 different counties and around 300 schools throughout the state in the 1988-89 academic year.
- \* Over 22,000 students, the majority in fifth or sixth grade, received the DARE core curriculum during the year.
- \* A total of 112 law enforcement officers taught the curriculum during the year. This figure is projected to be much higher in the 1989-90 school year as the most recently trained officers deliver the program.

#### Teacher/Principal Evaluation:

- \* Among the over 400 teachers surveyed, overwhelming support for the impact of the DARE program on students was voiced by school personnel throughout the state for the second year in a row.
- \* Teachers believed the program had a positive impact on the attitude and behavior change of students.
- \* Strong support was shown for the positive impact of the program on the total school environment.
- \* Nearly unanimous support was shown for continuation and expansion of the DARE curriculum.

#### Impact on Students:

The attitudes of students were very much against the use of drugs of any kind before, after and a year following the DARE program. The low values recorded on all scales were extremely encouraging.

The results of the two-year Longitudinal Study supported only the short-term effects of the DARE program.

- \* Peer resistance, drug attitudes and attitudes toward the police improved significantly from before to immediately after the curriculum.

- \* Evidence from the 1987-88 evaluation also support a short-term significant improvement in self-esteem and knowledge of drugs and alcohol.
- \* Test results over a year after the program showed attitude deterioration among boys and girls in all types of schools.
- \* Attitude toward the police dropped off a year after the program erasing the gains previously made.
- \* Attitudes toward drugs reversed and became *more* positive a year after DARE.
- \* The improved peer resistance as a result of DARE remained unchanged among boys. Girls declined after a year to a point before the program.

Comparison of DARE students with non-DARE students one year after the program showed very few significant long-term differences.

- \* Greater peer resistance was shown by some DARE students though the change was complicated by sex and type of school.
- \* No significant differences were found between DARE and non-DARE students in (1) attitudes toward drugs; (2) attitude toward the police; (3) cigarette perception and attitude; (4) alcohol attitude and perception; and (5) marijuana perception and attitude.
- \* Drug attitudes were found to be significantly influenced by sex, with boys having more negative scores except on peer resistance.
- \* Results of the comparison of students was compromised, however, in that the majority of the comparison group had recently received a 'Just Say No' drug program.

Comparison of the short-term effects of DARE among lower-class inner-city students in a metropolitan school system showed no positive gains following DARE.

- \* No significant differences were found in (1) attitude toward drugs, (2) peer resistance or (3) attitude toward the police.
- \* As reported elsewhere, drug attitudes and experiences among inner-city metropolitan students were considerably *unlike* those reported in Kentucky suggesting greater familiarity, adult role-modeling and pressure for drug use among lower-class areas of the city.

### A Parent's Comments on DARE . . .

*As a nurse, I have seen the harmful effects of drugs. I am very impressed with your DARE program and sincerely hope this program will receive the funding and support required. Not only was my 5th grader impressed, but my 2nd and 1st graders were equally impressed by the "friendly" policeman. I believe that now more than any other time, children need to be exposed in a non-threatening manner to the policemen whose dedication is much to be admired. Parents are telling little children "you'd better be good or a policeman will arrest you," just as they tell them "be good or the nurse will give you a shot." The thoughts of my children being exposed to drugs is terrifying to me. I know that drug abuse in our county middle-school is a fact and I believe the only way to arrest this problem is to educate our children with the real threat that drugs can kill. Thank you for allowing my child to talk about this among his peers and affirming that NO is an acceptable answer to just another of the situations in which he shall be faced with in this very "hurry up and grow up" society we now live in.*

## Introduction

---

The DARE program, short for Drug Abuse Resistance Education, represents a joint venture between a large number of independent school districts and law enforcement agencies to meet the drug education needs of elementary and middle school youth in the Commonwealth. Starting with the 1986-87 pilot program by the Lexington-Fayette Urban County Police and a four county pilot program by the Kentucky State Police in 1987-88, the program has grown dramatically to now involve over 91 other law enforcement agencies and over 50 separate school systems during the 1988-89 school year. This dissemination of the DARE curriculum has been made possible through the instructor training programs conducted by both the Lexington-Fayette Police and the Kentucky State Police as well as the coordination efforts of the Kentucky Department of Education and the respective independent school districts.

Starting with the 1987-88 effort, the Social Research Laboratory of Western Kentucky University agreed to conduct an independent assessment of the effectiveness of this combined DARE effort. Funds to support this two-year study were provided by the Kentucky State Police through a Department of Justice grant and by Western Kentucky University. The results of the first year evaluation are reported in *Drug Abuse Resistance Education: An Assessment of the 1987-88 Kentucky State Police DARE Program*. The results of the 1988-89 evaluation are detailed in the report that follows.

This evaluation report focuses on four major areas of program delivery:

- \* How successful were the Kentucky State Police and Lexington-Fayette Police training programs in attracting and producing qualified DARE instructors?

- \* Did the training effort culminate in the actual delivery of the DARE curriculum by trained law enforcement personnel?
- \* How successful was the program as perceived by teachers and administrators in those school districts where the program was delivered?
- \* What immediate and long-term impact did the curriculum have on the elementary school youth in the program?

Data for this study span the two years of the Kentucky State Police effort. Records on DARE training workshops have been used to document the success of the instructor training efforts over the past two years. Questionnaires and interviews completed with DARE instructors have helped record the spread of the program into the nearly 300 elementary and middle schools participating in the 1988-89 DARE effort. Evaluation questionnaires were also completed by more than 400 educators this past year. Finally, extensive testing of approximately 2000 DARE and non-DARE students in the state and elsewhere has provided a longitudinal framework for assessing the short and long-term impact of the curriculum on youth.

## **The DARE Curriculum**

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The primary focus of the DARE program is to utilize law enforcement personnel in the delivery of a 17-week drug education program. The actual curriculum for the program was first developed in 1983 by the Los Angeles Police Department and the Los Angeles Unified School District.<sup>1</sup> Since then the program has spread into Kentucky and a number of other states including neighboring Illinois, Tennessee, and Virginia.

The DARE curriculum is designed to focus on the "exit" grade in the elementary school system. In most instances this "core 17-week curriculum" is delivered to

5th or 6th grade students in either elementary or middle schools depending on the school system. Additional "visitation" lesson plans have also been developed for K-4 grades though normally no more than two classroom visitations are used. More recently, the DARE curriculum has been modified to include a middle school component for delivery to 7th or 8th grade students. This newest expansion can include both visitation and core lesson instruction.

The DARE curriculum has two primary objectives to prevent drug abuse: (1) to build self-esteem by teaching that youth who have a positive self-image are more capable in resisting peer pressure, and (2) to teach peer resistance by offering a number of interpersonal strategies and skills useful in saying "no" to drugs. In addition, the DARE curriculum is thought to (3) offer an improved understanding and knowledge of drugs, (4) contribute toward a negative perception of drugs and alcohol by youth, and (5) foster positive improvement of the perception of law enforcement personnel.

The actual 17-week core curriculum is taught in the classroom in one-hour sessions. The entire curriculum is presented by the visiting law enforcement instructor and not the actual classroom teacher. This instruction includes a variety of teaching techniques including lectures, workbook exercises, question and answer sessions, audio-visual aids and in-class role-playing sessions. The content of the 16-week curriculum is outlined as follows:

### **Introduction to DARE: Orientation Session.**

This session is primarily used to introduce the DARE instructor to the classroom and to distribute DARE workbooks to students. The officer gives a brief overview of the program, presents the "word list poster," explains the "question and answer box" that will be used in the course and administers a 25 question survey entitled "Decisions About Growing Up."

### **Session 1: Practices for Personal Safety.**

The DARE officer reviews his/her role as a classroom instructor and safety practices to protect students from harm at home, on the way to and from school, and in the neighborhood. School rules, a handout entitled "My Rights," classroom discussion of appropriate and inappropriate behavior, and a worksheet called "It's the Law" focus on correct decision-making by students in school and out of school in problematic situations.

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<sup>1</sup>For a brief description of the program see William DeJong, "Project DARE: Teaching Kids to Say 'No' to Drugs and Alcohol." Washington, D.C.: National Institute of Justice Reports, March, 1986; for detailed lesson plan discussion see Bureau of Justice Assistance, *An Invitation to Project DARE: Drug Abuse Resistance Education; Program Brief*, U.S. Department of Justice, Washington, D.C., June, 1988.

**Session 2: Drug Use and Misuse.**

Student complete a 16 question quiz entitled "What Do You Know About Drugs" and watch an accompanying video tape. Scores on the quiz are used as a pretest measure before the DARE curriculum. The same quiz is administered at the end of the curriculum. Students learn to define a drug as "any substance other than a food that can affect the way your mind and body works." Common drugs of abuse are listed as well as the symptoms of abuse.

**Session 3: Consequences.**

Students review the positive and negative consequences of choosing not to use drugs. A worksheet entitled "Consequences" focuses on the use and abuse of alcohol and marijuana by the student and other students.

**Session 4: Resisting Pressures to Use Drugs.**

The DARE officer explains different types of pressure that may be used to try to get the student to use drugs (friendly pressure, teasing pressure, heavy pressure and indirect or tempting pressure). Students complete two worksheets intended to make them think about methods to resist peer pressure to use drugs.

**Session 5: Resisting Techniques – Ways to Say No.**

Students learn and rehearse 8 techniques for dealing with peer pressure to use drugs: (1) saying "no thanks"; (2) giving a reason or excuse; (3) broken record or saying no as many times as necessary; (4) walking away; (5) changing the subject; (6) avoiding the situation; (7) the cold shoulder; and (8) strength in numbers. Examples of each technique are reviewed in class and practiced in small student groups in front of the class. A worksheet entitled "Why Some Young People Use/Don't Use Drugs" is assigned for discussion the next class period.

**Ways to Say No**

a. Saying "No Thanks"	"Would you like a drink?" "No Thanks."
b. Giving a reason or excuse	"Would you like a beer?" "No thanks, I don't like the taste."
c. Broken record or saying no as many times as necessary	"Would you like a hit?" "No thanks." "Come on!" "No thanks." "Just try it!" "No thanks."
d. Walking away	"Do you want to try some marijuana?" Say no and walk away while saying it.
e. Changing the subject	"Let's smoke some marijuana." "I hear there's a new game at the arcade."
f. Avoid the situation	If you know of places where people often use drugs, stay away from those places. If you pass them on the way home, go another way.
g. Cold shoulder	"Do you want a beer?" Just ignore the person.
h. Strength in numbers	Hang around with nonusers, especially where drug use is expected.

**Session 6: Building Self-Esteem.**

Poor self-esteem is linked to drug misuse in the drug literature. Students define self-esteem, add it to their DARE word list, and discuss the characteristics or correlates of good self-esteem. A balloon is used to illustrate positive self-esteem and mechanisms that inflate and deflate self-esteem. Students work on a lesson exercise for the next period stressing each student's own positive attributes.

**Session 7: Assertiveness: A Response Style.**

Assertiveness, a new concept introduced for the DARE word list, is stressed as a vehicle for refusing drugs. Rights of each student and responsibilities to others in everyday interaction are discussed and linked to self-esteem. Three styles of interaction are introduced: passive, demanding and confident.

Each is practiced and demonstrated in front of the class in role playing skits in small groups. Overall, the lesson stresses assertiveness without interfering with others' rights.

**Session 8: Managing Stress Without Taking Drugs.**

The concept of stress and the term "stressor" are introduced, defined and illustrated with experiences common to students. Positive and negative aspects of stress are discussed. Students complete and score a 15 question worksheet entitled "My Stress Level" to identify recent events that are likely "stressor" situations in the students' lives. Working in groups, students devise methods of preventing or dealing with stress in selected situations. Deep breathing is taught and practiced as a method for controlling stress.

**Session 9: Media Influences on Drug Use.**

The DARE officer reviews six primary methods used by the media to promote cigarette, alcohol and drug products: (1) the bandwagon approach; (2) the snob appeal; (3) personal testimony; (4) sex appeal; (5) having fun; and (6) product comparison. Students discuss ways in which the media has influenced their own ideas and decision-making such as in buying products. Students practice these media promotional strategies by developing their own anti-drinking or anti-drug commercials as time permits.

**Session 10: Decision-Making and Risk-Taking.**

Worksheets entitled "The Choices You Make," "Risks and Results" and "Name the Game" are used to distinguish reasonable and unreasonable risk situations and the role of decision-making in evaluating the results of risk-taking behavior, including drug use. The role of adult family members, peers, the media and personal beliefs and values are discussed in relation to risk-taking behavior. Students are encouraged to recognize the choices they have and how to make a decision that best promotes their self-interest.

**Session 11: Alternatives to Drug Abuse.**

This session is intended to draw student interest to non-drug activities that are interesting and rewarding. The concept "alternative" starts by reviewing common reasons given by students for using drugs -- excitement and acceptance, peer recognition, and negative self feelings -- with alternative activities in exercise, games and sports. The lesson focuses on awareness of the function and activity of the heart, recognition of activities that are rewarding and esteem enhancing and an exercise entitled "Taking a Stand" which

incorporates the concepts of health, stressor control, risk management, media influence and resistive techniques in relation to saying no to drugs.

**Session 12: Role Modeling.**

This lesson can be used as a supplement or complement to the curriculum. The topic focuses on older students as role models for DARE students. One or more high school leaders visit and are introduced to the class as non-drug using role models.

**Session 13: Forming a Support System.**

Positive relationships with others is approached as a "support system" to meet the needs of affection, belonging, recognition, respect and feelings of self-worth. Each of these concepts is discussed and students are encouraged to identify their own support systems including family, friends, peers and other support groups such as youth groups or athletic teams. Each student completes a "My Support System" drawing.

**Session 14: Ways to Deal With Pressures From Gangs.** Students are instructed in the kinds of pressures they may feel from gang members and how to evaluate the choices available to them in the face of pressure.

**Session 15: Project DARE Summary.**

This lesson is used as a review and posttesting period. Working in groups, students compete in a "Family Feud" game in which points are awarded for correctly answering 11 questions over topics covered in the curriculum. The 16 question quiz entitled "What Do You Know About Drugs" is re-administered and compared to pretest scores.

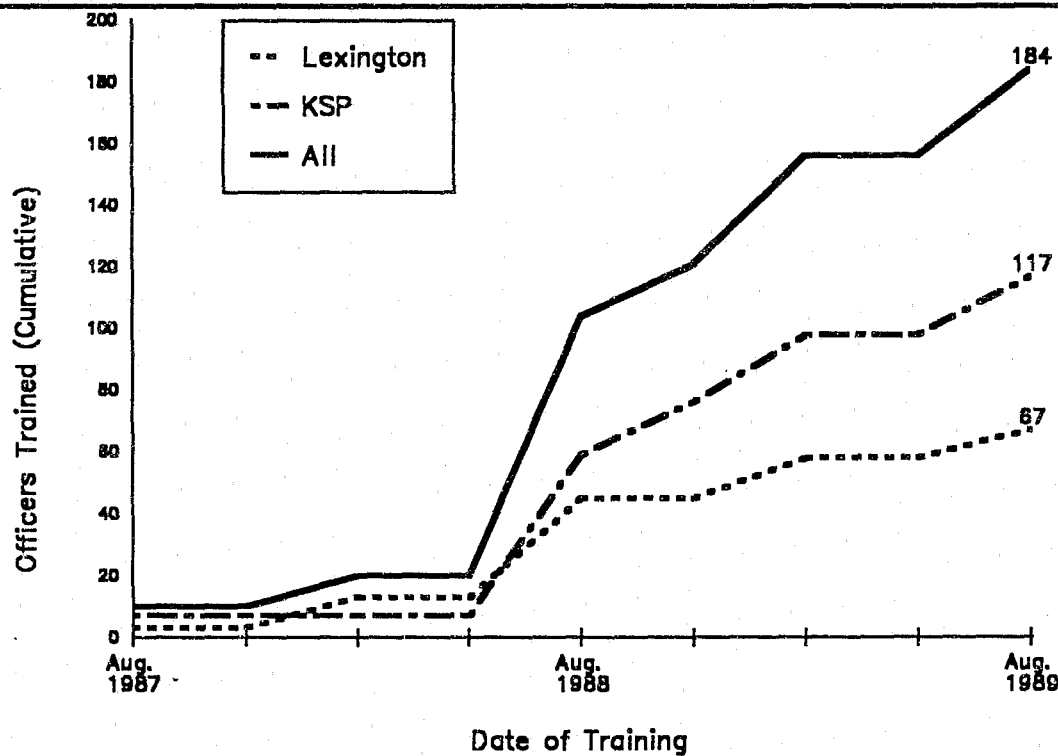
**Session 16: Taking a Stand.**

Students read their "Taking a Stand" papers describing what they would do if pressured to use drugs. Students vote on the best paper.

**Session 17: DARE Culmination (Assembly).**

Each student completing the DARE program is recognized in a school/public assembly attended by DARE representatives, school officials, community leaders and parents. Each student individually receives a graduation certificate as well as numerous memorabilia (DARE T-shirts, rulers, key chains, bumper stickers, posters, etc.). The winner of the "Taking a Stand" contest is announced.

**Figure 1. Number of DARE Officers Trained By Date and Training Agency (Lexington or KSP).**



## The Instructor Training Program

Each DARE instructor must meet two qualifications. First, he must be a sworn police officer in the Commonwealth of Kentucky. Second, he must complete the 80-hour training course taught in the state by either the Kentucky State Police or the Lexington-Fayette Urban County Police Department.

The DARE Instructor Training Course offered by the KSP, for example, centers on reviewing and developing teaching techniques on the core curriculum, the development of public speaking techniques, practice teaching sessions and advice on administering a successful DARE program. Approximately 14 hours are devoted to public speaking techniques and practice sessions, 8 hours to curriculum content, 7 hours to classroom management, 4 hours to an application workshop, and 20 hours to practice teaching sessions. Additional topic coverage includes grammar, chemical dependency, narcotics training, officer-school relationships, the K-4, middle school and "modified"

DARE curriculums, program evaluation and strategies to develop public support. The training culminates in a graduation ceremony and recognition of instructors.

Figure 1 illustrates the combined success of the KSP and Lexington efforts in recruiting and training qualified DARE instructors. Since the beginning of the program when 3 Lexington and 7 KSP officers were trained by Los Angeles Police Department, first as instructors and later as trainers, program participation has escalated in response to a total of nine training sessions, four by the Kentucky State Police (June, July, and September, 1988 and January, 1989), four by the Lexington-Fayette Urban County Police (one in January and two in June, 1988 and January, 1989) and one as a combined effort of both agencies (June, 1989).

By August, 1989 a total of 184 Kentucky law enforcement officers had completed the DARE training program -- 117 from the KSP program and 67 from the Lexington program. In addition to the Kentucky participants, a total of 59 out-of-state law enforcement officers have completed the program for a total of 243 graduates.



**Figure 2. DARE Trained Officers By Type of Agency and Source of Training.**

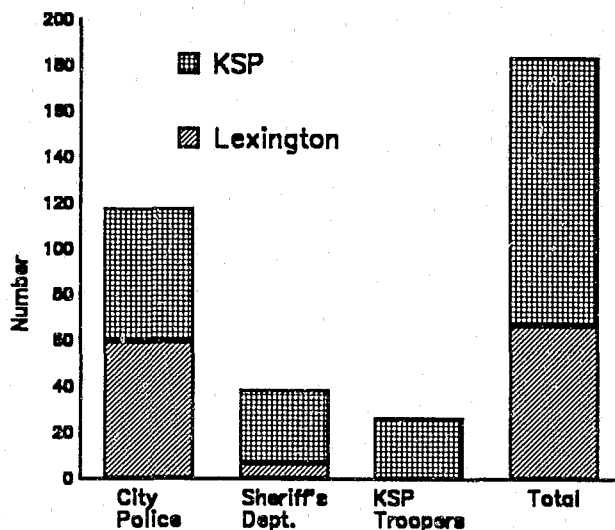


Figure 2 shows the distribution of the 184 Kentucky instructors by law enforcement agency. By August of this year, a total of 27 KSP officers had completed the program. Thirty-nine members of the state's sheriff's departments had completed the program, 32 from the KSP sessions and 7 from Lexington's training program. Of the 118 city police officers completing the program, 58 graduated from KSP training sessions and 60 from Lexington training sessions.

A listing of the law enforcement agencies participating in DARE instructor training is shown in Table 1 on the opposite page. A total of 91 city, county and state law enforcement agencies participated in the training representing agencies in 57 counties throughout the state. Actual coverage is higher than this figure, however, since KSP officers are distributed throughout the state. Table 1 also illustrates the cooperative effort shown by multiple law enforcement agencies within the same county. In Jefferson County, for example, DARE instructors were trained from six different law enforcement agencies. In Union County, with a relatively small county school system, three different agencies have trained instructors.

#### Comments of teachers on . . .

##### **"Do you think it is appropriate for a police officer to teach the DARE curriculum in the classroom?"**

*Yes, he is someone in authority who the students should take seriously. It also made the program special to the students instead of just another class. It showed a unity between the school system and the police department.*

*Very much so, law enforcement is part of our lives; having a positive experience as a young student can only help.*

*Yes, because it shows that police officers are concerned about the young people and about the drug problems facing children today.*

*Yes, it allows the students first hand experience with a police officer in a controlled situation. In this type situation they can relate to him as an instructor, not a police officer. They learn to respect and appreciate the officer for his concern and dedication to the DARE program.*

*Yes, establish the idea that an officer is a friend.*

*Yes! One more voice, different than parent or teacher, speaking against drugs plus one they respect (such as a local police officer who is a very positive individual) equal higher percentage in getting the message to students.*

*Yes, because the children better understand the role of the police. Also, with the schools and police department working together, it gives the children several different influences.*

*Yes, they can better answer questions on drugs that the students have and the police officer is a positive addition to the program.*

*Yes, a policeman is the law in the "flesh". This humanizes law enforcement and helps young people lose their fear of the law. If they see a policeman as a friend instead of someone to be feared and avoided, then perhaps when they become adults they will become involved in crime prevention. As children without fear of police, they will be quicker to inform the law when something illegal is happening.*

*No, drug education should be the responsibility of parents first, school second and police officer last.*

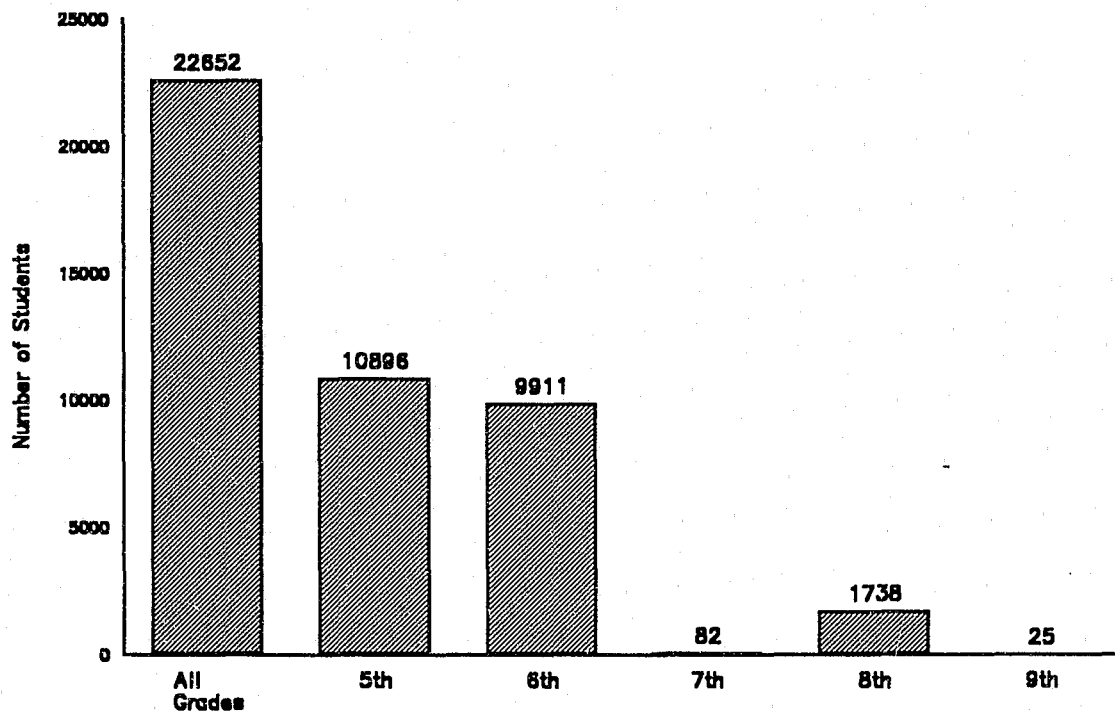
*Yes, I feel that the only image most children have of a police officer is that of a strict disciplinarian. The DARE program has put my students in direct contact with their officer/instructor and they can see that he is a very caring, understanding person that they could depend on for help.*

*I do think it is appropriate, I feel it makes the message stronger. It also gives children an opportunity to realize a police officer is really interested in their well-being.*

**Table 1. Kentucky Law Enforcement Agencies Participating in DARE Training.**

County	Agency	County	Agency
	Kentucky State Police	Kenton	Edgewood Police Department
Anderson	Lawrenceburg Police Department		Erlanger Police Department
Ballard	Ballard County Sheriff Department		Ft. Wright Police Department
	LaCenter Police Department		Ft. Mitchell Police Department
Barren	Glasgow Police Department		Kenton County Police Department
Bell	Pineville Police Department	Knott	Knott County Sheriff Department
Boone	Boone County Police Department	Lee	Beattyville Police Department
	Florence Police Department	Letcher	Jenkins Police Department
Bourbon	Paris Police Department		Letcher County Sheriff Department
Boyd	Ashland Police Department		Whitesburg Police Department
Boyle	Boyle County Sheriff Department	Livingston	Livingston County Sheriff Department
	Danville Police Department	Lyon	Lyon County Police Department
Bracken	Brooksville Police Department	Madison	Berea Police Department
Caldwell	Princeton Police Department		Richmond Police Department
Campbell	Alexandria Police Department	Marion	Lebanon Police Department
	Cold Spring Police Department	Marshall	Benton Police Department
	Newport Police Department		Calvert City Police Department
Carroll	Carrollton Police Department		Marshall County Sheriff Department
Carter	Grayson Police Department	Mason	Mason County Sheriff Department
Christian	Hopkinsville Police Department		Maysville Police Department
Clark	Clark County Sheriff Department		Washington Police Department
	Winchester Police Department	McCracken	McCracken County Sheriff Department
Clay	Manchester Police Department		Paducah Police Department
Daviess	Daviess County Sheriff Department	Mercer	Harrodsburg Police Department
	Owensboro Police Department		Mercer County Sheriff Department
Edmonson	Edmonson County Sheriff Department	Montgomery	Mt. Sterling Police Department
Estill	Irvine Police Department	Muhlenberg	Muhlenberg County Sheriff Department
Fayette	Lexington-Fayette Urban County Police	Nelson	Nelson County Police
Fleming	Flemingsburg Police Department	Pendleton	Falmouth Police Department
Franklin	Frankfort Police Department	Perry	Hazard Police Department
	Kentucky Vehicle Enforcement	Pike	Pikeville Police Department
Greenup	Raceland Police Department	Powell	Stanton Police Department
Hardin	Hardin County Sheriff Department	Pulaski	Somerset Police Department
	Radcliff Police Department	Rowan	Morehead Police Department
Harlan	Harlan City Police	Scott	Georgetown Police Department
Harrison	Cynthiana Police Department		Scott County Sheriff Department
Hopkins	Hopkins County Sheriff Department	Shelby	Shelby County Sheriff Department
	Madisonville Police Department	Simpson	Franklin Police Department
Jefferson	Anchorage Police Department	Trigg	Cadiz Police Department
	Jefferson County Sheriff Department	Union	Morganfield Police Department
	Jeffersonton Police Department		Sturgis Police Department
	Louisville Police Department		Union County Sheriff Department
	Shelbyville Police Department	Warren	Bowling Green Police Department
	St. Regis Park Police Department		Warren Co. Comm. Attorney's Office
Jessamine	Nicholasville Police Department	Woodford	Woodford County Sheriff Department
	Wilmore Police Department		

**Figure 3. Number of Students Receiving "Core" DARE Curriculum By Grade Level, 1988-89.**



### **DARE Core Lesson Instruction 1988-89 School Year**

Record keeping on the actual teaching records of DARE trained instructors was made complex by several factors. First, as shown in Table 1, DARE trained instructors were drawn from a large number of different law enforcement agencies representing several dozen counties, each with its own authority and autonomous control. Second, after training each instructor made his or her own arrangements with the county school systems. From that point each officer was ultimately responsible to his or her own department and the participating school system but not to any central DARE administration.

A first attempt at surveying the actual teaching participation of DARE certified instructors began in February at the first annual DARE conference held in Lexington. Participants at the meeting were asked by the evaluation staff to complete a participation form detailing the schools, classrooms, and numbers of

students who had received the core DARE curriculum in the Fall and Spring semester. Non-attendants at the conference were subsequently contacted by telephone by KSP DARE mentors, veteran DARE trainers who were responsible for coordinating the DARE program within designated regions of the state.

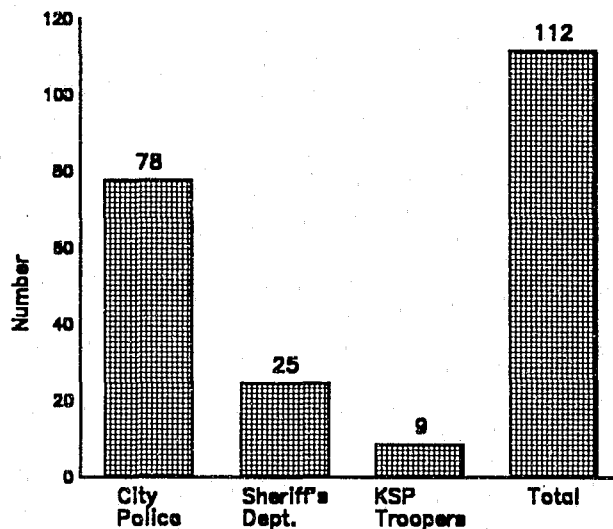
The results of this survey were tabulated by the Social Research Laboratory. According to Figure 3, officers estimated that over 22,000 Kentucky students received the core lesson curriculum during the 1988-89 academic year. The vast majority (92 percent) of the students were in either the 5th or the 6th grades, the primary exit grades from elementary schools throughout the state. The "modified" or middle school DARE curriculums were offered to an estimated 82 7th grade, 1,738 8th grade, and 25 ninth grade students.

Table 2 shows a listing of each of the counties where the DARE core curriculum was taught in the 1988-89 school year. A total of 50 counties participated in the program, representing the combined instructional efforts of 67 local police and sheriff's departments plus the efforts of 9 KSP troopers in 10 of the counties.

**Table 2. Kentucky Counties and Law Enforcement Agencies Teaching DARE, 1988-89 Academic Year.**

County	Agency	County	Agency
<b>Ballard</b>	Ballard County Sheriff Department	<b>Knott</b>	Knott County Sheriff Department
<b>Barren</b>	Glasgow Police Department	<b>Lee</b>	Kentucky State Police
<b>Bath</b>	Kentucky State Police	<b>Letcher</b>	Jenkins Police Department Letcher County Sheriff Department Whitesburg Police Department
<b>Boone</b>	Boone County Police Department Florence Police Department	<b>Livingston</b>	Livingston County Sheriff Dept.
<b>Bourbon</b>	Paris Police Department	<b>Lyon</b>	Lyon County Police Department
<b>Boyd</b>	Ashland Police Department Kentucky State Police	<b>Madison</b>	Berea Police Department Richmond Police Department
<b>Boyle</b>	Danville Police Department	<b>Marshall</b>	Benton Police Department Calvert City Police Department Marshall County Sheriff Dept.
<b>Bracken</b>	Brooksville Police Department	<b>Mason</b>	Mason County Sheriff Department Maysville Police Department Washington Police Department
<b>Caldwell</b>	Princeton Police Department	<b>McCracken</b>	Paducah Police Department Kentucky State Police
<b>Campbell</b>	Alexandria Police Department Cold Spring Police Department Newport Police Department Kentucky State Police	<b>Mercer</b>	Harrodsburg Police Department
<b>Carter</b>	Grayson Police Department	<b>Muhlenberg</b>	Muhlenberg County Sheriff Dept.
<b>Christian</b>	Hopkinsville Police Department	<b>Nicholas</b>	Kentucky State Police
<b>Clark</b>	Clark County Sheriff Department	<b>Ohio</b>	Kentucky State Police
<b>Clay</b>	Manchester Police Department	<b>Owsley</b>	Kentucky State Police
<b>Daviess</b>	Daviess County Sheriff Department Owensboro Police Department Kentucky State Police	<b>Pendleton</b>	Falmouth Police Department
<b>Estill</b>	Irvine Police Department	<b>Pike</b>	Pikeville Police Department
<b>Fayette</b>	Lexington-Fayette Urban County Police	<b>Powell</b>	Stanton Police Department
<b>Franklin</b>	Frankfort Police Department	<b>Pulaski</b>	Somerset Police Department
<b>Greenup</b>	Raceland Police Department	<b>Rowan</b>	Morehead Police Department
<b>Harrison</b>	Cynthiana Police Department	<b>Scott</b>	Georgetown Police Department Scott County Sheriff Department
<b>Hopkins</b>	Madisonville Police Department Hopkins County Sheriff Department	<b>Shelby</b>	Shelby County Sheriff Department
<b>Jefferson</b>	Anchorage Police Department Jefferson County Sheriff Dept. Jeffersontown Police Department Shelbyville Police Department St. Regis Park Police Department	<b>Simpson</b>	Franklin Police Department
<b>Jessamine</b>	Nicholasville Police Department	<b>Trigg</b>	Cadiz Police Department
<b>Kenton</b>	Edgewood Police Department Ft. Wright Police Department Ft. Mitchell Police Department Kenton County Police Department	<b>Union</b>	Morganfield Police Department Sturgis Police Department Union County Sheriff Department
		<b>Warren</b>	Bowling Green Police Department Kentucky State Police
		<b>Woodford</b>	Woodford County Sheriff Dept.

**Figure 4. 1988-89 DARE Instructors By Type of Agency.**



The actual number of DARE certified instructors teaching in the 1988-89 school year is shown in Figure 4 above. A total of 112 officers reported teaching one or more classes of the core DARE curriculum during the school year. This total represented the efforts of 78 local police officers and 25 members of local sheriff's departments (spread across the 67 law enforcement agencies shown in Table 2) and 9 KSP officers.

The success of the combined training efforts of the Kentucky State Police and the Lexington-Fayette Urban County Police is reflected in these figures. In order to teach in the Fall semester, a DARE officer would have had to complete the 80-hour training session no later than September, 1988. Similarly, in order to teach in the Spring semester, *at the very latest* the officer would be a graduate of the January, 1989 training sessions. Adjusting the total number of DARE instructors trained to eliminate those in the June, 1989 training session, the figures show that a minimum of 72 percent of the trained officers actually delivered the program during the school year. This figure is undoubtedly conservative, however, since only a few of the 35 officers trained in January of this year were able to arrange teaching schedules by the start of the Spring semester.

## The Teacher/Principal Survey

A total of ten counties, representing the teaching efforts of 14 different law enforcement agencies, were selected in a random sample of counties offering the DARE curriculum in the 1988-89 academic year. The drug education representative in each school system was contacted in the fall as the first step in the teacher/principal survey.

Working in conjunction with the local drug coordinator, members of the evaluation team contacted each school principal and reviewed the DARE program schedule for that school. Each principal was asked for his/her cooperation in distributing and returning the evaluation questionnaires which were to be completed by all full-time teachers and administrators at the school. All of the principals welcomed the opportunity to evaluate the DARE program.

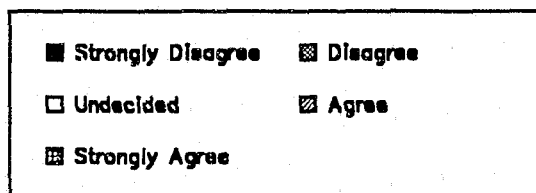
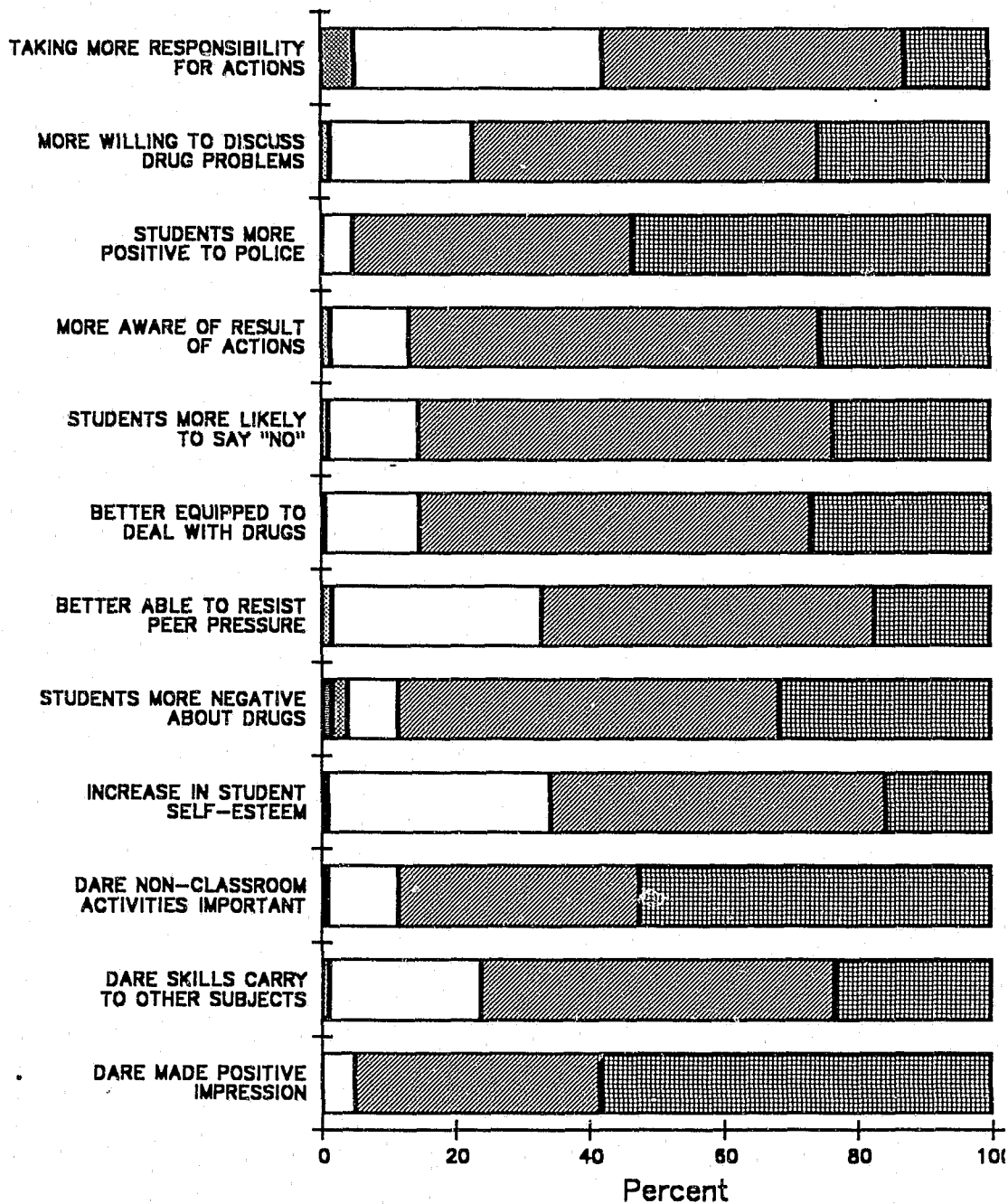
A one-page 29 question instrument (see Appendix E -- Survey Instruments) was developed specifically for the evaluation. Questionnaires were mailed to each school in either late December or early May. Packets of questionnaires, an instruction sheet, a name check-off list, and a return envelop were mailed to a total of 58 school principals. Questionnaires were received from 44 of the schools representing the opinions of 472 teachers and administrators. However, 44 of the questionnaires were marked as only partially complete.

Overall, the responses of the teachers and principals were highly positive and supportive of the DARE program. Three major areas of concern were examined in the questionnaire. These included 1) the perceived effect of the DARE program on students; 2) the impact of DARE on the total school environment; and 3) an assessment of the quality and impact of DARE as delivered by the law enforcement agencies throughout the state.

## Findings

Figure 5 shows the percent of the 428 teachers who gave favorable responses on twelve questions pertaining to the effect of DARE on students.

**Figure 5. Teacher/Principal Evaluation of the Effects of DARE on Students, 1988-89 School Year.**



As shown in the legend for the figure, the relative percentage of respondents answering "agree" or "strongly agree" to the twelve questions (the replies showing positive impact from the DARE curriculum) appear to the right of the five response categories shown (the forward-slash and cross-hatch markings).

Overwhelming support was shown for DARE in answer to the query *"Project DARE has made a positive impression on the children in my class"* with 95 percent either agreeing or strongly agreeing to the question. While the data show some ambivalence as to whether or not the program improved student behavior at the school, strong support was shown in a variety of areas pertaining to the modification of behavior and attitudes by the students in the program.

The majority of the respondents felt that 1) DARE skills carried over to other subject areas (76 percent); 2) student self-esteem improved as a consequence of the program (66 percent); 3) students were more negative about drugs as a result of the program (89 percent); 4) students were better prepared to resist peer pressure to use drugs and alcohol (67 percent); 5) students were better prepared to deal with drug situations (85 percent); 6) they were more likely to say "no" to drugs (86 percent); 7) students were more aware of the consequences of their actions (87 percent); 8) students had a more positive attitude toward the police (95 percent); 9) there was an increased willingness to talk about drug problems (77 percent); 10) students were taking greater responsibility for their actions (58 percent) and 11) DARE non-classroom activities were a valuable supplement to the program (88 percent).

Figure 6 on the opposite page shows how DARE was thought to influence the general school environment. The majority of the teachers (79 percent) thought they and other teachers were more aware of drug abuse with the program. Most teachers (3 out of 4) felt the learning environment of the school was enhanced by the academic nature of the program. However, most teachers did not think that student misbehavior was strongly affected by the program. Only 29 percent of the teachers thought there were fewer disciplinary problems and only 44 percent thought student behavior had improved as a result of the DARE program.

#### Comments of teachers on . . .

#### **"Were you satisfied with the quality of the teaching performance of the DARE Instructor?"**

*The officer was very well prepared and presented his lessons like a "pro."*

*Yes, he was committed to the project and did a good job in relating to the students.*

*Yes, but be sure the instructor uses correct English.*

*Yes, he was well organized and prepared and very accepting of the responses of all the students. They responded well to him because he seemed to value what they thought.*

*Very much so. The appearance, knowledge of topic, enthusiasm in presentation, and rapport established with class was excellent.*

*In general, I was very pleased with our DARE instructor - he was organized and most of the time seemed prepared. At times he did not involve the students enough - more of a speaker.*

*Very satisfied. He always showed enthusiasm and gave each child a chance to participate. He did a great job.*

*Yes, he was well informed and always prepared for questions the students came up with, his lesson plans were very good, he used and gave everything he had for these children, I strongly believe that by the children getting to know him, it has changed their attitudes and behavior toward drugs and police officers.*

*Yes, he used varied means of instruction to hold their interests. He showed a genuine interest in the children.*

*Yes, he was totally dedicated to his instruction and the welfare of the students.*

*Yes, the instructor had well planned lessons that were appropriate for the grade level.*

*Yes! He did an excellent job establishing trust and understanding with students.*

*Generally. Some days were a little rowdy but students participated and learned.*

*Yes, the instructor was well prepared, had high interest materials, and relates well to children. He made each child feel important.*

**Figure 6. Teacher/Principal Evaluation of DARE on the School Environment, 1988-89 School Year.**

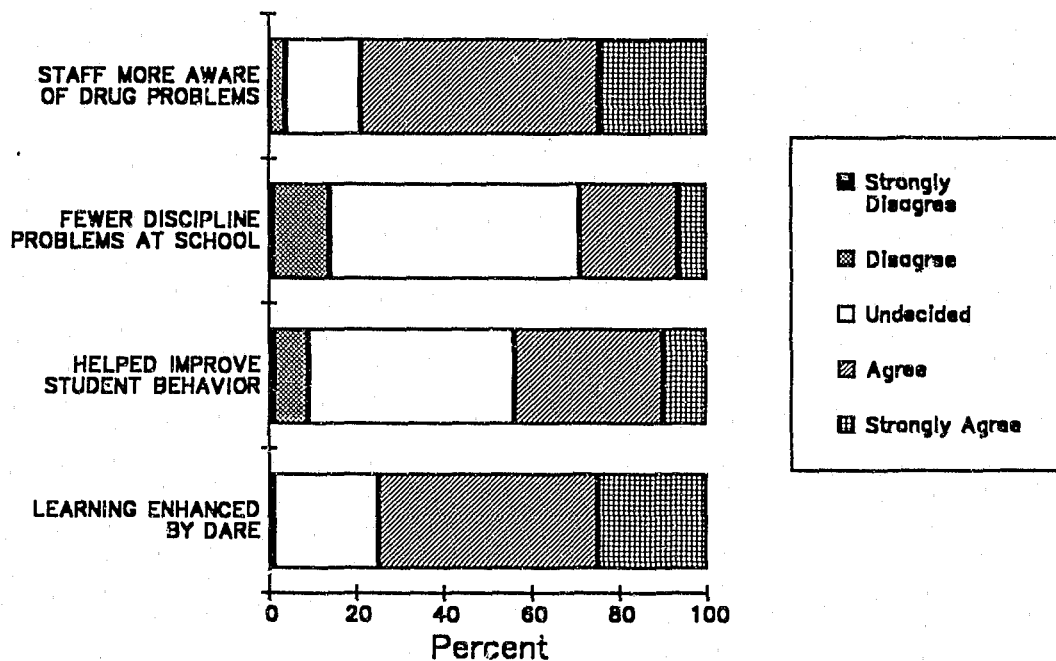


Figure 7 on the following page shows the teachers' own opinions of the DARE program and the extent of support they had for the program. The majority of the respondents (80 percent) agreed that parents like the DARE program. The overwhelming majority (98 percent) said they would like the DARE program taught in their school in the future and a similar number recommended that the program be taught statewide. Less than 1 percent of the teachers said they personally did not support the DARE program.

Figure 7 also shows strong support for the DARE effort from four open-ended questions posed to teachers. Ninety-seven percent of the teachers wrote that they were satisfied with the quality of the teaching in the DARE program. Less than one in ten teachers thought they would get the same results had they taught the curriculum. Ninety-nine out of a hundred teachers thought that it was appropriate for police officers to teach the program and a similar number said they would recommend the DARE program to their fellow teachers.

#### General Satisfaction Scale

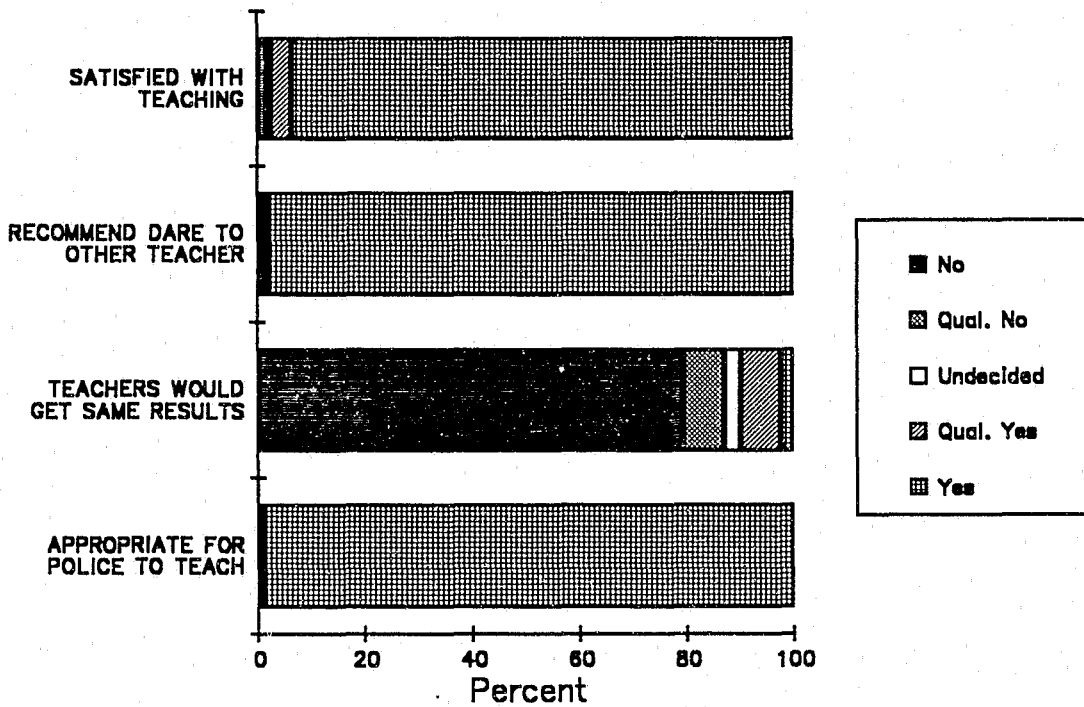
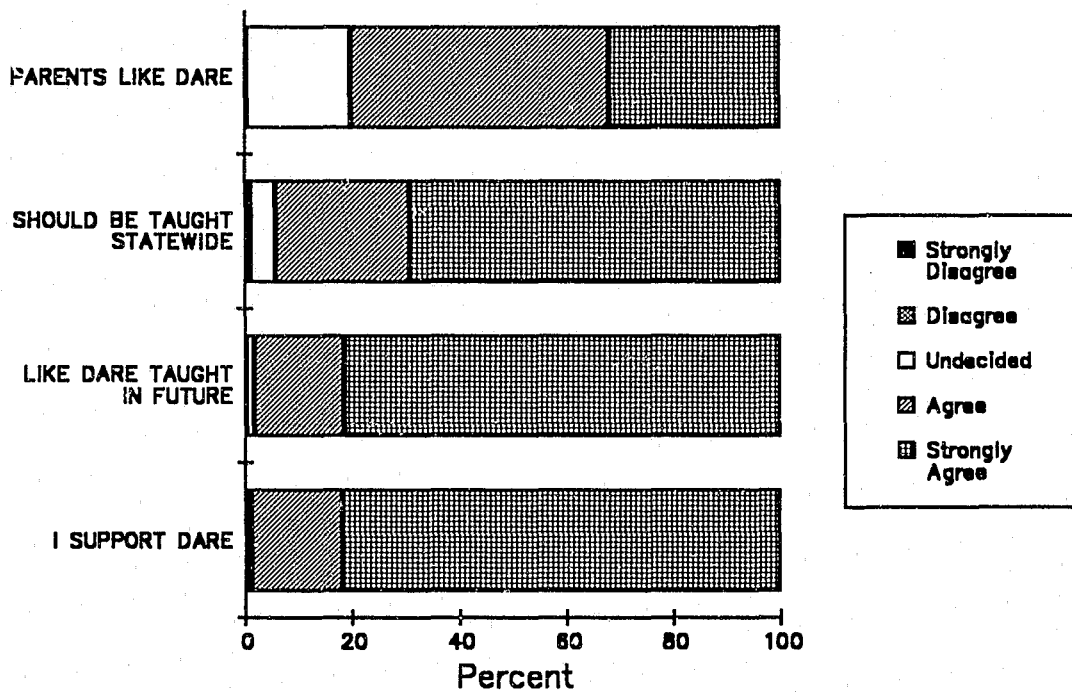
An overall index of teacher/principal satisfaction with the program was constructed by developing a scale score summarizing the responses given to 17 of the survey questions. The scale weights, derived by principal component factor analysis and item-total correlations, are reported in Appendix D, Table D.1. This "Overall Satisfaction Scale" had a reliability of .95.

The scale was calibrated to range from 0 to 100. A score of 0 was possible if every teacher gave the lowest possible response to each of the 17 scale questions. On the other hand, a score of 100 was possible if every teacher gave to highest rating on all of the scale questions.

Table 3 shows the average satisfaction scores for the 44 schools selected for the teacher/principal survey. On the 0-100 scale, the average school awarded 74 points summing over all teachers in the school. The average teacher rating was 74.8. Both of these figures reflect very high satisfaction with the program.



**Figure 7. Teacher/Principal Opinions of DARE, 1988-89.**



**Table 3. Mean Satisfaction Scores of the Schools and Counties in the 1988-89 Teacher/Principal Evaluation.**

County/School	Mean Satisfaction Rating (N)	Mean Satisfaction Rating (N)
<b>Average School Rating</b>	<b>74.4 (44)</b>	<b>Mason County Schools</b> 73.2 (44)
<b>Average Teacher Rating</b>	<b>74.8 (428)</b>	Mason County Middle School 77.0 (8)
		Straub Elementary 72.4 (36)
Ballard County Schools	80.4 (42)	McCracken County Schools 73.8 (126)
Ballard Middle School	88.0 (4)	Concord Elementary 71.9 (18)
Bandana Elementary	80.7 (7)	Farley Elementary 77.8 (23)
Barlow Elementary	68.2 (7)	Heath Elementary 67.4 (17)
Kevil Elementary	74.8 (8)	Hendron Lone Oak Elementary 75.2 (19)
LaCenter Elementary	87.6 (5)	Lone Oak Elementary 78.5 (26)
Wickliffe Elementary	86.1 (11)	Reidland Elementary 69.6 (23)
Barren County (Glasgow Independent Schools)	77.2 (44)	Ohio County Schools 72.0 (41)
Bunch Sixth Grade	75.2 (8)	Beaver Dam Elementary 69.8 (14)
E. B. Terry Elementary	80.2 (16)	Fordsville Elementary 80.3 (4)
Happy Valley Elementary	79.9 (12)	Southern Elementary 77.1 (10)
South Green Elementary	69.3 (8)	Wayland Elementary 68.0 (13)
Bath County Schools	71.6 (24)	Shelby County Schools 71.6 (21)
Bethel Elementary	67.8 (12)	Bagdad Elementary 58.2 (3)
Owingsville Elementary	80.5 (8)	Cropper Elementary 70.4 (1)
Salt Lick Elementary	65.4 (4)	North Side Elementary 66.6 (5)
		Simpsonville Elementary 77.2 (12)
Boone County Schools	70.9 (25)	Union County Schools 76.1 (31)
Burlington Elementary	76.5 (6)	Morganfield Elementary 77.4 (23)
Charles H. Kelly Elementary	65.8 (3)	Sturgis Elementary 83.2 (5)
Florence Elementary	77.9 (5)	Uniontown Elementary 54.0 (3)
Goodridge Elementary	57.9 (5)	
New Haven Elementary	90.8 (2)	Covington Diocese 78.2 (3)
Ockerman Elementary	63.2 (3)	
Yealey Elementary	65.2 (1)	
Clay County Schools	80.9 (24)	Owensboro Diocese 76.5 (3)
Laurel Creek Elementary	83.2 (9)	
Manchester Elementary	92.6 (6)	
Paces Creek Elementary	70.9 (9)	

Comments from teachers on . . .

**"Based on your knowledge of how DARE has operated in your community, do you think that classroom teachers would have obtained the same results with the DARE curriculum as police officers?"**

*No, from teachers it would be just another drug/alcohol program. From a police officer it becomes more novel to the children: they listen more closely and respond quickly.*

*No, I think our disciplinary role as teachers might have prevented some students from being as open as they were. It also gave the students an opportunity to know a police officer as a human and even a friend.*

*No, I don't feel that teachers would get the same results. The students seemed to be more open and honest about discussing the subject of drugs. I feel this is because they think the officer has first hand experience with drugs and drug abusers and can help them understand the effects and the consequences that must be paid.*

*Our teachers probably know the subject matter, but I do not think they could have generated the school-wide enthusiasm and positive attitudes the way the police officers did.*

*No, I think the officers commanded the children's attention. Outside resource persons offer a variety of special talents, resources and a depth of knowledge in areas in which the average classroom teacher may not be well-versed.*

*No, students have a tendency to not want to communicate personal problems of this type with a teacher because of the daily stress of being in a student-teacher situation. A police officer is someone who is unbiased in a child's everyday school situation.*

*No, because we've taught drug programs before and the student response was not as enthusiastic as this time.*

*No, I do not feel teachers would have the same results. I feel the "uniqueness" of having a police officer as an instructor and the ability of the children to see him as a caring, compassionate, intelligent human being was greatly responsible for the success of the program. Teachers are "always" teaching, but having a police officer teach and care so much for each of the students was very unique and effective.*

*Yes! Except for the realism of the "law" officer doing the teaching. The same basic facts, plus others, have been taught by the teacher.*

*The teachers may have achieved the same results provided that they had received the same kind of training as DARE officers.*

*I have taught Project Charlie. I feel I received very similar results with group discussions and activities.*

Comments of teachers on . . .

**"Would you recommend DARE to your fellow principals/teachers?"**

*Yes. I feel we can't begin too early to teach our children to say "NO" to drugs. Perhaps the DARE program will be the way to encourage our youth to resist drugs. Maybe I have become too cynical about our court systems in dealing with drug problems. Perhaps the only way we are going to solve it is to begin teaching children at a very early age to simply say "NO" out of self respect. If we are able to teach children to continue to resist drugs, hopefully the problem will lessen.*

*I am very encouraged by this program, and I would highly recommend it to anyone. We must put an end to drug abuse and this is the most encouraging program I have seen.*

*Yes, I would. It is a very worthwhile program. We may not think the children have listened as well as they could have, but in later years, I feel the children will remember the DARE programs they experienced in elementary school, and it could make a great difference in whether or not they participate in drugs in their adult years.*

*Yes, the children were excited on the day the officer was to come to the class. They listened to what he said. Children did repeat what they learned at school to parents and other people that were in the household. Therefore the message did not stop with just the children.*

*Yes! Start a DARE program immediately! Continue and support the program forever. Our very future as a nation depends upon breaking and eliminating the "drug culture" that has developed in our society.*

*Yes, but isn't this a program -- one year -- for oldest class in school? I think a shorter program presented to the top 3 grade levels might be more productive.*

*Absolutely, DARE is one of the finest and most beneficial programs for our children that I have ever been associated with. DARE is great!*

*Most definitely because it helped the students be more prepared for peer pressure, more aware of various drugs and helped them be more able to make a decision.*

*Yes, I think it is a program that any principal would be proud to have taught in his/her school.*

## Assessing the Effects of DARE: The Three 1988-89 Studies

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The first attempt to assess the ability of the DARE curriculum to influence student attitudes and values began in the 1987-88 school year. With sponsorship from the KSP, the Social Research Laboratory developed a research protocol in which the 5th graders in three school districts in County B and students in the County A school system were used in a quasi-experimental *pretest-posttest control group design* in which elementary schools were randomly assigned to either Fall or Spring program participation. Schools were further stratified according to *type of school* (rural, inner-city, suburban and parochial) in consultation with school district representatives. The results of this study have been published in the report *Drug Abuse Resistance Education: An Assessment of the 1987-88 Kentucky State Police DARE Program*.<sup>2</sup>

### Background: The 1987-88 School Experiment

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A total of 3 elementary schools in County A were selected to represent *rural* schools in the 1987-88 study. Two of the schools were designated as the experimental group to receive the DARE program in the Fall semester. The remaining school, scheduled for Spring DARE instruction, served as the control group. Fifth grade students in all three schools were tested twice using an instrument specifically designed to measure the effects of the DARE curriculum (see methodology below). The first testing, or *pretest*, took place the first week of school before the start of the DARE program. The second testing, or *posttest*, took place the first school week in January, following the DARE graduation for the two elementary schools which received DARE in the Fall, but before the start of the program in the control group school scheduled for Spring DARE instruction.

Three schools from the County B independent schools were selected to represent *inner-city* classrooms on the type of school variable. Two of the schools formed the experimental group with pretest

<sup>2</sup>John R. Faine and Edward Bohlander, *Drug Abuse Resistance Education: An Assessment of the 1987-88 Kentucky State Police DARE Program*, Kentucky State Police, Frankfort, Kentucky, July 1, 1988.

and posttest measurement before and after the DARE program. The remaining school served as a control group and was tested twice the Fall semester before DARE instruction. Each of the schools was selected based on the location of neighboring housing projects in the city, the high percentage of students eligible for the subsidized lunch program (over 90 percent), and the predominantly lower socioeconomic status of the students who attended the schools.

*Suburban* classrooms were drawn from three schools in the County B school system with one of the schools serving as a control group. Each of these schools had a very low percentage of students eligible for the lunch subsidy program and each drew students predominantly from middle-income families living in suburban areas around the city. Each group received the pretest and posttest questionnaires.

*Parochial* students were drawn from County B Catholic schools. Students from two elementary schools, all receiving the Fall DARE program, served as the experimental group. Students in three other elementary schools, all scheduled for Spring DARE instruction, served as the control group. As with the other schools, testing was conducted at the beginning of the semester and after completion of the DARE curriculum.

### Results of the 1987-88 Evaluation

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Based on available drug education literature and the stated mission of the DARE program, a total of six scales were administered to students during the pretest and posttest sessions of the 1987-88 study:

- (1) self-esteem
- (2) knowledge of drugs
- (3) resistance to peer pressure
- (4) attitude toward the police
- (5) attitude toward drugs and
- (6) perceived external control.

It was hypothesized that the DARE curriculum would 1) increase the self-esteem of students by fostering a positive self-image through lesson plans; 2) increase student knowledge of drugs and alcohol as an indirect product of classroom discussions; 3) make students more resistant to peer pressure by teaching resistance skills and making them aware of resistance strategies; 4) increase the degree of positive attitude toward the police by seeing a law enforcement official

over a period of weeks in a non-policing role; 5) decrease the degree of positive orientation toward drugs and alcohol by informing students of the negative aspects of use; and 6) change a student's perception of external control agents (parents, teachers, police, etc.) in shaping drug attitudes.

As reported in the 1987-88 final report, a number of differences were found between the pre- and posttest periods using analysis of covariance on the DARE versus non-DARE and type of school treatments:

- \* A significantly higher improvement in self-esteem among children in the DARE program. It should be noted that some improvement was also found among non-DARE students;
- \* A significant increase among DARE students in their understanding of drugs and alcohol;
- \* An increase in DARE student ability to resist peer influences;
- \* Strong positive increases in the attitudes of fifth grade students toward law enforcement;
- \* A significant decrease in positive attitudes toward drugs and alcohol following exposure to the DARE curriculum.

### **The 1988-89 Research Designs**

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The 1988-89 evaluation plan actually represents three separate studies of the effect of the DARE curriculum. Each of these studies is briefly described below, and in more detail in a later section. Names have been given to each study in an attempt to aid the reader in distinguishing among the several data bases drawn from each study.

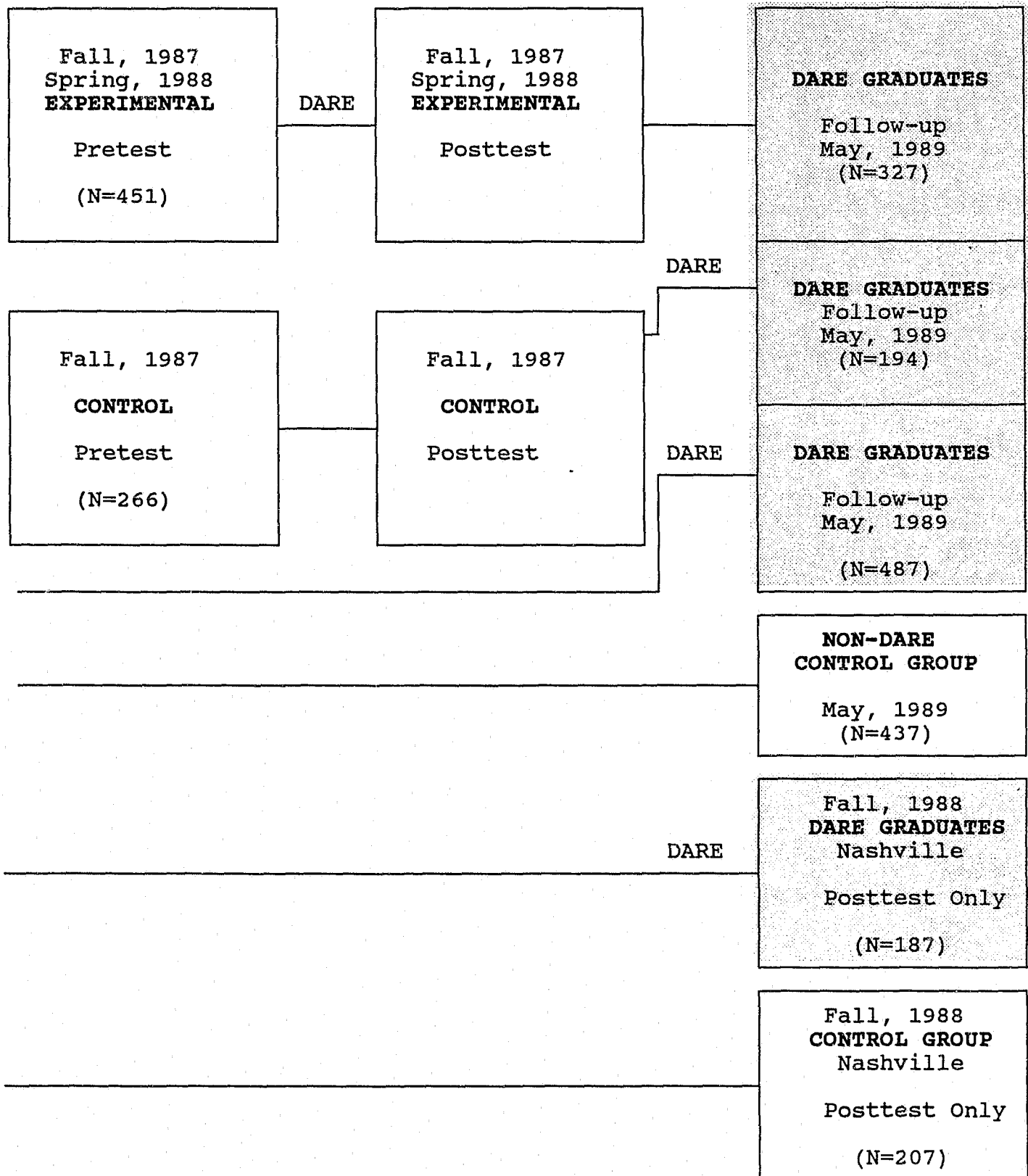
The first phase of the evaluation plan, entitled **The Longitudinal Study**, called for a second-year testing of the 1987-88 DARE students as they moved from the fifth to the sixth grade. With the exception of the parochial schools in County B, this transition also meant that students moved from an elementary school to a middle school environment. The study was further complicated in that the 1987-88 control group subjects, all from County B and County A in the Fall, 1987-88

semester, had since received the DARE program, thus becoming members of the experimental group.

The second phase of the evaluation, called **The Follow-up Study**, was intended to compare the second-year attitudes of the 1987-88 DARE graduates with comparable non-DARE students. Since all fifth grade students in County B and County A received the DARE curriculum during the preceding year, it was necessary to draw comparison students from matching schools in other counties. Students from the County C and County D school systems were tested in the 1988-89 school year as the control group, selected and stratified according to type of school.

With the cooperation of the Nashville Metropolitan school system, a third investigation was conducted to study the effect of the DARE curriculum on inner-city students in a metropolitan environment. The study was entitled simply **The Nashville Study**. A total of six inner-city schools were selected based on two criteria. First, all had to be in the top 10 percent of Nashville schools in the percentage of students receiving lunch subsidy support. Second, in the view of educators familiar with the metropolitan school system, each school drew predominantly from lower socioeconomic families who often resided in inner-city housing projects. Sixth grade students in three of the schools were tested in January following completion on the DARE program in the Fall semester. The other three schools were tested at the same time just prior to the beginning of the DARE program. As such, the Nashville Study represented a posttest-only design with students matched according to type of school.

Figure 8 on the facing page diagrams the sources of data drawn from the three studies. Students in the top two boxes, representing 1987-88 County B and County A students, fall into two groups. The first box represents the 451 DARE students who were pre- and posttested before and after the DARE instruction in the 1987-88 school year. A total of 327 of these students were given a follow-up questionnaire in May, 1989, 12 to 17 months after the DARE program. The 266 students in the 1987-88 control group received a pre- and posttest administration prior to the DARE program last year. One-year follow-ups were conducted with 194 of these students. However, as shown by the diagram, by the 1988-89 school year, all of these had become DARE graduates.

**Figure 8. Sample Populations Used in the 1987-88 and 1988-89 DARE Evaluation.**

The third box of 487 DARE graduates represents those County B and County A students who were not in the sample of schools tested in the 1987-88 school year. For these students only follow-up data is available.

The fourth box in Figure 8, containing 437 students, represents the control group students from County C and County D tested in May, 1989. These students served as the control group for the Follow-up Study.

Finally, the bottom two boxes in the figure designate the 187 Nashville DARE students who were tested in January, 1989 after finishing the program. The 207 Nashville students in the bottom box represent the Nashville control group.

## Measurement Instruments

A total of thirteen different scales were developed for use in the 1988-89 studies. Appendix F contains a copy of the questionnaire that was administered to students in the Longitudinal and Follow-up studies in Kentucky. A shortened version of the main instrument was administered to students in the Nashville study. All of the scales were developed by principal components factor analysis with questions weighted by factor loading coefficients on unstandardized variables. Appendix C contains the factor loading weights assigned to each question and the item-total correlations in each scale. All scales were rescaled to range between 0 and 100 in order to aid interpretation as illustrated below.

Of the six scales used in the 1987-88 study, three were retained and rescaled in the current studies -- General Peer Resistance (Short Version), Positive Attitude Toward Drugs (Short Version) and Positive Attitude Toward the Police (Short Version). The "Short Version" designator is used to distinguish the 1987-88 scales from the longer versions developed for the 1988-89 studies.

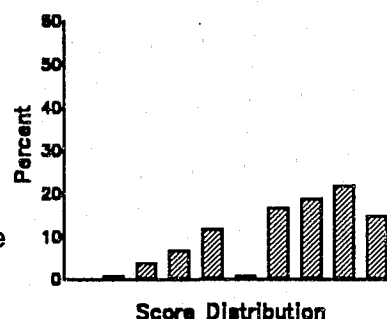
### General Peer Resistance (Short Version)

An eight item scale was retained from the 1987-88 study as a general measure of resistance to peer pressure. Each of the questions in the 1988-89 questionnaire (see Appendix F: Survey Instruments) were dichotomized to conform to the "yes/no" format

used during the pretest and posttest administration the previous year. The scale was calibrated to range from 0 to 100 with increasing score values reflecting increasing amounts of peer resistance. A score of 0 would mean that every student answered each of the eight questions in a manner that indicated they gave in or felt vulnerable to peer pressure. A score of 100 was possible if every student answered every question in the direction of resisting peer pressure.

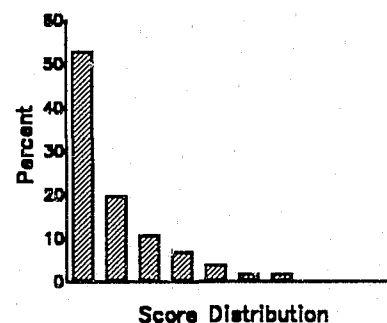
Appendix C, Table C.1, lists the questions incorporated in the scale. All of the scale questions focus on the student's perceived vulnerability to different aspects of peer pressure. For example the scale contained questions such as *"It's hard for me to say 'no' to my friends"* and *"I usually give in to my friends when they pressure me."* Overall, the scale was slightly bimodal with a positive skew.

The mean General Peer Resistance (Short Version) score was 70.7 indicating a high degree of resistance to peer pressure among students. The scale had a reliability (Cronbach's alpha) of .58.



### Positive Attitude Toward Drugs (Short Version)

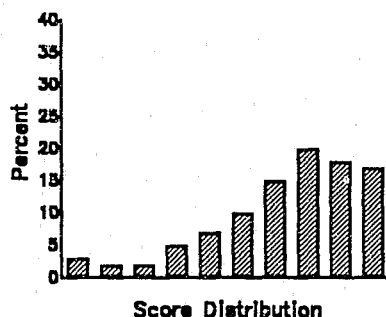
A short 10-item scale was developed and used among fifth graders in the 1987-88 study. These questions were retained in the 1988-89 study and treated dichotomously to conform to the earlier scale composition. Table C.2 of Appendix C lists the questions used in the scale and the item-total correlations with the final scale scores. The scale contained questions such as *"It's okay to drink a little beer,"* *"Kids who use drugs have more friends"* and *"Teenagers who drink alcohol are more grown up."*



The figure above shows the distribution of scale scores from the lowest to the highest values. Attitudes toward drugs were generally very low indicating negative drug attitudes. The scale was negatively skewed with a mean of only 17.2 on a 0 to 100 scale. This low average indicates that the attitudes of students in the study were very anti-drug for the whole with only a small minority of the students responding in a pro-drug direction. The reliability of the scale was low (.59) due to the dichotomous answer foils used and the short number of questions.

### **Positive Attitudes Toward Police (Short Version)**

An 11-item scale was used from the previous study to follow changes in the attitudes of youth toward the police as a result of the semester-long instruction by a uniformed law enforcement instructor. The scale was composed of questions such as "Most policemen like to help kids" and "Most policemen don't understand a kid's problems." Table C.3, Appendix C, lists all of the questions used in the scale.



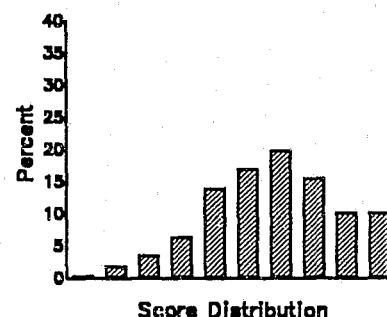
Scores on the scale were generally high indicating a positive attitude toward the police. The average score on the scale was 67.2; the scale had a reliability of .70.

### **General Peer Resistance Scale (Revised)**

The 1988-89 survey instrument contained a total of 25 questions related to the ability of youth to say no to peer pressure. Factor analysis of the items showed that the questions clustered into two separate scales, the first with 10 items related to pressure to conform or go along with the crowd, and the second with 13 items related to peer pressure for drug and alcohol usage.

The first of these scales was re-analyzed using principal component procedures to form an additive scale. Based on the content of the questions in the scale it was termed *General Peer Resistance* like the earlier 1987-88 short version scale. As shown in Table C.4, Appendix C, the scale contains a number of the

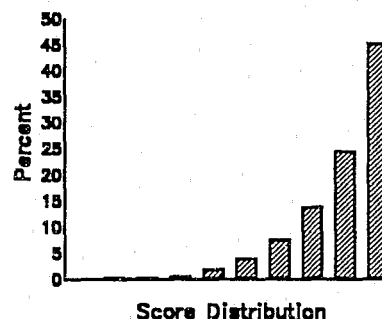
same questions previously used in the short version scale. However, since the scale was measured on a 5-point strongly disagree to strongly agree continuum, properties of the newer scale differed somewhat.



The revised General Peer Resistance Scale was normed to range between 0 and 100. Increasing scores show greater amounts of peer resistance. This scale had a mean of 62.4 and a reliability of .78. As shown in the figure above, the scale was more normally distributed in the newer version. The correlation between the short version and revised General Peer Resistance Scale was strong and positive, as expected.

### **Drug/Alcohol Peer Resistance Scale**

The remaining 13 peer resistance questions were rescaled to form a Drug/Alcohol Peer Resistance Scale. Questions in the scale centered on drug and alcohol use in association with peers. Scale questions included "If my friends smoke I should too;" "I should drink if my friends do even if I don't want to;" and "If your best friend offers you a drug, you have to take it." The full list of questions and factor weights in the scale are shown in Table C.5, Appendix C.



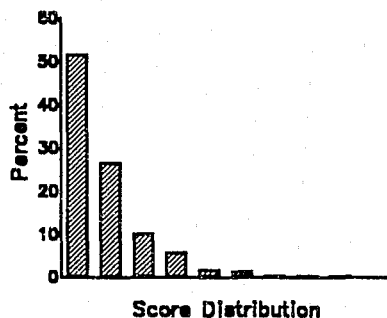
As shown in the accompanying figure, scores on the scale were extremely skewed to the right. The predominance of "high" scores shows that most youth scored very high in their willingness to say no to cigarettes, drugs and alcohol. The scale had a mean score of 84.2 on a 0 to 100 scale. Reliability was assessed at .87.



### Positive Attitude Toward Drugs (Revised)

The 1988-89 questionnaire contained a total of 25 questions probing the attitudes of the students toward the use of drugs. Each of the questions was measured on a 5-point strongly disagree to strongly agree scale. Factor analysis of the items showed a strong unidimensional scale as shown in Appendix C, Table C.6. Like the other scales, short Likert-type attitude questions were posed to the students. All of the questions concerned attitudes toward either cigarettes, drugs or alcohol. For example, three of the questions read *"Drugs make you look cool in front of your friends;" "People who smoke marijuana might have deformed children;" "Drugs bought on the street are not safe to use."*

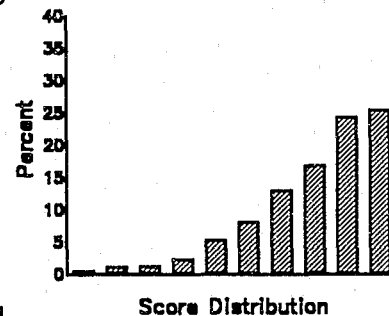
The 25-question instrument formed a reasonably strong unidimensional scale based on factor analysis and scaling results. Like the peer resistance scales, scores were strongly skewed toward the negative end of the scale. Since the scale is normed to show "positiveness" of attitude toward drugs, the concentration of scores in the lowest score ranges earmarks a strong negative attitude toward drugs by the typical student. As suggested in the figure above, the mean student score on the scale was very low -- 13.7. Scale reliability using Cronbach's alpha showed high internal consistency among the questions in the scale (.93).



### Positive Attitude Toward Police (Revised)

A revised scale measuring students' attitudes toward the police was included in the 1988-89 questionnaire. This newer scale included more questions than the "short version" scale (25 versus 11) and was measured on a 5-part strongly disagree to strongly agree response foil rather than the dichotomous choice used the previous year. The actual questions going into the scale are listed in Table C.7, Appendix C. Perusal of this table shows that the short version form of the scale contains a number of the same questions used in the revised scale.

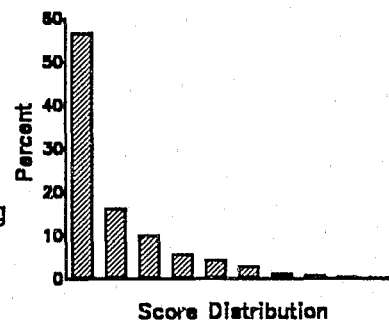
The score distribution on the revised instrument was skewed toward the high score values. As implied in the figure to the right, "most" students recorded very positive attitudes toward the police. Scores on the scale had a mean value of 74.9 out of 100. In terms of the typical questions used in the scale, students tended to agree or strongly agree with questions such as *"Police officers have a right to tell a kid what to do"* or *"Police officers try to help kids who use drugs."* The scale had a reliability of .93 using Cronbach's alpha.



### Positive Cigarette Perception Scale

Students in the 1988-89 studies in Kentucky were asked to rate the positive benefits of cigarette smoking in response to the question *"How much does smoking cigarettes help a person to. . . ?"*<sup>3</sup> Hypothetical situations were to be evaluated: (1) stop feeling bored or lonely; (2) have fun with friends; (3) feel good; (4) experience new things; (5) get away from problems; (6) face a difficult situation; (7) do things better or become more creative; and (8) become popular or one of the crowd. Four answer choices were provided: (a) doesn't help at all; (b) helps a little; (c) helps some; and (d) helps very much.

Responses to the eight items were factor analyzed and found to be reasonably unidimensional (see Table C.8, Appendix C). On this basis an additive scale was developed in which the highest score was awarded for answering "helps a lot" to any of the questions. The scale was found to



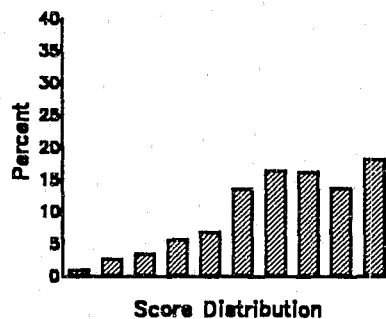
<sup>3</sup>Questions in this section were drawn from a questionnaire developed by Dr. Richard Clayton, University of Kentucky, for use in the Lexington DARE evaluation.

have a reliability of .93. As shown in the figure above, the scale was very skewed toward the low range of scores. The "typical" student had a negative attitude toward cigarettes and saw little or no benefit to cigarette smoking in the situations posed. The Positive Cigarette Perception scale had a mean score of 14.0 on a 0 to 100 scale, again reflecting the negative perception of cigarettes among most students.

### Negative Attitude Toward Cigarettes Scale

Five Likert-type attitude questions about cigarettes were also asked. Students responded to each of the questions using a 5-part strongly disagree to strongly agree response format. The scale was labelled "negative attitudes"

since larger score values were assigned with increasing strength of agreement to the negatively connotated questions. Questions in the set ask if cigarettes lead to (a) losing friends; (b) feeling bad; (c) bad health; (d) doing poorly in school; and (e) getting in trouble with the law.



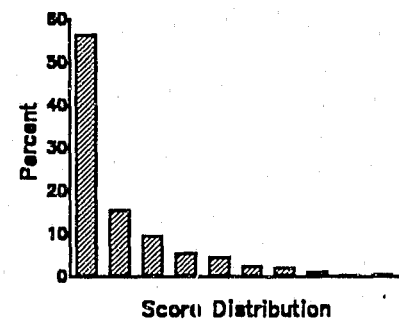
Student responses on the scale were not as negative as the previous scale though the majority of the students earned scores above 50 on the 0 to 100 scale (mean = 67.9). In comparison with the attitudes shown in the scales below, student attitudes about cigarettes were more ambivalent.

### Positive Alcohol Perception Scale

The same eight questions in the Negative Cigarette Perception scale were repeated in this section. Only this time, students responded to the question "How much does drinking alcohol (beer, wine liquor) help a person to . . .?" The eight questions were factored and scaled using the question weights shown in Table C.10, Appendix C.

Once again, scores on the final scale were very low, indicating a strongly negative perception of alcohol use by students. As shown in the figure, the distribution was extremely skewed to the low end with a mean score of only 14.6. In practical terms this implies that

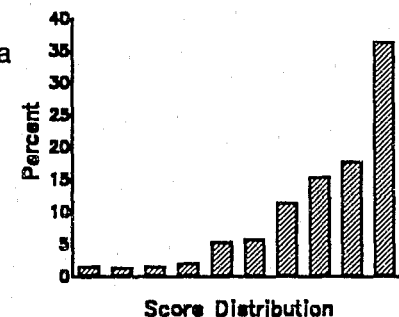
the "typical student" answered most of the questions with the response "does not help at all" and a few of the questions with "helps a little."



### Negative Attitude Toward Alcohol Scale

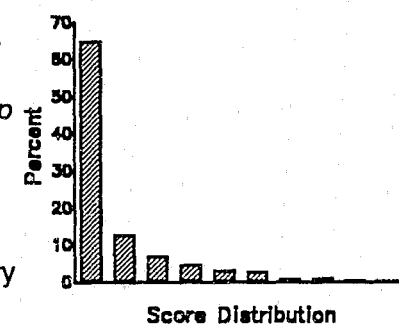
This scale is a duplicate of the Negative Attitude Toward Cigarettes scale except that it pertains to alcohol use. As such, the scale contained five questions concerning negative consequences of alcohol use. Table C.11 of Appendix C shows the scale weights derived from a principal components factoring of the five questions. Like the previous scales, attitudes on the alcohol scale were skewed to the right indicating "strong"

negative attitudes as the norm. The scale had a mean of 76.7 and an overall reliability of .83.



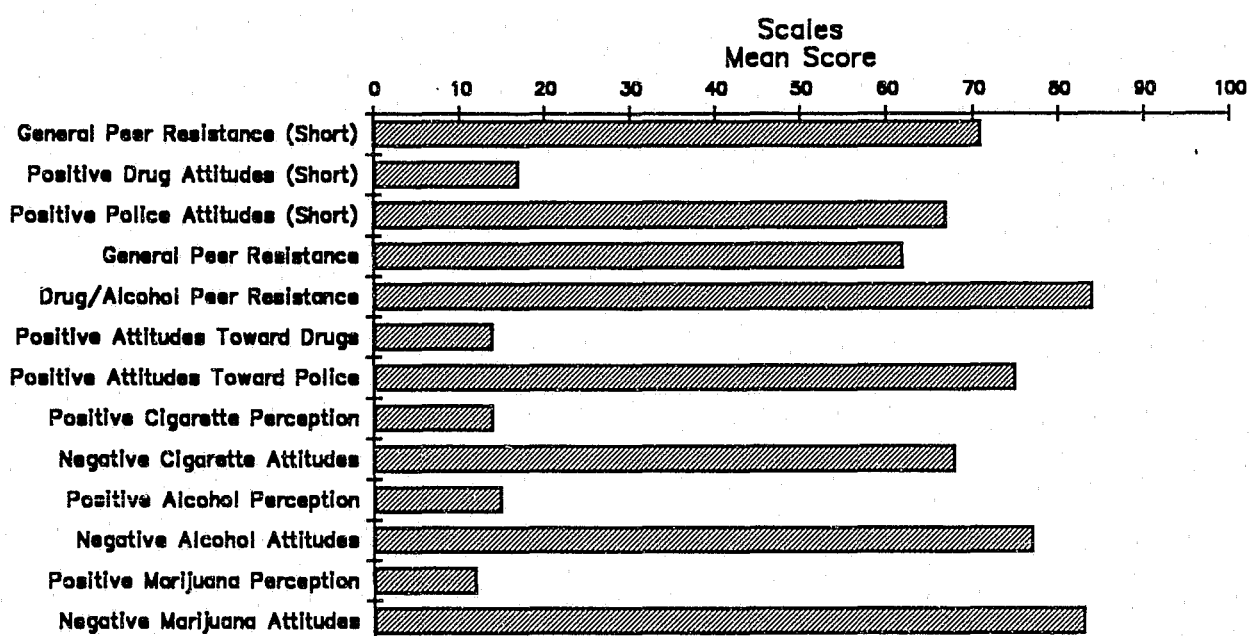
### Positive Marijuana Perception Scale

This scale is exactly the same as the previous two "perception" scales with the exception that the question posed was "How much does smoking marijuana (grass, pot, hash) help a person to . . .?" As shown, the scale was very skewed toward the "low" end of the scale, indicating a very weak positive perception (or conversely, high negative perception) of the use of marijuana and its derivative.



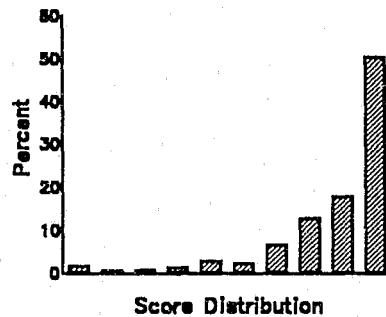
**Table 4. Means, Standard Deviations and Reliabilities of Drug and Alcohol Scales.**

Scale	Mean Scale Score	Standard Deviation	Number of Questions	Reliability (Cronbach's Alpha)
General Peer Resistance (Short Version)	70.7	(21.8)	8	.58
Positive Attitude Toward Drugs (Short Version)	17.2	(17.5)	10	.59
Positive Attitude Toward Police (Short Version)	67.2	(21.1)	11	.70
General Peer Resistance	62.4	(20.1)	10	.78
Drug/Alcohol Peer Resistance	84.2	(15.2)	13	.87
Positive Attitude Toward Drugs	13.7	(13.4)	25	.93
Positive Attitude Toward Police	74.9	(19.4)	25	.93
Positive Cigarette Perception	14.0	(18.7)	8	.93
Negative Cigarette Attitudes	67.9	(23.2)	5	.76
Positive Alcohol Perception	14.6	(20.1)	8	.93
Negative Alcohol Attitudes	76.7	(22.7)	5	.83
Positive Marijuana Perception	11.9	(19.3)	8	.94
Negative Marijuana Attitudes	83.1	(21.3)	5	.87



### Negative Attitudes Toward Marijuana Scale

The third negative attitude scale was identical to the two previous attitude scales for cigarettes and alcohol. As shown in Table C.13, Appendix C, the 5-question scale listed the same questions as before except as related to marijuana. As a set the questions formed an acceptable index of "negative marijuana attitudes" with an average score of 83.1 and an overall reliability coefficient of .87. As shown, the scale was extremely skewed toward the "high" score range, indicating that students generally had strongly negative attitudes and perceived unfavorable consequences as a result of marijuana use.



### Summary: Overall Drug and Alcohol Attitudes

Table 4 on the opposite page summarizes a number of the characteristics of the scales used in the following analyses. The revised scales have improved reliability due to the use of more items and the use of a 5-part answer foil for questions. The following general conclusions can also be seen regarding the overall attitudes of all the youth in the 1988-89 studies:

- \* Peer resistance scores on all the scales were generally high both for general peer resistance and drug and alcohol peer resistance. In general, the sixth graders believed that they could (1) say no to others who encouraged them to use cigarettes, alcohol or drugs, or (2) reject pressures for peer conformity.
- \* Drug attitudes among the youth were extremely negative as shown by the average scores on eight of the scales. On the "positive" attitude and perception scales, scores are very low. Similarly, on the "negative" cigarette, drug and alcohol scales, average scores are extremely high. All of this evidence suggests that drug education

efforts have had an effect by the end of elementary school.

- \* Attitudes toward the police are generally very positive. On the 0 to 100 scale used, the average youth awarded 74 of the 100 points possible.

### Content Validity of Scales

One method for assessing the validity of the scales developed is to determine whether the scales discriminate between populations known to differ on a salient characteristic. For example, we would anticipate that youth who have very negative attitudes toward drugs would also have very negative attitudes toward the use of cigarettes, alcohol and marijuana. Moreover, we would expect them to be less likely to report even experimental usage of drug substances of any form. They would also be less likely to have friends who have experimented with cigarettes, alcohol or marijuana or to have been exposed to marijuana use by same-age or older peers. In addition, we would expect them to have high peer resistance scores since the latter concept has been correlated with drug and alcohol use by numerous studies.

Youth who have positive or "pro" drug attitudes should have different characteristics. We would anticipate that they reject the harmful aspects of cigarette, alcohol or marijuana use. They should also show higher rates of even occasional usage of prohibited substances and be more likely to have friends who smoke cigarettes, drink alcohol or use marijuana. Exposure to same-age or older siblings who use marijuana should be higher in this group. Peer resistance scores, by the same logic, should be lower. Attitudes toward the police, as representatives of normative standards, should also be more negative.

Youth in the 1988-89 Kentucky studies were ranked from low to high on the revised Positive Attitude Toward Drugs scale. The bottom 25 percent (quartile) of the students on the scale were pulled out and designated as having "low" drug attitudes. These 123 students were strongly against drug and alcohol use. To the extent that the measures and scales in the study accurately measure attitudes and perceptions, members of this group should differ in a number of other ways.

**Table 5. Demographic and Scale Differences Between the Bottom and Top Quartiles on the Positive Attitude Toward Drugs Scale.**

Mean Scale Scores	Low Drug Attitudes (n=123)	High Drug Attitudes (n=127)	t-value <sup>+</sup>	p
General Peer Resistance	77.5	52.2	10.62	***
Drug/Alcohol Peer Resistance	93.3	70.9	13.33	***
Positive Cigarette Perception	4.9	26.2	-9.52	***
Negative Cigarette Attitudes	80.9	52.3	10.43	***
Positive Alcohol Perception	5.4	27.9	-9.15	***
Negative Alcohol Attitudes	87.2	59.5	9.75	***
Positive Marijuana Perception	4.9	19.2	-5.96	***
Negative Marijuana Attitudes	92.6	73.4	7.52	***
Positive Attitude Toward Police	84.3	63.2	8.58	***
Age	11.7	11.8	-2.45	*

Percentage Reporting	Low Drug Attitudes (n=123)	High Drug Attitudes (n=127)	Chi-Square	p
Tried Cigarettes One or More Times	20%	66%	50.74	***
Tried Smokeless Tobacco One or More Times	11%	35%	18.73	***
Tried Alcohol One or More Times	15%	48%	28.27	**
Tried Marijuana One or More Times	2%	10%	5.11	***
One or More Friends Smoke Cigarettes	36%	88%	68.74	***
One or More Friends Drink	13%	49%	35.78	***
One or More Friends Use Marijuana	2%	20%	16.64	***
I Think Cigarettes Are Bad	94%	51%	55.75	***
I Think Alcohol is Bad	94%	60%	38.39	***
I Think Marijuana is Bad	99%	94%	4.05	*
I Know High School Kids Who Smoke Marijuana	17%	37%	11.55	***
I Know Middle School Kids Who Smoke Marijuana	10%	25%	9.24	**
I Know Kids My Own Age Who Smoke Marijuana	6%	23%	13.36	***
Sex (% male)	50%	51%	0.02	n.s.
Race (% non-white)	13%	13%	0.00	n.s.
Live With both Mom and Dad (% yes)	70%	60%	2.26	n.s.
Percent With Older Brothers and Sisters	50%	57%	1.01	n.s.

<sup>+</sup> T-value based on heterogeneity of variance formula.

\* p &lt; 0.05    \*\* p &lt; 0.01    \*\*\* p &lt; 0.001

Similarly, the top 25 percent of the students on the Positive Attitude Toward Drug scale were removed and labelled as having "high" or "pro" drug attitudes. These 127 students all scored in the top quartile on the scale in relation to their peers.

Table 5 shows a comparison of these two groups of students according to a number of characteristics. The top portion of the table shows the mean scores for the two quartiles across 10 variables with a test of the statistical significance of differences between means. The bottom half of the table shows a total of 17 variables with a chi-test of independence between sample proportions.

### Scale Differences Between Quartiles

The results of Table 5 suggest that the scales and measurements developed for the study do in fact discriminate between known populations -- in this case those that are known to have "low" positive drug attitudes and those that have "high" positive drug attitudes. Moreover, all of the scale differences are strong and in the predicted direction.

According to Table 5, sixth graders with high or "pro" drug attitudes also are significantly: (1) lower on general resistance to peer pressure; (2) lower peer pressure resistance to use drugs; (3) more positive toward cigarette smoking and less negative about the bad consequences of smoking; (4) more positive toward the use of alcohol and less negative about the bad effects of alcohol; (5) more positive toward marijuana use and less negative about harmful effects; and (6) more negative toward the police. Students in the top 25 percent of the drug attitude scale were also (7) significantly more likely to have tried cigarettes, smokeless tobacco, alcohol and marijuana; (8) more likely to have friends who smoked cigarettes, used alcohol or smoked marijuana; (9) less likely to rate cigarette, alcohol or marijuana use as bad; and (10) were more likely to report knowing either high school, middle school or same-age youth who smoked marijuana.

Table 5 also shows four important ways in which the two group *did not* differ. Males were no more or less likely to be in the high drug attitude group than females. Second, no difference was found in the percentage of whites or non-whites in either group. Third, no statistically significant difference was found according to the percent of students in either group that lives with both parents. Finally, youth with older

siblings were as likely to be in the low group as the high group.

## The Longitudinal Study

In the Fall and Spring semesters of the 1987-88 school year, a total of 451 fifth grade students from County A and County B were designated as member of last year's experimental group. Each student was administered a short questionnaire the week before the DARE curriculum began (the pretest). The same questionnaire was administered to each student following the completion of the DARE program (the posttest). A second group of 266 students (the control group) were also tested at both time periods. Differences in the attitudes of DARE students between the two time periods as well as in contrast to the control group have been previously reported.<sup>4</sup>

The first major component of the 1988-89 evaluation called for a second-year follow-up of these students in order to assess attitude changes since receiving the DARE program. As previously mentioned, this assignment was complicated by the movement of most students from an elementary to a middle school and the fact that experimental subjects were now mixed with other students who, while DARE graduates, were not part of the 1987-88 experimental group.

Follow-up questionnaires were administered to students by the principal investigators in May, 1989, either 12 or 17 months after completing the DARE program. Although the 1988-89 questionnaire followed a different format with revised and expanded scales, it was possible to reconstruct three of the scales from the previous year from the data.<sup>5</sup> The results of this analysis are reported below.

<sup>4</sup>see John R. Faine and Edward Bohlander, *Drug Abuse Resistance Education: An Assessment of the 1987-88 Kentucky State Police DARE Program*, Kentucky State Police, Frankfort, Kentucky, July 1, 1988.

<sup>5</sup>While the 1988-89 instrument contained 29 of the exact questions posed the previous year, the two questionnaires differed in the response format used to record responses. The 1987-88 question used two categories: agree or disagree. In the 1988-89 instrument students were given 5 choices: strongly disagree, disagree, undecided, agree and strongly agree. In order to conform to the 1987-88 format, the two levels of agree and disagree were joined. Undecided responses, while a small minority, were distributed into the other two categories by a random number generator.

**Table 6. Percent Agreeing to Questions on the Peer Resistance Scale (Short Version) From Pre-DARE, Post-DARE and One-Year Follow-up, 1987-89 Longitudinal Study.**

	Peer Resistance (Percentage Agreeing)			(N)
	Pretest (T <sub>1</sub> )	Posttest (T <sub>2</sub> )	Follow-Up (T <sub>3</sub> )	
It's hard for me to say "no" to my friends.	46%	35%	34%	(308)
If you say "no" too often you won't have any friends.	51%	35%	26%	(308)
It's better to keep your feelings to yourself.	26%	18%	22%	(308)
I usually give in to my friends when they pressure me.	25%	17%	26%	(308)
When my friends are doing something wrong, it's hard for me to walk away.	37%	34%	45%	(308)
If my friends drank beer I probably would too.	7%	5%	16%	(308)
If I don't do what my friends want me to do, I'll be all alone.	25%	17%	15%	(308)
If your best friend offers you a drug, you have to take it.	2%	1%	5%	(308)

#### Peer Resistance: 1987-1989

Table 6 above shows the percent of students who agreed with each of the eight questions in the Peer Resistance Scale (short version). The pretest measure, T<sub>1</sub>, was recorded in 1987-88 just prior to the DARE program. The posttest percentage, T<sub>2</sub>, was recorded shortly after completion of the 15 or 16-week curriculum. The follow-up period (T<sub>3</sub>) was recorded during the May, 1989 testing approximately a year after the program.<sup>6</sup>

Percentage change in the responses before, after and during the follow-up show inconsistent patterns.

<sup>6</sup>Of the 327 students who were traced into the 1988-89 school year, 19 have been eliminated from this analysis because of incomplete or internally inconsistent responses.

Responses to questions #1, #2 and #7, all having to do with "saying 'no' to friends," declined as expected following the DARE program at the posttest. These attitude changes also stayed low in the one year period between the posttest and the follow-up. However, trends were also reversed after the posttest period for questions #3, #4, #5, and #6, thus eliminating the gains made in the period immediately after the program.

The overall effect of the changes recorded between the three time periods suggests that the DARE program did have immediate impact in improving peer resistance. However, whether this change is stable and significant a year after the program is unclear. The test of this change is presented in this section using the total scores computed from the eight question scale.

**Table 7. Percent Agreeing to Questions on the Positive Drug Attitude Scale (Short Version) From Pre-DARE, Post-DARE and One-Year Follow-up, 1987-89 Longitudinal Study.**

	Positive Drug Attitudes (Percentage Agreeing)			
	Pretest (T <sub>1</sub> )	Posttest (T <sub>2</sub> )	Follow-Up (T <sub>3</sub> )	(N)
Its okay to drink a little beer.	14%	13%	25%	(308)
There's nothing wrong with smoking cigarettes as long as you don't smoke too many.	22%	13%	18%	(308)
Kids who take drugs seem more grown up.	19%	18%	10%	(308)
Kids who smoke cigarettes regularly can quit anytime they want.	20%	15%	12%	(308)
It is okay for kids to drink alcohol as long as they quit before it becomes a habit.	13%	12%	13%	(308)
Teenagers who drink alcohol are more grown up.	7%	8%	5%	(308)
Kids who use drugs have more friends.	6%	4%	18%	(308)
If I smoked crack I would become addicted.	78%	80%	74%	(308)
LSD can make people so crazy they think they can fly.	91%	98%	92%	(308)
People who smoke marijuana might have deformed children.	94%	97%	89%	(308)

#### **Positive Drug Attitudes: 1987-1989**

Table 7 shows the percent of students who agreed to the 10 questions in the Positive Drug Attitude Scale (short version). Responses are presented separately for the pretest, posttest and follow-up periods which mark the before, after DARE and one year later periods. If the DARE curriculum was successful in establishing more negative (or less positive) drug attitudes, the percentages should decline during the posttest on the first seven questions. The last three questions are already negative statements, so the percent agreeing should *increase* during the posttest period.

With the exception of question #6, changes in student attitudes between the pre- and posttest period are consistently in the predicted direction. The sharpest drops were recorded for question #2 and #4 pertaining to cigarette smoking and question #9 on the harmful effects of hallucinogens.

Attitude change between the posttest period and the follow-up are less consistent. By the May, 1989 follow-up, the percentage of students saying *"Its okay to drink a little beer"* jumped from 13 to 25 percent. Similarly, the percentage of students agreeing with the statement *"Kids who use drugs have more friends"* climbed from 4 to 18 percent. Conversely, the percentage of students agreeing that marijuana might lead to birth defects dropped from 97 to 89 percent. All of these changes are in the opposite direction to the short-term results of the DARE curriculum.

These percentages are suggestive of potentially significant attitude change from one time period to the next. However, the actual test of significance is presented in a following table based on mean scale scores between time periods.



**Table 8. Percent Agreeing to Questions on the Positive Attitude Toward Police Scale (Short Version) From Pre-DARE, Post-DARE and One-Year Follow-up, 1987-89 Longitudinal Study.**

	Peer Resistance (Percentage Agreeing)			(N)
	Pretest (T <sub>1</sub> )	Posttest (T <sub>2</sub> )	Follow-Up (T <sub>3</sub> )	
I would like to be a policeman.	37%	44%	36%	(308)
Most policemen go out of their way to keep a kid out of trouble.	83%	87%	76%	(308)
Most policemen like to help kids.	95%	96%	92%	(308)
Most policemen are pretty nice guys.	89%	96%	90%	(308)
Most policemen are honest.	94%	95%	86%	(308)
I have a lot of respect for the police.	92%	94%	89%	(308)
Policemen make me nervous.	48%	28%	43%	(308)
Most policemen don't understand a kid's problems.	39%	28%	42%	(308)
Police have no right to tell kids what to do.	37%	33%	47%	(308)
Most policemen like to pick on kids.	8%	4%	16%	(308)
Most policemen like to act tough.	41%	33%	56%	(308)

#### **Attitudes Toward Police: 1987-1989**

The Positive Attitude Toward Police (short version) scale is based on the 11 questions shown in Table 8. The first six questions in the scale represent positive statements about the police. The last five questions are derogatory statements about the police. To the extent that the DARE program influences student attitudes toward the police, we would expect the percent of student agreeing to the first set of questions to go up from the pretest to the posttest. Conversely, we would expect the percent of agreement to decline among the five derogatory statements in the scale.

Attitude change from the pretest to the posttest is consistently in the predicted direction. Although students have very favorable attitudes toward the police even before the DARE program, attitudes became consistently more positive as a result of the program.

However, Table 8 suggests that these changes were short-lived. Attitude change from the posttest to the one-year follow-up offset whatever gain the program had produced. For example, "*Most policemen are honest*" dropped from 95 to 86 percent; "*Police have no right to tell a kid what to do*" increased from 33 to 47 percent; and "*Most policemen like to act tough*" increased from 33 to 56 percent.

Despite these reversals of student opinion, it should be noted that the vast majority of the students still have high esteem for the police. For instance, 90 percent of the students agreed that "*Most policemen are pretty nice guys*;" 86 percent thought they were basically honest; 89 percent reported that they had respect for the police.

## Results: Change in Peer Resistance

Table 9 on the following page shows the mean scores on the Peer Resistance scale from the pretest, posttest and follow-up measurement periods. Means are shown for all 308 DARE graduates and separately according to sex. The middle portion of the table shows the results of matched sample t-tests between the three time periods: pretest to posttest differences ( $T_1-T_2$ ), pretest to follow-up differences ( $T_1-T_3$ ), and posttest to follow-up differences ( $T_2-T_3$ ). The bottom of the table shows a visual plot of the change in average peer resistance over the three time periods according to sex.

The t-tests between scores at the time periods are intended to test the logical null hypothesis of no change between any two of the time periods. In order to support the positive impact of DARE, the alternate hypotheses would suggest that (a) peer resistance will increase from pretest to posttest ( $T_1-T_2$ ); (b) peer resistance will remain unchanged from the posttest to the follow-up ( $T_2-T_3$ ); and if there are lasting effects, (c) peer resistance scores will be significantly higher during the follow-up period in comparison with the pre-program scores ( $T_1-T_3$ ).

The tests of significance shown in Table 9 lend partial support to all three hypotheses. Peer resistance scores improved significantly from the pretest to the posttest among both boys and girls in the study. Males scored approximately 6.2 points higher on the scale after completing the DARE program. Females, who started with higher resistance scores, moved from an average of 73.5 before the program to 81.8 after a semester of DARE.

Change in peer resistance between the pretest and follow-up time periods was weakened by the declining scores observed for males and females. According to Table 9, the youth did remain significantly high in peer resistance after one year though the results were not statistically significant when the sample was broken down according to sex. However, comparison of mean scores between the posttest and the follow-up ( $T_2-T_3$ )

suggest a decline in performance after the one year time period. As a whole, scores declined from 79.9 to 76.2 over the period. According to Table 9, this decrease in average scores was statistically significant. Girls in the study declined more sharply than boys, going from a mean score of 81.8 to 76.7 over the period. The decrease observed for males was not significant.

## Results: Change in Positive Drug Attitudes

Changes in scores on the Positive Attitude Toward Drugs (short version) scale are examined in Table 10. In order to support the effect of DARE in decreasing positive attitudes toward drugs, we would hypothesize that (a) scores on the positive drug attitude scale would decrease from the before- to after-DARE periods ( $T_1-T_2$ ); (b) attitudes would remain significantly lower one year later ( $T_1-T_3$ ); and (c) the means attitude scores would remain unchanged from the posttest to the follow-up testings ( $T_2-T_3$ ).

Table 10 shows that the DARE program did produce immediate drug attitude change among both boys and girls. Keeping in mind that drug attitudes started at very low levels (around 13 on a 0 to 100 scale), mean scores for boys decreased an average of 2.3 points while girls declined 3.7 points. These changes, while small in magnitude, were statistically significant.

**Appendix A contains further  
breakdowns of the attitude  
change measures  
according to COUNTY and  
SCHOOL**

See

**Table A.1 – peer resistance  
Table A.2 – drug attitudes  
Table A.3 – police attitudes**

Change a year after the DARE program reversed and erased whatever gains that were recorded earlier in the program. According to Table 10, change in attitude between the posttest and the follow-up periods ( $T_2-T_3$ ) brought more positive drug attitudes among both boys and girls. Boys went from a posttest mean of 11.3 to 15.2. Girls increased from a mean of 9.6 to 14.2. Both of these changes were statistically significant. Changes between the pretest and the follow-up ( $T_1-T_3$ ), an index of the lasting attitude changes produced by the program, were not significant. In other words, one year after the program attitudes returned to a point where they were no more or less positive toward drugs than before the program.

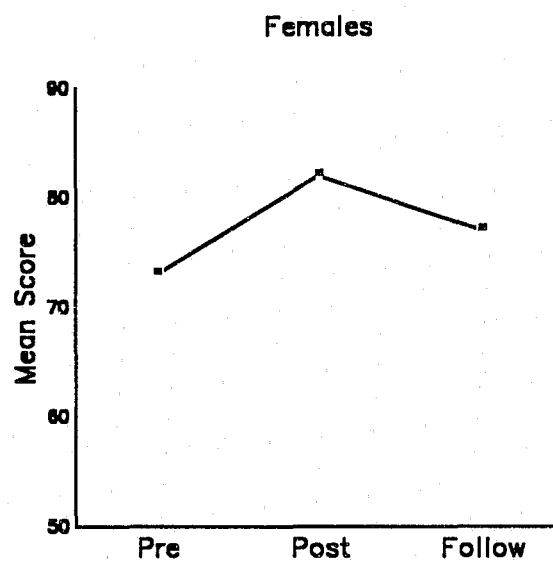
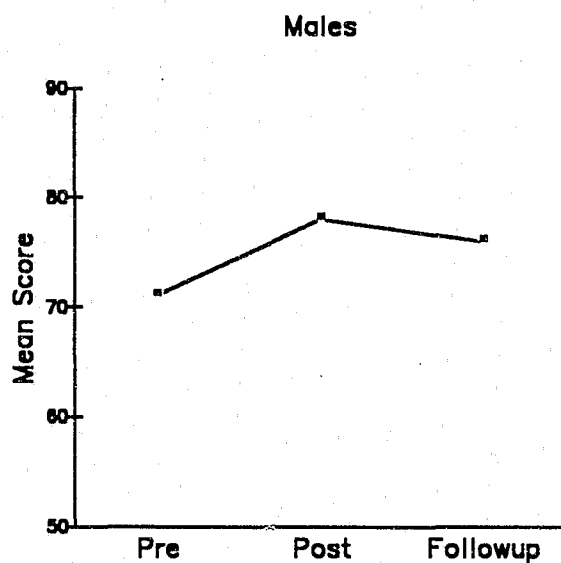
**Table 9. Test of Significance of Differences Between Mean Peer Resistance Scores (Short Version) From Pre-DARE, Post-DARE and One-Year Follow-up, 1987-89 Longitudinal Study.<sup>1</sup>**

	Peer Resistance (Mean Scores)			(N)
	Pretest (T <sub>1</sub> )	Posttest (T <sub>2</sub> )	Follow-Up (T <sub>3</sub> )	
Males	71.5	77.9	75.8	(157)
Females	73.5	81.8	76.7	(151)
Total	72.5	79.9	76.2	(308)

	T-Test of Significance Between Means		
	T <sub>1</sub> - T <sub>2</sub>	T <sub>1</sub> - T <sub>3</sub>	T <sub>2</sub> - T <sub>3</sub>
Males	-3.92***	-1.89	1.01
Females	-5.20***	-1.77	2.79**
Total	-6.45***	-2.58**	2.61**

<sup>1</sup>Scores based on 8-item Peer Resistance Scale (Short Version).



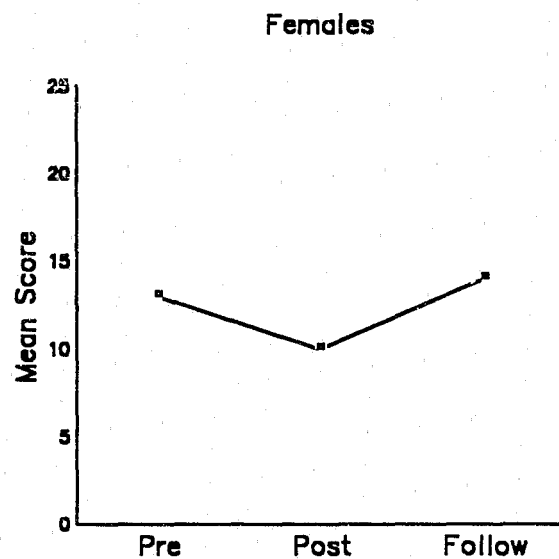
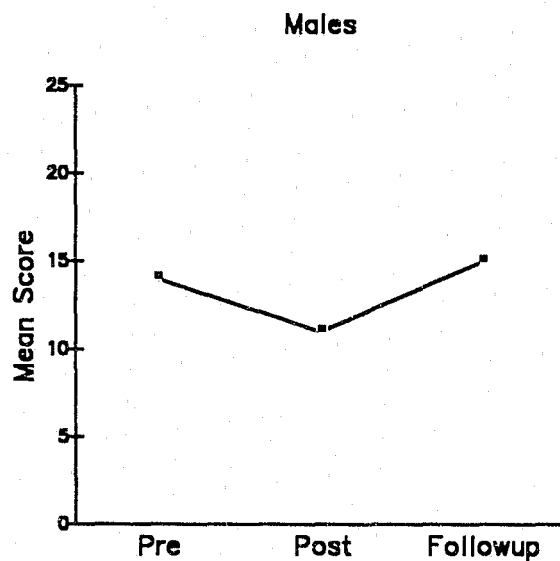
**Table 10. Test of Significance of Differences Between Mean Positive Attitude Toward Drugs Scores (Short Version) From Pre-DARE, Post-DARE and One-Year Follow-up, 1987-89 Longitudinal Study.<sup>1</sup>**

	Positive Attitude Toward Drugs (Mean Scores)			(N)
	Pretest (T <sub>1</sub> )	Posttest (T <sub>2</sub> )	Follow-Up (T <sub>3</sub> )	
Males	13.6	11.3	15.2	(157)
Females	13.3	9.6	14.2	(151)
Total	13.5	10.5	14.7	(308)

	T-Test of Significance Between Means		
	T <sub>1</sub> - T <sub>2</sub>	T <sub>1</sub> - T <sub>3</sub>	T <sub>2</sub> - T <sub>3</sub>
Males	2.10*	-.99	-2.58**
Females	3.15**	-0.6	-3.72**
Total	3.75***	-1.7	-4.39***

<sup>1</sup>Scores based on 10-item Positive Attitude Toward Drugs Scale (Short Version).



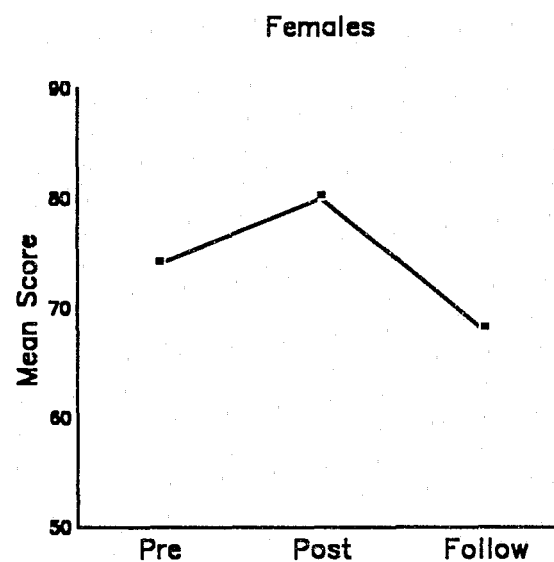
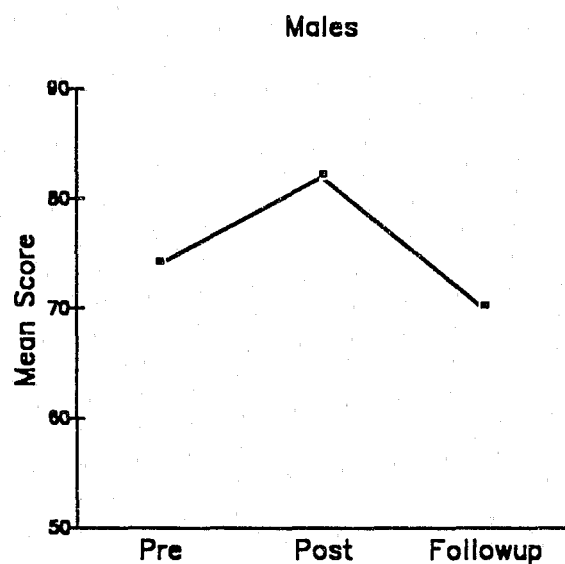
**Table 11. Test of Significance of Differences Between Mean Positive Attitude Toward Police Scores (Short Version) From Pre-DARE, Post-DARE and One-Year Follow-up, 1987-89 Longitudinal Study.<sup>1</sup>**

	Positive Attitude Toward Police (Mean Scores)			(N)
	Pretest (T <sub>1</sub> )	Posttest (T <sub>2</sub> )	Follow-Up (T <sub>3</sub> )	
Males	73.8	81.8	69.5	(157)
Females	74.5	80.3	68.5	(151)
Total	74.2	81.0	69.1	(308)

	T-Test of Significance Between Means		
	T <sub>1</sub> - T <sub>2</sub>	T <sub>1</sub> - T <sub>3</sub>	T <sub>2</sub> - T <sub>3</sub>
Males	-6.07***	1.99*	6.04***
Females	-4.52***	3.61***	6.85***
Total	-7.48***	3.88***	9.09***

<sup>1</sup>Scores based on 11-item Positive Attitude Toward Police Scale (Short Version).



## Results: Change in Attitude Toward Police

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Table 11 compares the mean scores on the Positive Attitude Toward Police (short version) scale from before, after and one-year following the DARE program. If, as a latent consequence of DARE, youth become more positive toward agencies of social control such as the police, we can hypothesize that (a) positive attitudes toward the police will increase after the semester of DARE instruction; (b) the increase in positive attitude will remain unchanged from the pretest to the follow-up ( $T_1$ - $T_3$ ); and (c) change in positive attitude toward the police will not decline from the posttest to the follow-up periods ( $T_2$ - $T_3$ ).

Table 11 shows support for only the first of these hypotheses. Mean scores increased significantly following the DARE program among both males and females ( $T_1$ - $T_2$ ). However, as dramatized by the plot of mean scores between the time periods, positive police attitudes dropped off sharply during the follow-up period. Not only were the declines significant between the posttest and the follow-up for both sexes ( $T_2$ - $T_3$ ), but the end result showed both male and female students significantly lower than they were even before the DARE program ( $T_1$ - $T_3$ ).

## Limitations of the Longitudinal Study

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The major limitation of the time series design used in this analysis is that it fails to adequately control for the effects of maturation. That is, it would be reasonable to assume that adolescence, particularly from the age of 11 on, is a period of dramatic change in a youth's perception of self and others as well as a period of youthful experimentation in adulthood. Changes in self-attitudes, values and behavior may change dramatically at this age in comparison with other age cohorts.

The movement of the youth in the study from the 5th grade to the 6th grade was more than simply a grade change. For the majority of the youth, the transition meant leaving a relatively small and homogeneous elementary school to enter either a city or county middle school with around 1000 students. For many this meant a first exposure to the diversities of attitudes and backgrounds found in a more heterogeneous school. It also meant entering a freshman status under the tutelage of older, more experienced classmates.

In order to control for such maturational effects it is necessary to have a matched set of control subjects tested during each time period. Unfortunately, the success of the DARE program in County A and County B made this impossible since all of the fifth grade students in both counties received the DARE program during the fifth grade school year.

## The Follow-up Study

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A second study was undertaken in an attempt to compare the 1987-88 DARE graduates with comparable youth from elsewhere who had not received the program. This second study was entitled the Follow-up Study since it entailed using the 1988-89 follow-up data on the DARE students one year after the program. A posttest only static group comparison design was developed by using non-DARE control group students from two surrounding counties.

The sample of DARE students was drawn from the May, 1989 testing of students in County A and County B. As previously shown in Figure 8, a total of 1008 DARE graduates were tested. Of these, 327 were members of the experimental group in the 1987-88 study. An additional 194 had been tested as the 1987-88 control group though all had since had the DARE program. An additional 437 students in the four school systems had also received DARE, though none had been previously tested.

The control group in the Follow-up study was composed of 437 students drawn from 10 schools. Four schools were tested in County D, a predominantly rural county adjoining County B. Six schools were selected from the County C school system near a large SMSA. Each was selected in order to match the characteristics of DARE pupils according to the variable type of school.

Students from County A were matched with the rural DARE students in County D. Working in conjunction with a representative of the County C school system, three schools were selected to match the inner-city schools drawn from County B city schools. Each was located in the main city in the county with a very high percentage of students receiving lunch subsidy support.

**Table 12. Percent of DARE and Non-DARE Students Agreeing With General Peer Resistance Scale Items, 1988-89 Follow-up Study.**

<b>General Peer Resistance Scale</b>	<b>Percent Agreeing</b>	
	<b>DARE Students</b>	<b>Non-DARE Students</b>
When my friends are doing something wrong it is hard for me to walk away.	42%	44%
If you say "no" too often you won't have any friends.	20%	18%
Sometimes I do what my friends do even though I know it isn't right.	47%	50%
Sometimes I do things because my friends do, even though I later regret it.	51%	52%
I am afraid if I say "No" to drugs my friends won't like me.	16%	18%
I usually give in to my friends when they pressure me.	23%	25%
If my friends drank beer, I probably would too.	15%	13%
It is hard for me to say "No" to my friends.	38%	37%
If I don't do what my friends want me to do I will be all alone.	13%	16%
If someone you like wants you to do something you think is wrong, there is no way you can say "No" and still be friends.	18%	15%

The remaining three County C schools were selected to match the suburban DARE schools previously tested from the County B school system. Each was located outside the main city in County C and attended by suburban and rural students in the county. All of the schools also had very low percentages of the student body eligible for the subsidized lunch program. Matching control group schools for the parochial school system in County B could not be found.

#### **Percentage Differences Between DARE and Non-DARE Students**

Tables 12 through 21 show the percent of DARE and non-DARE students agreeing with each of the individual questions that compose the 10 attitude scales developed for the study. For DARE students, the figures are based on approximately a 1000 students. The non-DARE figures represent the attitudes of approximately 425 students from the two control group

counties.<sup>7</sup> It should also be remembered that the DARE testing represents the results obtained 12 or 17 months after the program. All of the figures shown represent the attitudes of students near the end of 6th grade (May, 1989).

No attempt will be made to interpret each of these percentage tables. Instead, an interpretation of the results is addressed in the following section by examining the overall scale mean differences according to group (DARE versus non-DARE), type of school and sex. Tests of significance have also not been included in Tables 12 through 21 because of the large samples used and the dependence of tests of statistical significance on sample size.

<sup>7</sup>The actual sample size used in the percentage calculations varies slightly due to missing values. Of the 1445 students in both groups, 51 questionnaires were discarded as either insufficiently complete or internally inconsistent.

**Table 13. Percent of DARE and Non-DARE Students Agreeing With Drug/Alcohol Peer Resistance Scale Items, 1988-89 Follow-up Study.**

Drug/Alcohol Peer Resistance	Percent Agreeing	
	DARE Students	Non-DARE Students
If you attend a party where everyone else is drinking alcohol, you can have a good time <u>without</u> joining in.	72%	76%
If my friends smoke I should too.	9%	7%
I should walk away from those who try to make me use drugs.	79%	83%
I should drink if my friends do even if I don't want to.	7%	7%
If my friends were going to a party to drink beer I would go with them.	13%	11%
If someone pressures me to use drugs I should say "No thanks" and walk away.	88%	91%
Kids who use drugs have more friends than those who don't.	11%	10%
The best way to say "No" to drugs is to stay away from them.	85%	86%
If my friends drank beer, I probably would too.	15%	13%
A true friend would never ask you to eat or drink something that wasn't really safe.	86%	86%
Real friends don't push kids into trying drugs or alcohol.	84%	84%
If your best friend offers you a drug, you have to take it.	4%	4%
If drugs are pushed on me I can say "No thanks, they make me throw up."	66%	67%

Nonetheless, casual perusal of the tables shows a striking degree of similarity between the DARE and non-DARE sixth graders. In Tables 12 and 13, for example, both groups show remarkably similar responses on the 25 questions in the General Peer and Drug/Alcohol Peer Resistance scales. At no time does the percentage difference exceed 4 percent with even smaller differences the norm. Table 14, which shows the 25 questions in the Positive Attitude Toward Drugs scale, also shows a very flat pattern of between group differences with one striking difference -- DARE students were much more likely to recognize the negative effects of LSD, apparently as a result of the curriculum.

The pattern of weak and non-existent differences between the groups also carries over to Table 15 on the next page. Attitudes of DARE and non-DARE students toward the police are strongly similar with only a few observable differences. However, most of these small differences are not in the predicted direction.

Tables 16 through 21 contrast the attitudes of the two groups toward cigarettes, alcohol and marijuana. Very few students in either group see positive benefits to smoking. Even more negative attitudes are shown in general for alcohol and marijuana use. Moreover, between group differences tend to be small and often in the opposite direction expected to support the benefits of the DARE program.



**Table 14. Percent of DARE and Non-DARE Students Agreeing With Positive Attitude Toward Drugs Scale Items, 1988-89 Follow-up Study.**

<b>Positive Attitude Toward Drugs</b>	<b>Percent Agreeing</b>	
	<b>DARE Students</b>	<b>Non-DARE Students</b>
It is okay to drink a little beer.	22%	19%
There is nothing wrong with smoking cigarettes as long as you don't smoke too many.	15%	12%
Kids who take drugs seem more grown up.	9%	10%
Kids who smoke cigarettes regularly can quit anytime they want.	10%	11%
It is okay for kids to drink alcohol as long as they quit before it becomes a habit.	11%	12%
Teenagers who drink alcohol are more grown up.	5%	7%
If I smoked crack I would become addicted.	62%	65%
LSD can make people so crazy they think they can fly.	80%	65%
People who smoke marijuana might have deformed children.	80%	78%
It is perfectly safe to take medicine that a doctor has given to someone else.	10%	12%
Drugs bought on the street are not safe to use.	87%	88%
It is okay for kids to try marijuana, just to satisfy their curiosity.	6%	6%
It is okay to sell drugs if you don't use them.	4%	5%
Alcohol is a reward for hard work.	5%	5%
Marijuana is okay as long as it is smoked with friends.	2%	2%
Drugs change the way people act.	90%	92%
Drugs make you look cool in front of your friends.	11%	10%
Using drugs will cause you to dislike yourself because they are wrong.	63%	63%
Kids who drink alcohol are more grown up than those who don't.	6%	6%
If you are under stress, drinking alcohol or taking drugs won't really help.	79%	78%
Using street drugs is wrong, no matter how little you use them.	88%	89%
I can use drugs without anyone knowing it.	10%	8%
Any kid who says that drinking alcohol isn't fun is really out of it.	18%	18%
Taking drugs can help you have more fun when you're bored.	5%	4%
Sometimes the only way to keep from feeling sad is to get "high."	6%	4%

**Table 15. Percent of DARE and Non-DARE Students Agreeing With Positive Attitude Toward Police Scale Items, 1988-89 Follow-up Study.**

Positive Attitude Toward the Police	Percent Agreeing	
	DARE Students	Non-DARE Students
I have a lot of respect for the police.	83%	81%
Most police officers are honest.	78%	76%
Most police officers like to act tough.	48%	48%
Most police officers are pretty nice guys.	82%	81%
Most police officers like to help kids.	85%	85%
Most police officers like to pick on kids.	11%	12%
Police officers have a right to tell kids what to do.	46%	47%
Most police officers <u>don't</u> understand a kid's problems.	32%	29%
Most police officers go out of their way to keep a kid out of trouble.	66%	68%
Police officers make me nervous.	38%	43%
I have <u>never</u> met a nice police officer.	11%	11%
Police really care about kids my age.	63%	64%
Police officers like to scare kids.	11%	13%
I feel if I had a problem I could talk to a police officer about it.	47%	53%
Police officers like to push people around.	15%	11%
We can learn from police officers.	77%	79%
Police officers are there to help us.	87%	87%
If I got into trouble the police would listen to my side of the story.	60%	59%
Police officers like to hassle kids for no reason at all.	10%	10%
If you give a police officer a chance, he will be your friend.	77%	76%
Police officers do good things in my community.	70%	79%
Police officers try to help kids who use drugs.	74%	78%
Police officers would rather catch you doing something wrong than try to help you.	17%	17%
You only see the police when there is trouble.	23%	22%
Kids should listen to what police officers have to say.	81%	83%

**Table 16. Percent of DARE and Non-DARE Students Answering "Does Not Help At All" to Positive Cigarette Perception Scale Items, 1988-89 Follow-up Study.**

Positive Cigarette Perception	Does Not Help At All	
	DARE Students	Non-DARE Students
<u>How much does smoking cigarettes help a person to . . .</u>		
stop feeling bored or lonely?	78%	81%
have fun with friends?	71%	74%
feel good?	74%	78%
experience new things?	62%	64%
get away from problems?	79%	86%
face a difficult situation?	80%	77%
do things better or be more creative?	87%	89%
become popular or one of the crowd?	63%	66%

**Table 17. Percent of DARE and Non-DARE Students Agreeing With Negative Cigarette Attitudes Scale Items, 1988-89 Follow-up Study.**

Negative Cigarette Attitudes	Percent Agreeing	
	DARE Students	Non-DARE Students
<u>Smoking cigarettes . . .</u>		
makes a person lose their friends.	47%	48%
makes a person feel bad.	42%	55%
is bad for a person's health.	94%	95%
makes a person do poorly in school.	61%	60%
gets a person in trouble with the law.	40%	46%

**Table 18. Percent of DARE and Non-DARE Students Answering "Does Not Help At All" to Positive Alcohol Perception Scale Items, 1988-89 Follow-up Study.**

Positive Alcohol Perception	Does Not Help At All	
	DARE Students	Non-DARE Students
<u>How much does drinking alcohol (beer, wine, liquor) help a person to . . .</u>		
stop feeling bored or lonely?	76%	80%
have fun with friends?	67%	70%
feel good?	74%	75%
experience new things?	65%	63%
get away from problems?	79%	85%
face a difficult situation?	80%	79%
do things better or be more creative?	87%	90%
become popular or one of the crowd?	64%	64%

**Table 19. Percent of DARE and Non-DARE Students Agreeing with Negative Alcohol Attitudes Scale Items, 1988-89 Follow-up Study.**

Negative Alcohol Attitudes	Percent Agreeing	
	DARE Students	Non-DARE Students
<u>Drinking alcohol . . .</u>		
makes a person lose their friends.	50%	54%
makes a person feel bad.	59%	61%
is bad for a person's health.	89%	92%
makes a person do poorly in school.	74%	72%
gets a person in trouble with the law.	75%	82%

**Table 20. Percent of DARE and Non-DARE Students Answering "Does Not Help At All" to Positive Marijuana Perception Scale Items, 1988-89 Follow-up Study.**

Positive Marijuana Perception	Does Not Help At All	
	DARE Students	Non-DARE Students
<u>How much does smoking marijuana (grass, pot, hash) help a person to . . .</u>		
stop feeling bored or lonely?	82%	86%
have fun with friends?	76%	76%
feel good?	79%	79%
experience new things?	73%	70%
get away from problems?	84%	90%
face a difficult situation?	82%	85%
do things better or be more creative?	89%	93%
become popular or one of the crowd?	70%	71%

**Table 21. Percent of DARE and Non-DARE Students Agreeing With Negative Marijuana Attitudes Scale Items, 1988-89 Follow-up Study.**

Negative Marijuana Attitudes	Percent Agreeing	
	DARE Students	Non-DARE Students
<u>Smoking marijuana . . .</u>		
makes a person lose their friends.	58%	61%
makes a person feel bad.	66%	67%
is bad for a person's health.	92%	93%
makes a person do poorly in school.	81%	80%
gets a person in trouble with the law.	85%	87%

## The Follow-up Study: Statistical Analysis

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Comparison of scale scores between *DARE* and *non-DARE* students was approached using analysis of variance techniques (ANOVA). This procedure was selected for two reasons. First, it provided a test of the statistical significance of between group differences in mean scores across the 10 scales. Secondly, it was suitable for the inclusion of other variables or treatment effects that might influence student attitudes.

A modified version of the variable indicating *type of school* was included as the second variable in the design. Although the following tables show mean scores for *DARE* graduates from parochial schools, type of school was treated trichotomously as (a) rural, (b) inner-city and (c) suburban. Parochial students were eliminated from the analysis of variance since a comparable control group population could not be identified.

Sex, male or female, was selected as the third variable in the analysis design. It was selected because, first, it is anticipated that the drug related attitudes on some of the scales probably differed between boys and girls in the study. Second, it was possible that sex might significantly "interact" with the other two variables such that either (a) one sex group might benefit differentially from the *DARE* instruction, or (b) the influence of the *DARE* program may effect boys and girls differently depending on the type of school attended.

The inclusion of three treatment effects in the analysis -- *DARE* versus non-*DARE*, type of school and sex -- required a 2 X 3 X 2 analysis of variable design. This statistical technique allowed the researchers to assess the statistical significance of each "main effect" in the design. In terms of the variables used, this was equivalent to testing the following null hypotheses: (1) there are no differences in mean scores between *DARE* and non-*DARE* students; (2) there are no differences in mean scale scores according to type of school attended; and (3) there are no differences in mean scale scores between boys and girls.

Analysis of variance also allowed the combined or "interaction" effects to be studied. Since three variables are in the design, a total of four interactions are possible. Stated as null hypotheses, this meant that there are no significant differences in mean scale scores according to: (4) *DARE* versus non-*DARE* in combination with type of school; (5) *DARE* versus non-*DARE* in combination with sex; (6) type of school in

combination with sex; and (7) all three variables combined: *DARE* versus non-*DARE*, type of school and sex.

Contrary to what might seem common sense, researchers ordinarily hope that main effects are significant but that interaction effects are *not*. This reasoning follows from the interpretational complexities that are inevitable when interaction effects are significant. Significant main effect results indicate that the treatment variable did make a difference *all by itself*. Since this analysis uses three treatment variables, significant main effects could show *DARE*, type of school, sex or even all three to be related to test scores.

Significant interaction effects cloud the interpretation and cause every statement to be qualified. For example, a significant *DARE* versus non-*DARE* by sex interaction might mean that *DARE* makes a difference *but* not equally for boys and girls. Therefore, in order to say that *DARE* succeeds, one first has to specify the sex of the recipient. This form of complexity is at its worst in three way interaction where statements about test results about *DARE* must be qualified simultaneously by sex and by type of school.

## Sampling Down the Samples

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The total follow-up sample of nearly 1000 *DARE* and 425 non-*DARE* students was further sampled to better meet the requirements of analysis of variance. First, a sample of 1400 or more students has a tendency to make all effects, including interaction effects, easily significant simply because the accuracy of a sample estimate is heavily determined by sample size. Too large a sample causes "trivial" or "inconsequential" differences in mean scores to be "statistically significant." Secondly, with a 2 X 3 X 2 ANOVA with many more students in the experimental group, estimates of the variance of scores within each cell of the table would vary in accuracy. Again, this is a result of the increasing accuracy caused by a large sample.

The method used to correct for both problems was to "sample the samples." Of the 12 combinations created by the treatment group (*DARE* versus non-*DARE*), sex and type of school, a sample of 50 students was selected to represent each combination. The result was a smaller sample (600 students) spread equally among all the treatment combinations.

**Table 22. Analysis of Variance Results of General Peer Resistance By Type of School, Sex and DARE/Non-DARE, 1988-89 Follow-up Study.**

	General Peer Resistance <sup>1</sup> (Mean Scores)				Total
	Rural	Inner-City	Suburban	Parochial	
NON-DARE STUDENTS					
Males	61.6	59.3	60.9	--	60.6
Females	57.9	65.2	65.1	--	62.7
DARE STUDENTS					
Males	64.9	64.4	57.2	57.0	60.9
Females	71.0	58.4	60.0	66.1	64.2

<sup>1</sup>Scores based on 10 item General Peer Resistance Scale.<sup>2</sup>Analysis of Variance based on 2 X 3 X 2 design with parochial schools eliminated.

\* p &lt; .05

\*\* p &lt; .01

\*\*\* p &lt; .001

## Statistical Analysis

Tables 21 thru 31 show the results of the 2 X 3 X 2 analysis of variance for each of the ten scales used in the 1988-89 follow-up study. The following discussion is intended to help the non-statistical reader interpret the various statistics presented.

Each table starts off with the mean or average scores on the respective scale. These mean scores are shown separately for DARE and non-DARE students, by sex and by type of school attended. For DARE graduates, type of school is based on that at the time of the DARE program the previous year.

Comparison of these mean scores is insightful in understanding the effect of DARE in altering the average scores of groups. Based on the hypotheses previously stated, in general, we anticipate that scores will be more *favorable* (either positive or negative depending on the particular scale) among DARE graduates. Females should have more "favorable" scores than males. Differences according to type of school are more difficult to predict, though in general we would expect inner-city students to have the "least favorable" scores because of their greater exposure to alcohol and drug abuse.

However, differences in mean scores may be misleading. Since the 600 youth in the analysis represent a sample of all possible such youth, the differences may be due to "sampling error" -- error in the estimation of the "true" score of each group that is inevitable whenever samples are used to represent entire populations.

The analysis of variance (ANOVA) statistics presented in the bottom half of the table are intended to protect us from such false findings based on sampling error. Essentially the procedure involves "decomposing" the variability of individual scores into various components. In this design, a total of seven sources of variability are tested: DARE versus non-DARE, sex, type of school, and the four combinations of these variables as previously discussed.

The ANOVA tables presented accomplish this "decomposition" of the variability in individual scores. Close examination will show that the first row lists each of the seven individual and combined effects in two groups: main effects and interaction effects. The second column labelled "SS" stands for sum of

squares; "df" means degrees of freedom; "MS" indicates mean square (SS/df); "F" indicates F-ratio, the ratio of the MS for the effect over the MS for the unexplained variance. For the casual reader, these first four columns should be treated as documentary only.

The column that is of primary importance is the last one labelled "(p)." This column indicates the probability of the result happening by chance due to sampling error. We, of course, hope that each of the DARE versus non-DARE tests are significant or unlikely to be due to simply sampling error. Such significant results are shown by one or more asterisks (\*, \*\*, \*\*\*) which show that the mean differences are *unlikely* to be the result of sampling error. Given the exploratory nature of this research, this probability level has been set at .05. Any result that is *more* likely to occur by chance than this figure is marked with a "n.s." for not significant.

As discussed in the previous section, statistically significant interaction effects will complicate the interpretation of the results.

## Results: General Peer Resistance

Table 22 shows the mean scores and statistical tests of differences in scores for the General Peer Resistance scale. The reader is reminded that although mean scores are shown for parochial students in the DARE group, these students were excluded from the ANOVA tests since they lacked a control group.

The results in Table 22 do not support the hypotheses that DARE, sex, or type of school cause differences in general peer resistance *acting alone*. This conclusion is based on the insignificant results shown for the main effects for each of the three variables.

However, Table 22 indicates that peer resistance does vary when all three variables are considered simultaneously. The two significant interaction effects, particularly the three way interaction effect, shows that peer resistance varies though not in a simple pattern. In fact, peer resistance is best understood when placement on all three variables -- DARE versus non-DARE, sex, and type of school -- are known. Stated differently, peer resistance scores jump around with significant differences overall among the 12 groups in the table.



**Table 23. Analysis of Variance Results of Drug/Alcohol Peer Resistance By Type of School, Sex and DARE/Non-DARE, 1988-89 Follow-up Study.**

	Drug/Alcohol Peer Resistance <sup>1</sup> (Mean Scores)				
	Rural	Inner-City	Suburban	Parochial	Total
<b>NON-DARE STUDENTS</b>					
Males	87.0	87.2	89.4	--	87.8
Females	82.1	77.8	89.9	--	83.5
<b>DARE STUDENTS</b>					
Males	88.2	82.1	83.0	86.7	85.1
Females	83.8	79.7	78.4	83.2	81.1
<b>ANALYSIS OF VARIANCE<sup>2</sup></b>					
	SS	df	MS	F	(p)
<b>Main Effect</b>					
Dare versus Non-Dare	1615.2	1	1615.2	7.8	**
Type of School	1141.7	2	570.8	2.8	n.s.
Sex	2451.3	1	2451.3	11.8	***
<b>Two-Way Interaction</b>					
Dare X Type of School	2632.2	2	1316.1	6.3	**
Dare X Sex	25.2	1	25.2	0.1	n.s.
Type of School X Sex	356.7	2	178.4	0.9	n.s.
<b>Three-Way Interaction</b>					
Sex X Dare X Type of School	892.7	2	446.4	2.2	n.s.
Explained SS	9311.3	11	846.5		
Total SS	120116.7	590	219.4		

<sup>1</sup>Scores based on 13 item Drug/Alcohol Peer Resistance Scale.<sup>2</sup>Analysis of Variance based on 2 X 3 X 2 design with parochial schools eliminated.

\* p &lt; .05

\*\* p &lt; .01

\*\*\* p &lt; .001

Comparison of the means shows that the biggest difference in peer resistance was between DARE and non-DARE rural females (71.0 versus 57.9) with greater peer resistance shown by the DARE graduates. Rural DARE male students also showed greater peer resistance. However, other comparisons in the same table show the opposite effect of DARE. For example, the *lowest* mean peer resistance was found to be among suburban male DARE graduates.

At the least, Table 22 suggests that DARE did not have a uniform or consistent effect in increasing peer resistance. Moreover, sex and type of school *by themselves* appear to make no difference in mean peer resistance scores.

### **Results: Drug/Alcohol Peer Resistance**

Resistance to peer pressure to use drugs and alcohol is examined in Table 23. From the analysis of variance it can be seen that three of the tests revealed significant between group differences: DARE versus non-DARE, sex, and the combined effect of DARE/non-DARE and type of school. However, of the significant main effects, none were in the predicted direction.

DARE students, in general, had *lower* peer resistance on the scale than non-DARE students. This is the opposite direction than hypothesized. Similarly, males had consistently *higher* drug and alcohol peer resistance than females. Boys, at least in their attitudes, believe they are better able to resist peer pressure to use drugs.

The significant interaction of DARE and type of school is best understood by looking at the cell means in Table 23. The greatest differences in mean scores between different types of schools was among DARE graduates. As in the previous table, rural students (Rowan County) showed higher peer resistance scores than the other groups, particularly in comparison with other suburban and inner-city DARE graduates. Also, Table 23 shows that the suburban non-DARE students, averaging both sexes, were very high in drug and alcohol peer resistance in comparison with other groups.

### **Results: Positive Attitude Toward Drugs**

Table 24 (on the following page) shows the examination of mean scores on the Positive Attitude

Toward Drugs scale. No support is shown for long-term drug attitude differences between DARE and non-DARE students or according to type of school.

Drug attitudes did differ significantly according to sex as shown in the analysis of variance results. Looking at the cell means in the table, with only one exception, boys had a more positive orientation toward drugs and alcohol than girls. This difference was in the direction predicted. However, none of the other variable or combined effects through interaction were significant. Neither the treatment program or type of school had any influence on drug attitudes.

### **Appendix B contains further breakdowns of the attitudes in the Follow-up Study according to COUNTY and SCHOOL**

See

- Table B.1 – positive drug and police attitudes
- Table B.2 – general and drug/alcohol peer resistance
- Table B.3 – cigarette attitudes and perception
- Table B.4 – marijuana attitudes and perception
- Table B.5 – alcohol attitudes and perception
- Table B.6 – percent trying cigarettes and smokeless tobacco
- Table B.7 – percent alcohol use by self and friends
- Table B.8 – percent marijuana use by self and others
- Table B.9 – cigarette self and other views
- Table B.10 – alcohol self and other views
- Table B.11 – marijuana self and others views

### **Results: Positive Attitude Toward Police**

Attitudes toward the police, an expected positive influence following the DARE program, are examined in Table 25. However, no support was found for the thesis that DARE produced long-term gains in the attitudes of youth toward the police. Type of school also was found to not be related to police attitude.

**Table 24. Analysis of Variance Results of Positive Attitudes Toward Drugs By Type of School, Sex and DARE/Non-DARE, 1988-89 Follow-up Study.**

	Positive Attitude Toward Drugs <sup>1</sup> (Mean Scores)				Total
	Rural	Inner-City	Suburban	Parochial	
NON-DARE STUDENTS					
Males	14.1	18.1	11.6	--	14.5
Females	15.3	12.3	10.1	--	12.6
DARE STUDENTS					
Males	14.4	17.1	17.8	12.8	15.7
Females	11.1	15.2	11.4	11.4	12.2
ANALYSIS OF VARIANCE <sup>2</sup>					
	SS	df	MS	F	(p)
Main Effect					
Dare versus Non-Dare	144.1	1	144.1	0.9	n.s.
Type of School	637.3	2	318.6	2.0	n.s.
Sex	1264.2	1	1264.2	7.7	**
Two-Way Interaction					
Dare X Type of School	882.0	2	441.0	2.7	n.s.
Dare X Sex	171.2	1	171.2	1.0	n.s.
Type of School X Sex	222.6	2	111.3	0.7	n.s.
Three-Way Interaction					
Sex X Dare X Type of School	541.7	2	270.8	1.7	n.s.
Explained SS	3969.4	11	360.8		
Total SS	98554.2	590	167.0		

<sup>1</sup>Scores based on 25 item Positive Attitude Toward Drugs Scale.<sup>2</sup>Analysis of Variance based on 2 X 3 X 2 design with parochial schools eliminated.

\* p &lt; .05

\*\* p &lt; .01

\*\*\* p &lt; .001

**Table 25. Analysis of Variance Results of Positive Attitude Toward Police Scale By Type of School, Sex and DARE/Non-DARE, 1988-89 Follow-up Study.**

	Positive Attitudes Toward Police <sup>1</sup> (Mean Scores)				
	Rural	Inner-City	Suburban	Parochial	Total
<b>NON-DARE STUDENTS</b>					
Males	71.1	73.7	75.9	--	73.6
Females	78.8	77.6	79.5	--	78.6
<b>DARE STUDENTS</b>					
Males	78.6	70.0	70.3	75.2	73.4
Females	77.3	78.7	75.2	76.5	76.9
<b>ANALYSIS OF VARIANCE<sup>2</sup></b>					
	SS	df	MS	F	(p)
<b>Main Effect</b>					
Dare versus Non-Dare	139.7	1	139.7	0.4	n.s.
Type of School	306.5	2	153.3	0.4	n.s.
Sex	3282.2	1	3282.2	9.5	**
<b>Two-Way Interaction</b>					
Dare X Type of School	1242.1	2	621.0	1.8	n.s.
Dare X Sex	90.8	1	90.8	0.3	n.s.
Type of School X Sex	352.5	2	176.2	0.5	n.s.
<b>Three-Way Interaction</b>					
Sex X Dare X Type of School	1100.6	2	550.3	1.6	n.s.
Explained SS	6650.5	11	604.6		
Total SS	204763.5	587	348.8		

<sup>1</sup>Scores based on 25 item Positive Attitudes Toward Police Scale.<sup>2</sup>Analysis of Variance based on 2 X 3 X 2 design with parochial schools eliminated.

\* p &lt; .05

\*\* p &lt; .01

\*\*\* p &lt; .001

**Table 26. Analysis of Variance Results of Positive Cigarette Perception Scale By Type of School, Sex and DARE/Non-DARE, 1988-89 Follow-up Study.**

	Positive Cigarette Perception <sup>1</sup> (Mean Scores)				
	Rural	Inner-City	Suburban	Parochial	Total
<b>NON-DARE STUDENTS</b>					
Males	13.8	16.5	14.0	--	14.7
Females	13.3	9.8	12.3	--	11.8
<b>DARE STUDENTS</b>					
Males	20.2	16.2	21.5	17.5	18.9
Females	10.9	13.1	13.6	11.3	12.2
<b>ANALYSIS OF VARIANCE<sup>2</sup></b>					
	SS	df	MS	F	(p)
<b>Main Effect</b>					
Dare versus Non-Dare	1006.0	1	1006.0	2.8	n.s.
Type of School	238.8	2	119.4	0.3	n.s.
Sex	3456.8	1	3456.8	9.7	**
<b>Two-Way Interaction</b>					
Dare X Type of School	185.6	2	92.8	0.3	n.s.
Dare X Sex	624.0	1	624.0	1.7	n.s.
Type of School X Sex	1.0	2	0.5	0.0	n.s.
<b>Three-Way Interaction</b>					
Sex X Dare X Type of School	999.2	2	499.6	1.4	n.s.
Explained SS	6914.0	11	628.5		
Total SS	213956.2	590	362.6		

<sup>1</sup>Scores based on 8 item Positive Cigarette Perception Scale.<sup>2</sup>Analysis of Variance based on 2 X 3 X 2 design with parochial schools eliminated.

\* p&lt;.05

\*\* p&lt;.01

\*\*\* p&lt;.001

Table 25 does show, however, that sex did have a significant effect as shown in the analysis of variance. Perusal of the cell means in the table demonstrates that females were consistently more positive in their attitudes. This finding is in the predicted direction. None of the interaction effects were found to be significant in Table 25.

### **Results: Cigarette Attitudes and Perceptions**

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Two scales or indexes were used to probe the attitudes of youth toward cigarettes. The first scale, Positive Cigarette Perception, investigated the extent to which youth perceived cigarettes as a useful drug in dealing with high stress or difficult situations. The second scale, Negative Cigarette Attitudes, focused on negative behaviors and attitudes associated with cigarette smoking.

Tables 26 and 27 show the ANOVA results when both variables are analyzed for DARE/non-DARE, sex and type of school differences. Table 26 shows that positive cigarette attitudes varied only by sex. As predicted, boys see more positive gains to smoking than females. This conclusion is also shown by looking at the table means across the 12 groups with the exception of the rural control group youth from McClean County.

Table 26 does not, however, support the hypotheses that the treatment effect (DARE) or type of school influence positive cigarette perception. With the exception of the sex differences noted, none of the other main effects or interaction effects were significant.

Table 27 show comparable results when the Negative Cigarette Attitude scale is used. None of the main effects or interactions were found to be significant. Neither DARE versus non-DARE, sex, type of school or any combination of these variables significantly influenced cigarette attitudes.

### **Results: Alcohol Attitudes and Perceptions**

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The two scales on alcohol -- Positive Alcohol Perception and Negative Alcohol Attitudes -- are analyzed in Tables 28 and 29. Breakdowns of the scale means according to DARE/non-DARE, sex and type of school show rather discouraging results. No differences in alcohol attitudes on either scale were found between DARE and non-DARE students. Moreover, no differences in attitudes toward alcohol

were found across the three types of school (rural, suburban and inner-city).

Drinking attitudes, both positive and negative, did vary according to sex. As expected, males had a stronger *positive* perception of alcohol and weaker *negative* attitudes than females (see Tables 28 and 29). Beyond this difference, however, none of the other single or combined effects were significant.

### **Results: Marijuana Attitudes and Perceptions**

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Results similar to the preceding analyses are shown in Tables 30 and 31 for scales measuring the attitudes and perception of youth toward marijuana. Both tables fail to support the hypothesis that DARE had a significant long-term effect on the degree to which youth reject justifications for the use of marijuana or have negative attitudes toward marijuana. The null finding is also shown for differences according to type of school.

Sex continues to shape drug attitudes as shown in both tables. Males overall were more likely to identify situations in which they believed marijuana would have a positive use. As shown in Table 31, their attitudes toward marijuana were slightly less negative than for girls.

### **Summary: The Follow-up Study**

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Results of the Follow-up Study show very little support for the ability of DARE to produce long-term positive effects. As shown in Tables 22 thru 31,

- \* DARE was related to lower general peer resistance but only in combination with sex and type of school; peer resistance varied in a complex response to combinations of all three variables;
- \* DARE students had lower rather than higher peer resistance to drugs and alcohol;
- \* Attitude toward drugs was not related to DARE participation;
- \* Attitudes toward the police were no different than among non-DARE students;

**Table 27. Analysis of Variance Results of Negative Cigarette Attitudes Scale By Type of School, Sex and DARE/Non-DARE, 1988-89 Follow-up Study.**

	Negative Cigarette Attitudes <sup>1</sup> (Mean Scores)				
	Rural	Inner-City	Suburban	Parochial	Total
<b>NON-DARE STUDENTS</b>					
Males	65.2	61.5	70.1	--	65.8
Females	69.7	71.1	71.8	--	70.8
<b>DARE STUDENTS</b>					
Males	68.0	67.4	64.0	67.4	66.6
Females	72.0	61.2	67.8	65.9	66.8
<b>ANALYSIS OF VARIANCE<sup>2</sup></b>					
	SS	df	MS	F	(p)
<b>Main Effect</b>					
Dare versus Non-Dare	506.6	1	506.6	1.0	n.s.
Type of School	1016.5	2	508.2	1.0	n.s.
Sex	1088.7	1	1088.7	2.0	n.s.
<b>Two-Way Interaction</b>					
Dare X Type of School	1484.0	2	742.0	1.4	n.s.
Dare X Sex	785.7	1	785.7	1.5	n.s.
Type of School X Sex	210.5	2	105.3	0.2	n.s.
<b>Three-Way Interaction</b>					
Sex X Dare X Type of School	2014.8	2	1007.4	1.9	n.s.
Explained SS	7128.2	11	648.0		
Total SS	315293.6	590	534.4		

<sup>1</sup>Scores based on 5 item Negative Cigarette Attitudes Scale.<sup>2</sup>Analysis of Variance based on 2 X 3 X 2 design with parochial schools eliminated.

\* p &lt; .05

\*\* p &lt; .01

\*\*\* p &lt; .001

- \* Cigarette, alcohol and marijuana perceptions and attitudes were not affected by DARE participation.

Type of school -- rural, inner-city and suburban -- failed consistently to shape drug and alcohol attitudes or values. However, sex had a strong and consistent effect:

- \* Boys showed *more* resistance to peer pressure to use drugs than girls;
- \* The attitudes of boys toward drugs was more positive;
- \* Girls were more positive toward the police;
- \* Boys had a more positive perception of cigarette, alcohol and marijuana use as well as more positive attitudes toward alcohol and marijuana;
- \* No sex differences were found in general peer resistance.

#### **Limitations of The Follow-up Study**

The failure of the Follow-up Study to support the long-term effects of DARE is potentially a result of the methodological limitations of the study. The following five points address weaknesses in the study that were beyond the control of the researchers:

**Sample composition.** The match of schools for the control group may have been inadvertently flawed due to unknown differences among the schools. For example, County B's independent and county school systems, representing the inner-city and suburban DARE students, may be unlike schools in the County C system in a number of ways. The population of County B, for example, is more than twice that of County C. County B has a larger central city, and to the extent that drug attitudes become more negative with city size, pre-existing attitude differences may exist.

**The length of the follow-up period.** Since the majority of the DARE youth received the program in the Fall, 1987-88 semester, the length of the follow-up period may be too great to expect lasting results. In the absence of continued treatment, it may be unrealistic to expect program results to be demonstrable after more than a one-year period.

**The "negative" skewness of drug attitudes.** All of the ten scales used to test for results were heavily skewed. This skewness may have attenuated the variability of scores sufficiently to hide the statistical significance of between group differences. Moreover, the attitudes of youth were strongly against drugs and alcohol from the start. Mean scores were either very low or very high on each scale depending on the direction of the scale. Such extreme values lessen the likelihood of finding significant differences.

**Differences in size of schools.** All of the students in the control group were selected from schools with comparatively low enrollments compared to the majority of DARE students. For example, County A and County B students (all of the DARE students statistically tested) were tested in middle schools (grades 6-8), each with a student body of nearly 1000 students. However, County C and County D students were in small schools by comparison and each was classified as an elementary school, usually with a K-6 composition. To the extent that drug attitudes become more negative with the heterogeneity and anonymity of larger schools, program effects have been diminished by what is an extraneous variable in the study.

**Treatment effects in the control groups.** With monies granted by the Kentucky Department of Education, all counties, including County C and County D, receive a per pupil allocation of state appropriations *explicitly for drug education*. However, how the monies are spent within the county is decided by the local school system.

County C, source of the inner-city and suburban control groups, adopted a drug education program entitled 'Just Say No' in its elementary schools in the 1988-89 school year. The full scope and impact of this curriculum is unknown. However, as chronicled in a front page story in the local newspaper, the county school system held a drug rally less than two weeks prior to the testing of students for the study.

The rally included high school speakers, cheers, skits, a 2-mile long bus caravan, poster, banner, best-decorated bus and best essay competitions. Attended by about 2000 fourth thru sixth grade students, the rally constituted a full day of intense drug awareness. To the extent that this contributed to short-term suppression of drug attitudes among control group students, DARE/non-DARE long-term differences may be underestimated.



**Table 28. Analysis of Variance Results of Positive Alcohol Perception Scale By Type of School, Sex and DARE/Non-DARE, 1988-89 Follow-up Study.**

	Positive Alcohol Perception <sup>1</sup> (Mean Scores)				
	Rural	Inner-City	Suburban	Parochial	Total
NON-DARE STUDENTS					
Males	17.2	20.1	15.3	--	17.4
Females	13.0	12.7	14.0	--	13.2
DARE STUDENTS					
Males	21.3	16.2	19.9	15.7	18.3
Females	14.6	13.2	15.2	12.6	13.8
ANALYSIS OF VARIANCE <sup>2</sup>					
	SS	df	MS	F	(p)
Main Effect					
Dare versus Non-Dare	350.4	1	350.4	0.8	n.s.
Type of School	316.1	2	158.0	0.3	n.s.
Sex	3266.2	1	3266.2	7.1	**
Two-Way Interaction					
Dare X Type of School	357.7	2	178.8	0.4	n.s.
Dare X Sex	1.3	1	1.3	0.0	n.s.
Type of School X Sex	256.1	2	128.1	0.3	n.s.
Three-Way Interaction					
Sex X Dare X Type of School	613.7	2	306.8	0.7	n.s.
Explained SS	5320.3	11	483.7		
Total SS	270168.0	587	460.2		

<sup>1</sup> Scores based on 8 item Positive Alcohol Perception Scale.<sup>2</sup> Analysis of Variance based on 2 X 3 X 2 design with parochial schools eliminated.

\* p &lt; .05

\*\* p &lt; .01

\*\*\* p &lt; .001

**Table 29. Analysis of Variance Results of Negative Alcohol Attitudes Scale By Type of School, Sex and DARE/Non-DARE, 1988-89 Follow-up Study.**

	Negative Alcohol Attitudes <sup>1</sup> (Mean Scores)				
	Rural	Inner-City	Suburban	Parochial	Total
<b>NON-DARE STUDENTS</b>					
Males	71.1	70.6	79.8	--	74.0
Females	82.0	80.7	80.5	--	81.1
<b>DARE STUDENTS</b>					
Males	73.3	72.4	72.8	73.6	73.0
Females	79.6	70.9	77.4	73.6	75.4
<b>ANALYSIS OF VARIANCE<sup>2</sup></b>					
	SS	df	MS	F	(p)
<b>Main Effect</b>					
Dare versus Non-Dare	1390.1	1	1390.1	2.7	n.s.
Type of School	1366.8	2	683.4	1.3	n.s.
Sex	4505.1	1	4505.1	8.7	**
<b>Two-Way Interaction</b>					
Dare X Type of School	719.3	2	359.6	0.7	n.s.
Dare X Sex	877.9	1	877.9	1.7	n.s.
Type of School X Sex	912.2	2	456.1	0.9	n.s.
<b>Three-Way Interaction</b>					
Sex X Dare X Type of School	1345.0	2	672.5	1.3	n.s.
Explained SS	11341.7	11	1031.1		
Total SS	310217.6	587	528.5		

<sup>1</sup> Scores based on 5 item Negative Alcohol Attitudes Scale.<sup>2</sup> Analysis of Variance based on 2 X 3 X 2 design with parochial schools eliminated.

\* p&lt;.05

\*\* p&lt;.01

\*\*\* p&lt;.001

**Table 30. Analysis of Variance Results of Positive Marijuana Perception Scale By Type of School, Sex and DARE/Non-DARE, 1988-89 Follow-up Study.**

	Positive Marijuana Perception <sup>1</sup> (Mean Scores)				
	Rural	Inner-City	Suburban	Parochial	Total
NON-DARE STUDENTS					
Males	10.9	16.1	11.3	--	12.6
Females	10.4	8.4	11.9	--	16.1
DARE STUDENTS					
Males	13.2	13.9	22.3	9.2	15.0
Females	13.8	7.8	11.3	9.8	10.7
ANALYSIS OF VARIANCE <sup>2</sup>					
	SS	df	MS	F	(p)
Main Effect					
Dare versus Non-Dare	889.7	1	889.7	2.3	n.s.
Type of School	1236.7	2	618.4	1.6	n.s.
Sex	2164.2	1	2164.2	5.5	*
Two-Way Interaction					
Dare X Type of School	745.7	2	372.8	1.0	n.s.
Dare X Sex	456.0	1	456.0	1.2	n.s.
Type of School X Sex	1070.2	2	535.1	1.4	n.s.
Three-Way Interaction					
Sex X Dare X Type of School	1278.4	2	639.2	1.6	n.s.
Explained SS	8138.1	11	739.8		
Total SS	225513.2	576	391.5		

<sup>1</sup>Scores based on 8 item Positive Marijuana Perception Scale.<sup>2</sup>Analysis of Variance based on 2 X 3 X 2 design with parochial schools eliminated.

\* p &lt; .05

\*\* p &lt; .01

\*\*\* p &lt; .001

**Table 31. Analysis of Variance Results of Negative Marijuana Attitudes Scale By Type of School, Sex and DARE/Non-DARE, 1988-89 Follow-up Study.**

	Negative Marijuana Attitudes <sup>1</sup> (Mean Scores)				
	Rural	Inner-City	Suburban	Parochial	Total
NON-DARE STUDENTS					
Males	83.9	77.8	82.4	--	81.5
Females	86.0	85.5	85.6	--	85.7
DARE STUDENTS					
Males	82.3	82.8	76.5	84.4	81.3
Females	84.0	79.4	84.6	81.9	82.5
ANALYSIS OF VARIANCE <sup>2</sup>					
	SS	df	MS	F	(p)
Main Effect					
Dare versus Non-Dare	515.4	1	515.4	1.2	n.s.
Type of School	692.6	2	346.3	0.8	n.s.
Sex	1853.2	1	1853.2	4.2	*
Two-Way Interaction					
Dare X Type of School	90.3	2	45.2	0.1	n.s.
Dare X Sex	232.6	1	232.6	0.5	n.s.
Type of School X Sex	448.5	2	224.2	0.5	n.s.
Three-Way Interaction					
Sex X Dare X Type of School	1388.7	2	694.4	1.6	n.s.
Explained SS	5419.7	11	492.7		
Total SS	256337.8	576	445.0		

<sup>1</sup> Scores based on 5 item Negative Marijuana Attitudes Scale.<sup>2</sup> Analysis of Variance based on 2 X 3 X 2 design with parochial schools eliminated.

\* p &lt; .05

\*\* p &lt; .01

\*\*\* p &lt; .001

**Table 32. Analysis of Variance Results of General Peer Resistance Scale Between Nashville Inner-City DARE and Non-DARE Sixth Graders By Sex, 1988-89 Nashville Study.**

		General Peer Resistance <sup>1</sup> (Mean Scores)				
		Males	Females	All		
NON-DARE STUDENTS		61.5 (94)	63.1 (112)	62.4 (206)		
DARE STUDENTS		59.4 (92)	62.6 (90)	61.8 (182)		
ANALYSIS OF VARIANCE <sup>2</sup>		SS	df	MS	F	(p)
Main Effect						
Dare versus Non-Dare		144.2	1	144.2	0.3	n.s.
Sex		429.1	1	429.1	1.0	n.s.
Two-Way Interaction						
Dare X Sex		37.9	1	37.9	0.1	n.s.
Explained SS		635.6	3	211.9		
Total SS		158861.8	384	413.7		

<sup>1</sup>Scores based on 10 item General Peer Resistance Scale.<sup>2</sup>Analysis of Variance based on 2 X 2 design; \* p < .05

\*\* p &lt; .01 \*\*\* p &lt; .001 n.s. = not significant.

## The Nashville Study

The Nashville Study was undertaken to investigate the effects of DARE among inner-city students in a large, metropolitan school system.<sup>8</sup> As previously reviewed, a total of six schools were selected. Three schools received the DARE program in the Fall semester from members of the Nashville Police Department. Three matched schools served as the control group. Testing took place the first two weeks of the Spring semester, just after the DARE instruction for the three fall DARE schools and just prior to DARE in

the three schools that served as the control group.

Schools were selected in consultation with Dr. Ed Binkley, Director of Research and Evaluation, of Nashville Metropolitan Public Schools. Each school was selected to represent the "inner-city" segment of the city. All were extremely high on the percentage of youth in the lunch subsidy program. Despite extensive busing throughout the city, each was located and drew students from predominantly lower socioeconomic families.

A total of 187 DARE students were drawn from the three schools in the experimental condition; 207 students were drawn from the three control group schools. Students were tested in the classroom using a shortened version of the instrument shown in Appendix F, Survey Instruments. Three sets of 25 question Likert-type attitude scales were administered. From this instrument a total of four of the 1988-89 scales were reconstructed: (1) General Peer Resistance; (2) Drug/Alcohol Peer Resistance; (3) Positive Attitude Toward Drugs; and (4) Positive Attitude Toward the Police.

<sup>8</sup>The full text of the Nashville Study is reported in John R. Faine, *The Nashville DARE Project: An Evaluation of the 1988-89 Drug Abuse Resistance Education Program*, final report to the Metropolitan Public Schools, September, 1989. This report contains a number of findings and breakdowns that are not reported here. The report also contains the results of the teacher/principal survey conducted among Nashville educators associated with the 1988-89 DARE program.

**Table 33. Analysis of Variance Results of Drug/Alcohol Peer Resistance Scale Between Nashville Inner-City DARE and Non-DARE Sixth Graders By Sex, 1988-89 Nashville Study.**

		Drug/Alcohol Peer Resistance <sup>1</sup> (Mean Scores)				
		Males	Females	All		
NON-DARE STUDENTS		85.9 (94)	87.3 (112)	86.6 (206)		
DARE STUDENTS		85.8 (92)	86.8 (90)	86.5 (182)		

ANALYSIS OF VARIANCE <sup>2</sup>	SS	df	MS	F	(p)
Main Effect					
Dare versus Non-Dare	15.7	1	15.7	0.1	n.s.
Sex	141.2	1	141.2	0.7	n.s.
Two-Way Interaction					
Dare X Sex	1.1	1	1.1	0.0	n.s.
Explained SS	162.8	3	54.3		
Total SS	79241.2	384	206.4		

<sup>1</sup>Scores based on 13 item Drug/Alcohol Peer Resistance Scale.

<sup>2</sup>Analysis of Variance based on 2 X 2 design; \* p < .05

\*\* p < .01 \*\*\* p < .001 n.s. = not significant.

Each student received an anonymous questionnaire and instructions from the primary investigator or members of the research staff. Each question was then read aloud by a researcher as the students followed along with the open written instrument. This combination of reading and verbal comprehension was intended to mitigate known severe reading deficiencies found in several of the classrooms.

#### **Results: General and Drug Alcohol Peer Resistance**

Tables 32 and 33 show the results of a 2 X 2 analysis of variance testing the combined effects of DARE and sex on the two peer resistance scales. Scale means are shown for each group according to sex. Since the tables contain dichotomous variables, the main effect F-statistics are equivalent to t-tests of between-group (DARE versus non-DARE) and between sex differences.

The null hypotheses to be tested are (1) that DARE will produce greater peer resistance in each scale, and (2) that boys have less peer resistance than girls. Also tested is whether or not significant combined effects exist as shown by the two-way interaction term.

No support was found for any of the hypotheses. DARE and non-DARE students had the same overall peer resistance scores using both general and drug/alcohol peer resistance. Male scores were no different than those for females.

Comparisons of the general and drug/alcohol peer resistance scores between Nashville inner-city and Kentucky students (see Tables 22 and 23) appear to show only small between group differences. However, as shown in the full Nashville report, inner-city metropolitan students were considerably *unlike* students from non-metropolitan areas when individual scale questions were compared. These significant between group differences are hidden by the total scale scores reported.

**Table 34. Analysis of Variance Results of Positive Drug Attitude Scale Between Nashville Inner-City DARE and Non-DARE Sixth Graders By Sex, 1988-89 Nashville Study.**

	Positive Drug Attitude <sup>1</sup> (Mean Scores)				
	Males	Females	All		
NON-DARE STUDENTS	16.3 (94)	16.0 (112)	16.2 (206)		
DARE STUDENTS	19.5 (90)	17.3 (89)	18.4 (179)		
ANALYSIS OF VARIANCE <sup>2</sup>	SS	df	MS	F	(p)
Main Effect					
Dare versus Non-Dare	458.0	1	458.0	2.3	n.s.
Sex	138.2	1	138.2	0.7	n.s.
Two-Way Interaction					
Dare X Sex	93.4	1	93.4	0.5	n.s.
Explained SS	714.2	3	238.1		
Total SS	77878.2	384	202.8		

<sup>1</sup> Scores based on 25 item Positive Attitude Toward Drugs Scale.

<sup>2</sup> Analysis of Variance based on 2 X 2 design; \* p < .05

\*\* p < .01 \*\*\* p < .001 n.s. = not significant.

### Results: Positive Drug Attitudes

Table 34 shows no support for the ability of DARE to change drug attitudes. DARE students averaged 16.2 on the positive drug attitude scale compared with 18.4 for non-DARE students. Scores on the scale for boys averaged 16.3 among DARE students and 19.5 among non-DARE students. Girls in the two programs averaged 16.0 and 17.3 respectively on the scale. These differences were not statistically significant.

Although it also appears that inner-city youth had very negative drug and alcohol attitudes, the overall scores reported hide important within group differences. As reported elsewhere,<sup>9</sup> drug attitudes varied strongly among schools in the study. Moreover, comparison of the individual scale questions between Nashville and Kentucky schools showed strong differences that are "averaged out" by the total scores

reported here and in Table 24 above. However, DARE/non-DARE differences among Nashville students were unaffected by these findings.

### Results: Positive Attitude Toward Police

Police attitudes (Table 35) were significantly related to both group and sex. Overall, males were less positive toward the police than girls as expected (69.0 versus 73.6). Differences between the DARE and non-DARE students were also significant, but in the *opposite direction predicted*. DARE students, averaging across both males and females, scored 69.2 on the positive police attitude scale compared with 73.5 for non-DARE students. The semester of DARE instruction by a law enforcement officer is actually associated with *lower* rather than higher police attitudes. Scores in one Nashville DARE school also appeared to be depressed due to disciplinary problems that were encountered in the school.

<sup>9</sup> See footnote 8.

**Table 35. Analysis of Variance Results of Positive Attitude Toward Police Scale Between Nashville Inner-City DARE and Non-DARE Sixth Graders By Sex, 1988-89 Nashville Study.**

		Positive Attitude Toward Police <sup>1</sup> (Mean Scores)			
		Males	Females	All	
NON-DARE STUDENTS		71.5 (94)	75.3 (112)	73.5 (206)	
DARE STUDENTS		66.6 (92)	71.8 (91)	69.2 (183)	
ANALYSIS OF VARIANCE <sup>2</sup>	SS	df	MS	F	(p)
Main Effect					
Dare versus Non-Dare	1736.1	1	1736.1	7.0	**
Sex	2171.8	1	2171.8	8.8	**
Two-Way Interaction					
Dare X Sex	103.9	1	103.9	0.4	n.s.
Explained SS	4200.9	3	1400.3		
Total SS	98263.6	384	255.9		

<sup>1</sup>Scores based on 25 item Positive Attitude Toward Police Scale.

<sup>2</sup>Analysis of Variance based on 2 X 2 design; \* p < .05

\*\* p < .01 \*\*\* p < .001 n.s. = not significant.

### Summary: The Nashville Study

Analysis of the post-DARE and pre-DARE test scores of nearly 400 Nashville inner-city sixth graders showed no support for the hypothesis that the program was effective in changing peer resistance or positive drug attitudes. The one significant difference between the two groups -- positive police attitude -- was in the opposite direction predicted. DARE students had significantly more negative police attitudes than non-DARE students.

The lack of significant differences between the groups was unexpected. Several additional comparisons were conducted to see if the experimental and control groups differed significantly in ways other than the treatment. If so, the null results might be the result of pre-existing groups differences.

Comparison of the average age in each group revealed no significant differences -- both groups were "almost" 12 years old. Family composition was

examined by looking at the number of brothers and sisters and *older* brother and sisters reported by the subjects. DARE students averaged 3.13 siblings compared to 2.83 for the control group. However, this difference was not statistically significant ( $t = 1.37$ ,  $p > .16$ ). The number of older brother and sisters also did not vary between the two groups ( $t = .56$ ,  $p > .49$ ).

Each student was asked whether he knew (a) high school-aged, (b) middle school-aged, and (c) same grade level youth who smoked marijuana. Not surprising given the nature of the sample, the rates were high. Among DARE students, 56 percent reported knowing one or more high school-aged users. This figure was 49 percent in the control group. Nine more percent of DARE students knew one or more middle school youth who smoked marijuana (49 versus 40 percent). DARE students were also more likely to know same-aged youth who smoked (44 versus 36 percent). However, none of these differences were significant at the .05 level of probability, eliminating evidence of pre-existing group differences.



## **Appendix A**

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### **Supplementary Tables to the Longitudinal Study**

**Table A.1 Mean General Peer Resistance Scores by Type of School, 1987-89 Longitudinal Study.<sup>1</sup>**

1987-88 School	Peer Resistance			(N)
	Pretest	Posttest	Follow-Up	
All Dare Students	73.2	79.9	73.9	(521)
All Rural	74.3	78.4	81.1	(126)
School #1	68.8	75.0	82.0	(41)
School #2	75.3	84.1	82.2	(25)
School #3	77.0	-- <sup>+</sup>	80.1	(60)
All Inner-City	69.5	79.6	72.5	(140)
School #4	72.1	81.5	77.5	(48)
School #5	64.4	77.9	71.7	(50)
School #6	73.1	-- <sup>+</sup>	67.9	(42)
All Middle Class	74.9	80.3	71.8	(123)
School #7	74.8	83.3	72.6	(57)
School #8	74.7	-- <sup>+</sup>	65.5	(25)
School #9	75.2	76.8	74.6	(41)
All Parochial	74.4	81.1	20.5	(132)
School #10	73.6	-- <sup>+</sup>	51.9	(20)
School #11	70.5	-- <sup>+</sup>	70.5	(36)
School #12	69.8	79.8	68.5	(23)
School #13	80.6	81.8	81.0	(42)
School #14	74.0	-- <sup>+</sup>	68.2	(11)

<sup>+</sup> No posttest given.<sup>1</sup> Scores based on 10-item Peer Resistance Scale (Short Version).

**Table A.2 Mean Positive Drug Attitudes Scores by Type of School, 1987-89 Longitudinal Study.<sup>1</sup>**

1987-88 School	Positive Drug Attitudes			(N)
	Pretest	Posttest	Follow-Up	
All Dare Students	14.2	10.2	16.3	(519)
All Rural	13.7	8.8	14.1	(126)
School #1	10.7	9.1	15.3	(41)
School #2	14.1	8.5	16.4	(25)
School #3	15.3	-- <sup>+</sup>	12.4	(60)
All Inner-City	17.1	11.7	18.1	(140)
School #4	13.2	12.5	17.2	(48)
School #5	19.9	11.0	16.3	(50)
School #6	17.4	-- <sup>+</sup>	21.3	(42)
All Middle Class	12.3	9.3	15.8	(123)
School #7	11.4	6.3	14.5	(57)
School #8	12.6	-- <sup>+</sup>	19.6	(25)
School #9	13.0	12.4	15.4	(41)
All Parochial	13.7	10.6	16.8	(130)
School #10	11.7	-- <sup>+</sup>	25.3	(20)
School #11	14.8	-- <sup>+</sup>	20.2	(36)
School #12	21.9	20.0	15.6	(23)
School #13	10.7	4.8	9.7	(40)
School #14	9.7	-- <sup>+</sup>	18.2	(11)

<sup>+</sup> No posttest given.<sup>1</sup> Scores based on 10-item Positive Drug Attitudes Scale (Short Version).

**Table A.3 Mean Positive Attitudes Toward Police Scores by Type of School, 1987-89 Longitudinal Study.<sup>1</sup>**

1987-88 School	Positive Attitude Toward Police			(N)
	Pretest	Posttest	Follow-Up	
All Dare Students	74.3	80.4	68.1	(511)
All Rural	75.5	83.8	73.4	(122)
School #1	77.6	82.9	76.3	(40)
School #2	74.8	85.2	71.3	(23)
School #3	74.7	-- <sup>+</sup>	72.3	(59)
All Inner-City	71.0	75.1	64.5	(137)
School #4	67.0	74.1	65.7	(46)
School #5	69.9	75.9	62.8	(49)
School #6	76.1	-- <sup>+</sup>	65.1	(42)
All Middle Class	75.6	81.9	66.3	(121)
School #7	74.3	86.3	66.7	(55)
School #8	78.6	-- <sup>+</sup>	64.5	(25)
School #9	75.0	77.4	66.9	(41)
All Parochial	75.6	82.8	68.5	(131)
School #10	72.4	-- <sup>+</sup>	55.0	(20)
School #11	75.8	-- <sup>+</sup>	68.6	(36)
School #12	72.8	84.4	68.2	(22)
School #13	78.7	81.8	73.2	(42)
School #14	75.1	-- <sup>+</sup>	76.0	(11)

<sup>+</sup> No posttest given.<sup>1</sup> Scores based on 11-item Positive Attitudes Toward Police Scale (Short Version).

**Table A.4 Exposure to Marijuana Smokers Among Fifth Graders, 1987-89 Longitudinal Study.**

1987-88 School	I know _____ kids who smoke marijuana			(N)
	Elementary School	Middle School	High School	
All Dare Students	14%	18%	35%	(685)
All Rural	9%	9%	14%	(160)
School #1	9%	4%	13%	(46)
School #2	13%	9%	9%	(31)
School #3	7%	11%	15%	(83)
All Inner-City	27%	32%	35%	(184)
School #4	27%	20%	36%	(55)
School #5	32%	42%	38%	(71)
School #6	19%	29%	31%	(58)
All Middle Class	11%	18%	30%	(187)
School #7	8%	18%	25%	(72)
School #8	14%	13%	23%	(44)
School #9	11%	21%	39%	(71)
All Parochial	9%	11%	19%	(154)
School #10	13%	13%	26%	(23)
School #11	10%	10%	22%	(40)
School #12	11%	19%	26%	(27)
School #13	8%	8%	14%	(49)
School #14	0%	7%	7%	(15)

## **Appendix B**

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### **Supplementary Tables to the Follow-up Study**

**Table B.1 Mean Positive Attitude Toward Drugs and Positive Attitude Toward Police Scores by Type of School, 1988-89 Follow-up Study.**

School	Positive Attitude Toward Drugs	Positive Attitude Toward the Police	(N)
<b>All Students</b>	13.6	74.9	1389
<b>DARE SCHOOLS</b>			
County A Middle School	13.3	77.6	220
1987-88 Elementary School			
School #1	13.6	80.1	41
School #2	8.4	79.7	23
School #3	10.4	78.6	59
Other County A Schools	16.2	75.5	97
County B (Inner-City) Schools	15.6	71.7	310
1987-88 Elementary School			
School #4	12.1	74.2	39
School #5	14.5	70.3	53
School #6	18.1	71.7	44
Other County B (Inner-City) Schools	16.2	71.6	174
County B (Suburban) Schools	12.3	74.4	296
1987-88 Elementary School			
School #7	11.1	77.9	54
School #8	15.6	71.6	26
School #9	13.0	70.4	42
Other County B (Suburban) Schools	11.9	74.7	174
County B Parochial Schools	13.1	75.9	137
1987-88 Elementary School			
School #10	16.6	67.4	19
School #11	15.4	76.2	34
School #12	9.6	78.7	17
School #13	8.7	78.6	35
School #14	13.8	83.9	12
Other County B Parochial Schools	15.9	71.3	20
<b>NON-DARE SCHOOLS</b>			
County C Inner-City Schools	15.0	75.2	130
1988-89 School			
School #15	12.9	77.3	28
School #16	15.4	78.0	47
School #17	15.9	71.8	55
County C Suburban Schools	11.6	76.9	167
1988-89 School			
School #18	12.0	80.2	43
School #19	9.9	80.4	53
School #20	12.6	72.4	71
County D Rural Schools	14.4	75.1	129
1988-89 School			
School #21	17.2	73.0	62
School #22	12.1	77.2	36
School #23	10.7	77.7	18
School #24	12.8	75.2	13

**Table B.2 Mean General Peer Resistance and Drug/Alcohol Resistance Scores by Type of School, 1988-89 Follow-up Study.**

School	General Peer Resistance	Drug/Alcohol Peer Resistance	(N)
<b>All Students</b>	62.4	84.2	1394
<b>DARE SCHOOLS</b>			
County A Middle School	66.8	85.3	220
1987-88 Elementary School			
School #1	71.9	84.9	41
School #2	73.5	89.5	23
School #3	70.3	89.2	59
Other County A Schools	61.0	82.2	97
County B (Inner-City) Schools	62.0	82.5	311
1987-88 Elementary School			
School #4	69.6	86.2	40
School #5	62.6	84.8	53
School #6	63.7	81.9	44
Other County B (Inner-City) Schools	59.6	81.0	174
County B (Suburban) Schools	61.1	83.0	297
1987-88 Elementary School			
School #7	65.8	85.3	54
School #8	56.1	76.4	26
School #9	63.0	83.1	42
Other County B (Suburban) Schools	59.9	83.4	175
County B Parochial Schools	61.9	84.7	140
1987-88 Elementary School			
School #10	47.8	80.5	19
School #11	62.0	83.5	34
School #12	65.0	88.5	18
School #13	68.6	87.8	37
School #14	62.4	83.3	12
Other County B Parochial Schools	59.4	82.2	20
<b>NON-DARE SCHOOLS</b>			
County C Inner-City Schools	62.4	83.1	129
1988-89 School			
School #15	65.9	82.6	28
School #16	63.1	84.5	46
School #17	60.1	82.2	55
County C Suburban Schools	61.3	87.7	167
1988-89 School			
School #18	61.9	89.6	43
School #19	61.1	88.0	53
School #20	61.0	86.4	71
County D Rural Schools	60.8	84.6	130
1988-89 School			
School #21	60.3	80.4	62
School #22	55.2	87.6	37
School #23	70.1	89.0	18
School #24	66.3	90.0	13



**Table B.3 Mean Positive Cigarette Perception and Negative Cigarette Attitudes Scores by Type of School, 1988-89 Follow-up Study.**

School	Positive Cigarette Perception	Negative Cigarette Attitudes	(N)
<b>All Students</b>	14.0	67.9	1394
<b>DARE SCHOOLS</b>			
County A Middle School	15.3	70.7	220
1987-88 Elementary School			
School #1	11.8	71.2	41
School #2	11.8	75.3	23
School #3	11.2	74.7	59
Other County A Schools	20.1	67.0	97
County B (Inner-City) Schools	15.3	64.3	311
1987-88 Elementary School			
School #4	14.6	66.4	40
School #5	15.2	60.9	53
School #6	17.3	59.6	44
Other County B (Inner-City) Schools	15.0	66.0	174
County B (Suburban) Schools	14.2	68.4	297
1987-88 Elementary School			
School #7	16.0	70.4	54
School #8	13.8	59.7	26
School #9	12.8	69.3	42
Other County B (Suburban) Schools	14.1	68.8	175
County B Parochial Schools	13.6	67.3	140
1987-88 Elementary School			
School #10	21.9	69.4	19
School #11	8.6	72.7	34
School #12	11.2	65.3	18
School #13	14.4	69.4	37
School #14	7.8	71.4	12
Other County B Parochial Schools	18.7	51.4	20
<b>NON-DARE SCHOOLS</b>			
County C Inner-City Schools	12.7	68.1	129
1988-89 School			
School #15	10.6	67.0	28
School #16	13.4	68.7	46
School #17	13.3	68.1	55
County C Suburban Schools	12.1	71.6	167
1988-89 School			
School #18	14.8	72.0	43
School #19	10.4	73.2	53
School #20	11.8	70.1	71
County D Rural Schools	12.5	66.8	130
1988-89 School			
School #21	13.2	64.1	62
School #22	14.0	67.6	37
School #23	8.2	75.2	18
School #24	10.4	65.4	13

**Table B.4 Mean Positive Marijuana Perception and Negative Marijuana Attitudes Scores by Type of School, 1988-89 Follow-up Study.**

School	Positive Marijuana Perceptions	Negative Marijuana Attitudes	(N)
<b>All Students</b>	11.8	83.1	1381
<b>DARE SCHOOLS</b>			
County A Middle School	14.0	83.0	219
1987-88 Elementary School			
School #1	10.5	86.1	41
School #2	14.2	86.0	23
School #3	10.4	84.2	59
Other County A Schools	17.7	80.1	96
County B (Inner-City) Schools	11.8	80.3	308
1987-88 Elementary School			
School #4	8.2	84.2	40
School #5	11.5	80.9	52
School #6	14.0	83.2	43
Other County B (Inner-City) Schools	12.1	78.5	173
County B (Suburban) Schools	12.7	84.4	293
1987-88 Elementary School			
School #7	11.1	83.0	52
School #8	15.9	87.6	26
School #9	11.6	85.9	42
Other County B (Suburban) Schools	13.0	84.0	173
County B Parochial Schools	9.6	83.9	138
1987-88 Elementary School			
School #10	18.0	80.1	19
School #11	3.9	87.1	33
School #12	9.3	85.6	18
School #13	9.2	82.8	37
School #14	4.4	89.8	11
Other County B Parochial Schools	14.8	79.5	20
<b>NON-DARE SCHOOLS</b>			
County C Inner-City Schools	12.6	82.8	127
1988-89 School			
School #15	11.5	82.4	28
School #16	11.4	83.8	44
School #17	14.2	82.2	55
County C Suburban Schools	10.5	83.5	166
1988-89 School			
School #18	10.7	83.8	43
School #19	10.5	85.1	53
School #20	10.4	82.2	70
County D Rural Schools	9.8	85.6	130
1988-89 School			
School #21	12.6	85.0	62
School #22	6.9	83.3	37
School #23	5.5	91.8	18
School #24	10.7	86.8	13

**Table B.5 Mean Positive Alcohol Perception and Negative Alcohol Attitudes Scores by Type of School, 1988-89 Follow-up Study.**

School	Positive Alcohol Perception	Negative Alcohol Attitudes	(N)
<b>All Students</b>	14.6	76.7	1391
<b>DARE SCHOOLS</b>			
County A Middle School	16.9	77.7	220
1987-88 Elementary School			
School #1	12.9	75.1	41
School #2	15.5	79.8	23
School #3	13.1	78.2	59
Other County A Schools	21.3	77.9	97
County B (Inner-City) Schools	14.8	73.4	311
1987-88 Elementary School			
School #4	12.4	76.5	40
School #5	16.0	69.2	53
School #6	18.0	73.5	44
Other County B (Inner-City) Schools	14.2	73.9	174
County B (Suburban) Schools	14.2	77.8	296
1987-88 Elementary School			
School #7	15.4	78.3	54
School #8	14.4	75.0	26
School #9	16.1	79.8	42
Other County B (Suburban) Schools	13.4	77.5	174
County B Parochial Schools	13.2	74.5	140
1987-88 Elementary School			
School #10	27.4	74.6	19
School #11	10.1	77.9	34
School #12	8.8	71.8	18
School #13	10.1	73.8	37
School #14	5.8	75.7	12
Other County B Parochial Schools	19.0	71.7	20
<b>NON-DARE SCHOOLS</b>			
County C Inner-City Schools	15.9	78.0	127
1988-89 School			
School #15	10.0	80.6	28
School #16	18.4	77.8	45
School #17	16.8	76.9	54
County C Suburban Schools	13.2	79.7	167
1988-89 School			
School #18	14.6	80.3	43
School #19	11.4	80.8	53
School #20	13.6	78.6	71
County D Rural Schools	13.7	77.5	130
1988-89 School			
School #21	16.7	71.5	62
School #22	12.5	81.3	37
School #23	8.7	87.8	18
School #24	9.5	81.5	13

**Table B.6 Percent of DARE and Non-DARE Students Who Have Tried Cigarettes, Smokeless Tobacco, or Report Friends Who Smoke By School, 1988-89 Follow-up Study.**

School	Tried Cigarettes 1 or More Times	1 or More Friends Smoke	Tried Smokeless 1 or More Times	(N)
<b>All Students</b>	45%	60%	23%	1392
<b>DARE SCHOOLS</b>				
County A Middle School	47%	50%	29%	219
1987-88 Elementary School				
School #1	34%	41%	20%	41
School #2	52%	30%	26%	23
School #3	31%	42%	27%	59
Other County A Schools	60%	62%	35%	96
County B (Inner-City) Schools	44%	68%	20%	310
1987-88 Elementary School				
School #4	35%	79%	10%	40
School #5	57%	79%	26%	53
School #6	35%	80%	19%	43
Other County B (Inner-City) Schools	44%	60%	21%	174
County B (Suburban) Schools	42%	61%	21%	296
1987-88 Elementary School				
School #7	37%	56%	17%	54
School #8	46%	65%	15%	26
School #9	45%	68%	33%	42
Other County B (Suburban) Schools	43%	61%	19%	174
County B Parochial Schools	48%	52%	19%	140
1987-88 Elementary School				
School #10	63%	53%	26%	19
School #11	47%	64%	15%	34
School #12	56%	39%	6%	18
School #13	30%	35%	19%	37
School #14	42%	50%	33%	12
Other County B Parochial Schools	65%	75%	20%	20
<b>NON-DARE SCHOOLS</b>				
County C Inner-City Schools	48%	67%	26%	130
1988-89 School				
School #15	43%	61%	18%	28
School #16	47%	59%	19%	47
School #17	53%	78%	35%	55
County C Suburban Schools	40%	57%	20%	167
1988-89 School				
School #18	49%	77%	21%	43
School #19	43%	64%	25%	53
School #20	31%	41%	17%	71
County D Rural Schools	50%	61%	32%	130
1988-89 School				
School #21	52%	68%	37%	62
School #22	54%	59%	32%	37
School #23	33%	44%	22%	18
School #24	54%	54%	15%	13

**Table B.7    Percent of DARE and Non-DARE Student Who Have Tried Alcohol or Who Report Friends Who Drink By School, 1988-89 Follow-up Study.**

School	Tried Alcohol 1 or More Times	One or More Friends Drink	(N)
<b>All Students</b>	29%	28%	1391
<b>DARE SCHOOLS</b>			
County A Middle School	32%	24%	220
1987-88 Elementary School			
School #1	27%	20%	41
School #2	30%	13%	23
School #3	27%	12%	59
Other County A Schools	38%	35%	97
County B (Inner-City) Schools	32%	31%	310
1987-88 Elementary School			
School #4	35%	40%	40
School #5	38%	42%	52
School #6	30%	37%	44
Other County B (Inner-City) Schools	30%	24%	174
County B (Suburban) Schools	28%	30%	296
1987-88 Elementary School			
School #7	35%	33%	54
School #8	35%	32%	26
School #9	21%	23%	42
Other County B (Suburban) Schools	26%	31%	174
County B Parochial Schools	29%	17%	140
1987-88 Elementary School			
School #10	47%	28%	19
School #11	32%	12%	34
School #12	11%	11%	18
School #13	16%	8%	37
School #14	33%	8%	12
Other County B Parochial Schools	40%	45%	20
<b>NON-DARE SCHOOLS</b>			
County C Inner-City Schools	33%	31%	129
1988-89 School			
School #15	36%	18%	28
School #16	23%	22%	47
School #17	39%	45%	54
County C Suburban Schools	22%	18%	166
1988-89 School			
School #18	24%	12%	42
School #19	21%	17%	53
School #20	21%	23%	71
County D Rural Schools	25%	40%	130
1988-89 School			
School #21	32%	54%	62
School #22	14%	32%	37
School #23	17%	22%	18
School #24	31%	23%	13

**Table B.8 Percent of DARE and Non-DARE Student Who Have Tried Marijuana or Who Report Friends Who Have By School, 1988-89 Follow-up Study.**

School	Tried Marijuana 1 or more	1 or more Friends Use Marijuana	(N)
<b>All Students</b>	6%	14%	1393
<b>DARE SCHOOLS</b>			
County A Middle School	8%	11%	220
1987-88 Elementary School			
School #1	2%	2%	41
School #2	9%	4%	23
School #3	3%	8%	59
Other County A Schools	12%	19%	97
County B (Inner-City) Schools	7%	16%	311
1987-88 Elementary School			
School #4	2%	28%	40
School #5	13%	22%	53
School #6	7%	12%	44
Other County B (Inner-City) Schools	7%	12%	174
County B (Suburban) Schools	5%	17%	296
1987-88 Elementary School			
School #7	4%	8%	54
School #8	0%	8%	26
School #9	10%	17%	42
Other County B (Suburban) Schools	5%	21%	174
County B Parochial Schools	1%	10%	140
1987-88 Elementary School			
School #10	0%	5%	19
School #11	0%	6%	34
School #12	0%	6%	18
School #13	0%	8%	37
School #14	0%	0%	12
Other County B Parochial Schools	10%	35%	20
<b>NON-DARE SCHOOLS</b>			
County C Inner-City Schools	9%	17%	129
1988-89 School			
School #15	4%	11%	28
School #16	2%	7%	47
School #17	19%	29%	54
County C Suburban Schools	2%	9%	167
1988-89 School			
School #18	5%	7%	43
School #19	0%	10%	53
School #20	1%	10%	71
County D Rural Schools	9%	21%	130
1988-89 School			
School #21	16%	33%	62
School #22	3%	14%	37
School #23	0%	6%	18
School #24	8%	8%	13

**Table B.9 Attitudes Toward Cigarette Smoking By School, 1988-89 Follow-up Study.**

Smoking Cigarettes is Bad	I Think That ...	Most Students Think That ...	(N)
<b>All Students</b>	78%	61%	1385
<b>DARE SCHOOLS</b>			
County A Middle School	84%	66%	220
1987-88 Elementary School			
School #1	93%	73%	41
School #2	91%	52%	23
School #3	90%	75%	59
Other County A Schools	75%	61%	97
County B (Inner-City) Schools	77%	51%	307
1987-88 Elementary School			
School #4	88%	48%	40
School #5	67%	42%	52
School #6	73%	43%	44
Other County B (Inner-City) Schools	78%	57%	171
County B (Suburban) Schools	75%	59%	292
1987-88 Elementary School			
School #7	76%	64%	51
School #8	65%	38%	26
School #9	81%	73%	42
Other County B (Suburban) Schools	75%	58%	173
County B Parochial Schools	75%	62%	139
1987-88 Elementary School			
School #10	63%	68%	19
School #11	79%	48%	33
School #12	100%	78%	18
School #13	76%	81%	37
School #14	75%	50%	12
Other County B Parochial Schools	55%	35%	20
<b>NON-DARE SCHOOLS</b>			
County C Inner-City Schools	81%	71%	130
1988-89 School			
School #15	89%	75%	28
School #16	74%	72%	47
School #17	82%	67%	55
County C Suburban Schools	82%	75%	167
1988-89 School			
School #18	72%	60%	43
School #19	87%	75%	53
School #20	85%	83%	71
County D Rural Schools	77%	51%	130
1988-89 School			
School #21	73%	40%	62
School #22	76%	51%	37
School #23	100%	78%	18
School #24	69%	62%	13

**Table B.10 Attitudes Toward Drinking Alcohol By School, 1988-89 Follow-up Study.**

<b>Drinking Alcohol is Bad</b>	<b>I think that . . .</b>	<b>Most Students think that . . .</b>	<b>(N)</b>
<b>All Students</b>	82%	70%	1338
<b>DARE SCHOOLS</b>			
County A Middle School	82%	72%	220
1987-88 Elementary School			
School #1	90%	75%	41
School #2	78%	78%	23
School #3	85%	69%	59
Other County A Schools	78%	70%	97
County B (Inner-City) Schools	80%	63%	309
1987-88 Elementary School			
School #4	82%	55%	40
School #5	69%	65%	52
School #6	86%	64%	44
Other County B (Inner-City) Schools	80%	64%	173
County B (Suburban) Schools	83%	68%	294
1987-88 Elementary School			
School #7	88%	69%	52
School #8	77%	60%	26
School #9	83%	69%	42
Other County B (Suburban) Schools	83%	69%	174
County B Parochial Schools	80%	68%	138
1987-88 Elementary School			
School #10	68%	53%	19
School #11	88%	70%	32
School #12	94%	94%	18
School #13	86%	78%	37
School #14	67%	58%	12
Other County B Parochial Schools	65%	40%	20
<b>NON-DARE SCHOOLS</b>			
County C Inner-City Schools	82%	79%	130
1988-89 School			
School #15	89%	86%	28
School #16	81%	79%	47
School #17	78%	76%	55
County C Suburban Schools	90%	84%	167
1988-89 School			
School #18	84%	77%	43
School #19	96%	88%	53
School #20	90%	86%	71
County D Rural Schools	79%	61%	130
1988-89 School			
School #21	73%	53%	62
School #22	78%	57%	37
School #23	100%	76%	18
School #24	85%	92%	13



**Table B.11 Attitudes Toward Smoking Marijuana By School, 1988-89 Follow-up Study.**

<b>Smoking Marijuana is Bad</b>	<b>I think that . . .</b>	<b>Most students think that . . .</b>	<b>(N)</b>
<b>All Students</b>	96%	90%	1388
<b>DARE SCHOOLS</b>			
County A Middle School	94%	89%	219
1987-88 Elementary School			
School #1	100%	95%	41
School #2	100%	96%	23
School #3	98%	88%	59
Other County A Schools	89%	86%	96
County B (Inner-City) Schools	96%	88%	310
1987-88 Elementary School			
School #4	100%	85%	40
School #5	96%	90%	53
School #6	93%	80%	44
Other County B (Inner-City) Schools	96%	91%	173
County B (Suburban) Schools	96%	88%	294
1987-88 Elementary School			
School #7	98%	94%	52
School #8	88%	81%	26
School #9	98%	93%	42
Other County B (Suburban) Schools	95%	86%	174
County B Parochial Schools	99%	96%	138
1987-88 Elementary School			
School #10	100%	95%	18
School #11	100%	100%	33
School #12	100%	100%	18
School #13	100%	100%	37
School #14	100%	100%	12
Other County B Parochial Schools	95%	80%	20
<b>NON-DARE SCHOOLS</b>			
County C Inner-City Schools	95%	91%	130
1988-89 School			
School #15	96%	100%	28
School #16	100%	98%	47
School #17	89%	82%	55
County C Suburban Schools	98%	96%	167
1988-89 School			
School #18	98%	93%	43
School #19	100%	98%	53
School #20	96%	97%	71
County D Rural Schools	95%	79%	130
1988-89 School			
School #21	94%	76%	62
School #22	95%	76%	37
School #23	100%	89%	18
School #24	92%	92%	13

## **Appendix C**

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### **Construction of Attitude Scales**

**Table C.1 Item-Total Correlations for Peer Resistance Scale (Short Version).**

Question	Item-Total Correlation*
It's hard for me to say "no" to my friends. <sup>R</sup>	.81
If you say "no" too often you won't have any friends. <sup>R</sup>	.73
It's better to keep your feelings to yourself. <sup>R</sup>	.68
I usually give in to my friends when they pressure me. <sup>R</sup>	.84
When my friends are doing something wrong, its hard for me to walk away. <sup>R</sup>	.79
If my friends drank beer I probably would too. <sup>R</sup>	.84
If I don't do what my friends want me to do, I'll be all alone. <sup>R</sup>	.84
If your best friend offers you a drug, you have to take it. <sup>R</sup>	.70

\*Yule's Q

<sup>R</sup>Scoring on question was reversed (reflected) in order to match the direction of the scale.**Table C.2 Item-Total Correlation for Positive Attitudes Toward Drugs (Short Version).**

Question	Item-Total Correlation*
Its okay to drink a little beer.	.82
There's nothing wrong with smoking cigarettes as long as you don't smoke too many.	.84
Kids who take drugs seem more grown up.	.83
Kids who smoke cigarettes regularly can quit anytime they want.	.82
It is okay for kids to drink alcohol as long as they quit before it becomes a habit.	.87
Teenagers who drink alcohol are more grown up.	.86
Kids who use drugs have more friends.	.74
If I smoked crack I would become addicted. <sup>R</sup>	.70
LSD can make people so crazy they think they can fly. <sup>R</sup>	.71
People who smoke marijuana might have deformed children. <sup>R</sup>	.66

\*Yule's Q

<sup>R</sup>Scoring on question was reversed (reflected) in order to match the direction of the scale.

**Table C.3 Item-Total Correlations for Positive Attitudes Toward Police (Short Version).**

Question	Item-Total Correlation*
I would like to be a policeman.	.47
Most policemen go out of their way to keep a kid out of trouble.	.66
Most policemen like to help kids.	.93
Most policemen are pretty nice guys.	.90
Most policemen are honest.	.88
I have a lot of respect for the police.	.88
Policemen make me nervous. <sup>R</sup>	.66
Most policemen don't understand a kid's problems. <sup>R</sup>	.80
Police have no right to tell kids what to do. <sup>R</sup>	.62
Most policemen like to pick on kids. <sup>R</sup>	.89
Most policemen like to act tough. <sup>R</sup>	.78

\*Yule's Q

<sup>R</sup>Scoring on question was reversed (reflected) in order to match the direction of the scale.

**Table C.4 Factor Loadings and Item-Total Correlations for Questions in the General Peer Resistance Scale.**

Question	Factor Loading (Weight)	Item-Total Correlation
When my friends are doing something wrong it is hard for me to walk away. <sup>R</sup>	.56	.55
If you say "no" too often you won't have any friends. <sup>R</sup>	.48	.50
Sometimes I do what my friends do even though I know it isn't right. <sup>R</sup>	.65	.66
Sometimes I do things because my friends do, even though I later regret it. <sup>R</sup>	.66	.64
I am afraid if I say "No" to drugs my friends won't like me. <sup>R</sup>	.46	.51
I usually give in to my friends when they pressure me. <sup>R</sup>	.56	.61
If my friends drank beer, I probably would too. <sup>R</sup>	.46	.54
It is hard for me to say "No" to my friends. <sup>R</sup>	.66	.66
If I don't do what my friends want me to do I will be all alone. <sup>R</sup>	.48	.53
If someone you like wants you to do something you think is wrong, there is no way you can say "No" and still be friends. <sup>R</sup>	.38	.41

<sup>R</sup>Scoring on question was reversed (reflected) in order to match the direction of the scale.

**Table C.5 Factor Loadings and Item-Total Correlations for Questions in the Drug/Alcohol Peer Resistance Scale.**

Question	Factor Loading (Weight)	Item-Total Correlation
If you attend a party where everyone else is drinking alcohol, you can have a good time <u>without</u> joining in. <sup>R</sup>	.47	.43
If my friends smoke I should too.	.65	.56
I should walk away from those who try to make me use drugs. <sup>R</sup>	.53	.43
I should drink if my friends do even if I don't want to.	.70	.58
If my friends were going to a party to drink beer I would go with them.	.58	.62
If someone pressures me to use drugs I should say "No thanks" and walk away. <sup>R</sup>	.73	.61
Kids who use drugs have more friends than those who don't.	.49	.40
The best way to say "No" to drugs is to stay away from them. <sup>R</sup>	.65	.53
If my friends drank beer, I probably would too.	.52	.57
A true friend would never ask you to eat or drink something that wasn't really safe. <sup>R</sup>	.71	.56
Real friends don't push kids into trying drugs or alcohol. <sup>R</sup>	.71	.59
If your best friend offers you a drug, you have to take it.	.72	.53
If drugs are pushed on me I can say "No thanks, they make me throw up." <sup>R</sup>	.49	.46

<sup>R</sup>Scoring on question was reversed (reflected) in order to match the direction of the scale.

**Table C.6 Factor Loadings and Item-Total Correlations for Questions in the Positive Drug Attitudes Scale.**

Question	Factor Loading (Weight)	Item-Total Correlation
It is okay to drink a little beer.	.54	.50
There is nothing wrong with smoking cigarettes as long as you don't smoke too many.	.64	.60
Kids who take drugs seem more grown up.	.67	.62
Kids who smoke cigarettes regularly can quit anytime they want.	.61	.57
It is okay for kids to drink alcohol as long as they quit before it becomes a habit.	.69	.65
Teenagers who drink alcohol are more grown up.	.76	.71
If I smoked "crack" I would become addicted. <sup>R</sup>	.41	.38
LSD can make people so crazy they think they can fly. <sup>R</sup>	.46	.43
People who smoke marijuana might have deformed children. <sup>R</sup>	.53	.50
It is perfectly safe to take medicine that a doctor has given to someone else.	.51	.47
Drugs bought on the street are not safe to use. <sup>R</sup>	.61	.57
It is okay for kids to try marijuana, just to satisfy their curiosity.	.78	.73
It is okay to sell drugs if you don't use them.	.79	.74
Alcohol is a reward for hard work.	.78	.73
Marijuana is okay as long as it is smoked with friends.	.86	.82
Drugs change the way people act. <sup>R</sup>	.61	.57
Drugs make you look cool in front of your friends.	.66	.61
Using drugs will cause you to dislike yourself because they are wrong. <sup>R</sup>	.45	.42
Kids who drink alcohol are more grown up than those who don't.	.76	.71
If you are under stress, drinking alcohol or taking drugs won't really help. <sup>R</sup>	.54	.50
Using street drugs is wrong, no matter how little you use them. <sup>R</sup>	.65	.61
I can use drugs without anyone knowing it.	.67	.60
Any kid who says that drinking alcohol isn't fun is really out of it.	.41	.38
Taking drugs can help you have more fun when you're bored.	.81	.77
Sometimes the only way to keep from feeling sad is to get "high."	.79	.74

<sup>R</sup>Scoring on question was reversed (reflected) in order to match the direction of the scale.

**Table C.7 Factor Loadings and Item-Total Correlations for Questions in the Positive Attitudes Toward Police Scale.**

Question	Factor Loading (Weight)	Item-Total Correlation
I have a lot of respect for the police.	.72	.70
Most police officers are honest.	.76	.73
Most police officers like to act tough. <sup>R</sup>	.30	.28
Most police officers are pretty nice guys.	.78	.74
Most police officers like to help kids.	.80	.75
Most police officers like to pick on kids. <sup>R</sup>	.74	.70
Police officers have a right to tell kids what to do.	.42	.39
Most police officers <u>don't</u> understand a kid's problems. <sup>R</sup>	.49	.46
Most police officers go out of their way to keep a kid out of trouble.	.67	.63
Police officers make me nervous. <sup>R</sup>	.27	.28
I have <u>never</u> met a nice police officer. <sup>R</sup>	.63	.58
Police really care about kids my age.	.74	.70
Police officers like to scare kids. <sup>R</sup>	.75	.71
I feel if I had a problem I could talk to a police officer about it.	.63	.60
Police officers like to push people around. <sup>R</sup>	.68	.65
We can learn from police officers.	.79	.75
Police officers are there to help us.	.82	.77
If I got into trouble the police would listen to my side of the story.	.66	.62
Police officers like to hassle kids for no reason at all. <sup>R</sup>	.72	.68
If you give a police officer a chance, he will be your friend.	.75	.71
Police officers do good things in my community.	.76	.72
Police officers try to help kids who use drugs.	.71	.66
Police officers would rather catch you doing something wrong than try to help you. <sup>R</sup>	.64	.60
You only see the police when there is trouble. <sup>R</sup>	.49	.39
Kids should listen to what police officers have to say.	.80	.76

<sup>R</sup>Scoring on question was reversed (reflected) in order to match the direction of the scale.



**Table C.8 Factor Loadings and Item-Total Correlations for Questions in the Positive Cigarette Perception Scale.**

Question	Factor Loading (Weight)	Item-Total Correlation
<b><u>How much does smoking cigarettes help a person to . . .</u></b>		
stop feeling bored or lonely?	.87	.82
have fun with friends?	.86	.80
feel good?	.88	.82
experience new things?	.73	.66
get away from problems?	.85	.80
face a difficult situation?	.77	.70
do things better or be more creative?	.86	.80
become popular or one of the crowd?	.73	.66

**Table C.9 Factor Loadings and Item-Total Correlations for Questions in the Negative Attitudes Toward Cigarettes Scale.**

Question	Factor Loading (Weight)	Item-Total Correlation
<b><u>Smoking Cigarettes . . .</u></b>		
makes a person lose their friends.	.73	.73
makes a person feel bad.	.77	.76
is bad for a person's health.	.58	.48
makes a person do poorly in school.	.83	.82
gets a person in trouble with the law.	.67	.71

**Table C.10 Factor Loadings and Item-Total Correlations for Questions in the Positive Alcohol Perception Scale.**

Question	Factor Loading (Weight)	Item-Total Correlation
<u>How much does drinking alcohol (beer, wine, liquor) help a person to . . .</u>		
stop feeling bored or lonely?	.88	.83
have fun with friends?	.86	.80
feel good?	.88	.83
experience new things?	.76	.70
get away from problems?	.87	.82
face a difficult situation?	.78	.71
do things better or be more creative?	.84	.78
become popular or one of the crowd?	.77	.70

**Table C.11 Factor Loadings and Item-Total Correlations for Questions in the Negative Attitudes Toward Alcohol Scale.**

Question	Factor Loading (Weight)	Item-Total Correlation
<u>Drinking alcohol . . .</u>		
makes a person lose their friends.	.71	.74
makes a person feel bad.	.78	.78
is bad for a person's health.	.79	.73
makes a person do poorly in school.	.84	.81
gets a person in trouble with the law.	.76	.70

**Table C.12 Factor Loadings and Item-Total Correlations for Questions in the Positive Marijuana Perception Scale.**

Question	Factor Loading (Weight)	Item-Total Correlation
<b><u>How much does smoking marijuana (grass, pot, hash) help a person to . . .</u></b>		
stop feeling bored or lonely?	.90	.85
have fun with friends?	.89	.85
feel good?	.89	.85
experience new things?	.81	.75
get away from problems?	.89	.85
face a difficult situation?	.78	.72
do things better or be more creative?	.88	.83
become popular or one of the crowd?	.78	.71

**Table C.13 Factor Loadings and Item-Total Correlations for Questions in the Positive Attitude Toward Marijuana Scale.**

Question	Factor Loading (Weight)	Item-Total Correlation
<b><u>Smoking marijuana . . .</u></b>		
makes a person lose their friends.	.50	.70
makes a person feel bad.	.62	.77
is bad for a person's health.	.72	.79
makes a person do poorly in school.	.79	.86
gets a person in trouble with the law.	.70	.78

## **Appendix D**

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### **Construction of Teacher/Principal Satisfaction Scale**

**Table D.1 Factor Loadings and Item-Total Correlations for Questions in the Composition of the Overall Satisfaction Scale in the Teacher/Principal Survey**

Question	Factor Loading (Weight)	Item-Total Correlation
Project DARE has made a positive impression on the children in my class.	.60	.55
Students have carried over knowledge and skills they learned in DARE to other subjects.	.69	.65
The classroom learning environment in general has been enhanced.	.72	.67
I believe the non-classroom activities by the DARE Officer are valuable additions to the program.	.51	.49
Parents support DARE.	.59	.54
DARE has helped improve student behavior at school.	.69	.66
There are fewer disciplinary problems.	.68	.64
There has been an increase in student self-esteem.	.76	.72
Students have more negative attitudes about drug use.	.64	.58
Students are better able to resist peer pressure.	.75	.70
Students are better equipped to deal with drug-oriented situations.	.78	.72
Students are more likely to say 'no' to negative behavior.	.77	.72
Students are more aware of the consequences of their actions.	.74	.69
Students have more positive attitudes toward police officers and authority.	.59	.54
School Staff awareness of drug abuse problems and ways to deal with them have been increased.	.65	.61
Students are more willing to openly discuss problems related to drugs.	.73	.68
Students are taking more responsibility for their actions.	.76	.71

## **Appendix E**

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### **Written Teacher/Principal Comments**

## Written Teacher Comments

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*The DARE program has been very educational in our school. In a drug-saturated environment, I feel it is necessary to teach drug education as early as possible.*

*As a parent's viewpoint also: My child came home after every session telling us something that Trooper Powell told them. He makes a good impression and the children love him.*

*Keep up the good work.*

*This is the best thing to be done against drugs. Prevention is the only answer. Not punishment. Education is the only way to prevention. It will take years for the process to work but I'm confident it will work!! Trooper Tom Powell is an asset to your program.*

*Educating our youth is the key to prevention of drug usage.*

*Our officer went above and beyond the call of duty both with students and faculty.*

*The DARE program was a tremendous asset to our curriculum.*

*I appreciate the officer's dedication and concern for our students.*

*The trooper's rapport with the students was very good. They were responsive and looked forward to his classes. I would like to see it continue.*

*We need more visual presentations such as films.*

*Keep DARE in public schools. Put DARE in Middle Schools as well!!*

*I feel that the program should have been extended longer and more in depth in the fourth grade. The students need to be aware of drugs and alcohol before middle school.*

*I feel this is a great way to make children aware of the problems involved with drugs.*

*DARE is a unique approach to enforcing negative opinions of non-prescription drugs.*

*I have seen very positive effects from the DARE program and thank all those involved with the program for contributing to the "betterment" of our community.*

*I wish it were not necessary to add drug awareness to the curriculum, but since drugs have become such a problem in our society I'm glad we have the DARE program.*

*I would love to see DARE continue next year. Hopefully our county/city law enforcers will pick up the program.*

*I think the DARE program should continue, and be presented by a law enforcement officer in uniform, if at all possible.*

*The program is excellent as far as teaching drug resistance and awareness. I was glad that no actual pictures or examples of drugs were used to make a point. Resistance skills were taught well and received well by students.*

3rd grade had only the one program. It seems, however, to be a wonderful program. I know that its not possible (due to personnel involved) to do extensive programs for everyone. 5th grade is the best place to concentrate.

Officer Curtsinger was very warm and understanding, yet was well respected by students.

Please continue the program. I believe the community will reap the benefits.

Excellent program, needs to be continued.

It is a good program. We should use it next year.

Project DARE worked well with our school's Project Self Esteem.

Twenty minutes was not enough time for the lesson to be developed and rapport to be established. There should be 8 sessions of 30 minutes each in the fourth grade at a minimum.

I feel this program is essential in schools today. I hope it will continue in the future.

I'm pleased that the KY State Police are willing to commit themselves to this type of educational program.

Great - add visuals for primary grades.

The DARE program was the most exciting, educational program that I have been involved with in recent years. I hope the funding continues. Sixth graders especially need to be made aware of these problems before entering middle school.

The kids loved the DARE program and Mr. Coplen.

DARE has a good message. I look forward to having the program in my classroom again next year.

I felt that the police officer did a nice job of trying to know the students by seeing them in the halls, at lunch, and at other functions.

Good program which needs to be continued and supported.

Students will often more readily confide in and seek information from someone other than the regular classroom teacher.

Setting a schedule and sticking to it, no cancellations, postponing, etc., would be better.

Sixth grade is an excellent age to present this material to!

Our instructor was good. He related to the students outside of the classroom.

I'm glad and excited that the community is working to help avert potential problems. As a teacher I feel any assistance with this enormous and difficult problem is most appreciated.

Captain Pickett worked well with the students and had a good response from them. They really like and trust him. I feel this is a valuable program.

Trooper Meadows who came to our school was very friendly, energetic, and very nice to students. He was very cooperative and helpful to all teachers at the school.

Overall I feel that the DARE program is a good program. The responses from the students have been very positive. The attitude toward law enforcing agencies can also be a worthwhile factor in this program.

I think it is an excellent program and should definitely be continued. I think that what they have learned will always be in the back of their mind when approached with drugs.

This program seems very worthwhile, keep it in our schools!

I would like to see the program spread to other levels, other than just the fifth and sixth grades.

My class thoroughly enjoyed the DARE program. They learned much and were required to think about their responses to certain situations. They learned that it is okay to say "no" and practiced various ways of refusing.

This has been an excellent program.

Not every officer can relate to the children as Trooper Meadows did. He is indeed a credit to law enforcement.

This is a great program and I hope it will continue to be a part of our school's curriculum in the future.

We were lucky to have someone with as much insight and concern as Trooper Meadows, a less caring officer would not have been as successful in the classroom.

I am really grateful to have had the program in my classroom. It was great!

While we may never see the direct results of this program because once they leave us they're out of our care, I think that this will leave an impression on them. And if one person has been helped, then it's a success.

It's hard to evaluate how each student will respond when confronted with drugs or whatever. We don't know what they will do. They don't even know. The students know what they "should" do and how, but until it happens, you just don't know.

I believe the DARE program was excellent for building good positive attitudes about "self" and about the police force in our community while at the same time giving the students knowledge of drugs.

I really liked this program. It gave the students positive attitudes about themselves, how to approach making decision, ways of actually saying "no".

I feel that this has been a very rewarding program for all of us. I hope to have a DARE program next year in our school, for I feel that the program has been very beneficial to all of us. The students really enjoyed the awards they received from the DARE program.

I think this is a great program. I believe that the program should start at the kindergarten level as well as the middle and upper grades.

The DARE program helped to improve the students self-esteem and gave them a better understanding of the problems our community faces with drug use.

I am also a parent of a fourth grader that is in a classroom with fifth graders. Not only did the fifth grade gain from this program, but the remainder of the school did as well. The enthusiasm of the students and their positive attitudes toward the police officers has been evident everywhere. The fifth graders have shared their experiences with the other students in the school and generated a very positive attitude.

An excellent program!

This is an excellent program. It has great ideas that keep the children's interest. It gives students, that are normally introverted in the classroom, a chance to speak out and be actively involved.

The graduation program where students received certificates, acted out skits, and teacher and students received special recognition was quite impressive.

It is a great program.

The program should be continued.

I think the program should continue and be in each school in the county.

We need the DARE program in other grades. The State of Kentucky needs to support it.



As a parent also my own children came home and discussed with us the DARE program. They really liked meeting and knowing a police officer by name.

I think the DARE officers in this building have affected students in many ways that cannot be measured. I have seen subtle shifts in attitudes about themselves, and the police and drugs.

Excellent program! Takes the worry off of curriculum coordinators and principals about Drug Abuse Education if a responsible police officer is involved!

An excellent program!

I enjoyed helping with the program.

Children also learn to have positive feeling about a uniformed officer.

I have seen the interest and positive response my students have had for the program. I have been pleased with the carry over into their own lives at home and the remarks they have made about what they have learned.

My comments are based on what I have seen the officers do in the 1st and 5th grades. The children's comments are very favorable also.

Trooper Powell was well liked by the students in my classroom. He did a very good job.

We want to continue the program. It is an opportunity to reach students in a special and lasting way

The DARE program and Mr. Powell have been an enrichment to our school program plus hopefully paving the way to a drug free America.

Trooper Powell was great!

Excellent! Great! This has been one of the best extra classes we have had since I have been teaching.

I appreciate how well organized and willing to carry out his job he was.

Getting to know a police officer was good for the students.

Enjoyed Trooper Powell coming to the room.

Trooper Powell did an excellent job. He certainly seemed to enjoy working.

A worthwhile project!

I hope to see the DARE curriculum continued for years to come. It is a very beneficial program.

We enjoyed Trooper Powell's lessons very much. The children were excited when it was 'our' time.

Thanks to all responsible for including the first grade in this project.

I was pleased to have my classes involved in the program. I had positive parent comments. My children really enjoyed each lesson.

The whole class benefited from the program.

I am also the parent of a 6th grade girl, and I think she has developed a greater awareness of the problem of drug abuse. She'll apply what she learned from this program more readily than if I had tried to teach her. Thanks!

Trooper Powell was sincere and concerned. He had a wonderful sense of humor, but let the children know that this was no laughing matter.

I think having a police officer in uniform made more of an impression than a classroom teacher would.

Good, positive program - step in the right direction - needs to continue - long period of time might be more beneficial to students.

I hope that we can continue this program next year. Maybe with handouts, coloring books, and parents could be invited in to hear the program.

Trooper Powell worked very hard and had a great influence on my students. I feel he helped the children to become more aware of drug abuse as well as helping them have a better attitude toward all police officers. It is a good program.

Very good program, timely - we would like to feel our children do not have such choices to make, but reality has too often proved us wrong.

Thank you for this program! It is a good idea.

This was a very positive experience for fifth grade students.

Hope DARE continues!

Good program. Should be continued.

Fantastic Program!

Excellent program.

I think this is a very worthwhile program. I hope it is continued.

Very good program!

Commendable program!

We still need more community support.

I would like to see the officer do more with the younger children dealing with drugs as well as safety.

I recommend having the DARE programs every year in each individual classroom presented by a police officer. I also highly recommend Trooper Wendy. He let the children know that he knew what he was talking about.

The program has much promise, but needs a different instructor.

Would like to see this program in lower grades for longer than one visit.

I hope the program DARE will be continued on a yearly basis and expanded if possible.

I think DARE is just the beginning. We need such programs at every level of education (all grades 1-12). It must not be used as a way to get out of class, those who enter these programs must be held accountable. I like the fact that the DARE program will expel those from the program who will not participate, but instead seek to destroy it.

The total discipline aspect of this program is an added bonus.

This program was wonderful for the students. I strongly feel that it needs to be taught to each grade in the elementary and Jr. high schools to be truly worthwhile.

I have taught since 1966 and have seen a lot of drug and alcohol programs make the circuit, but this one is the best I've seen. The students really got into it and the policeman we were in contact with did more than any vast amount of P.R. could do to build a positive image of all policemen.

I think the program should continue and reach into the higher grades.

In fourth grade we were only exposed a small amount to the DARE program.

The officer needs a payment for the amount of time put into DARE program.

I would like to commend the officers involved with this project to keep kids off drugs.

*I am very proud of our DARE officer. It takes a lot of time and it is quite special, since the officer receives no pay. He was very devoted to his cause.*

*I think the officers did an excellent job!*

*Great! I hope the program continues and expands!*

*The more we address the drug problem in young students the greater the problem becomes. If we are going to correct the drug problem of this nation, we must 1) convince the public that the cure for all human illness, real or unreal cannot be found in a pill or shot. 2) Children use of drugs is due to the lack of supervision by parents in the home. 3) If we ever correct this problem, it must come from the home not the school or law enforcement.*

*I give credit to our police officer, Dwayne Reneir, for the success of the program. He was so dedicated and sincere about the program.*

*Our "DARE" instructor was terrific. I feel the success of the program at our school was very much to his credit. My students won't forget what they've learned through DARE, nor will they soon forget the instructor!*

*It is hard to evaluate this program's long term results. Some attitudes cannot be evaluated. Our "DARE MAN" has been good for our school. He is a fine and caring person.*

*The lessons fit into the chapter on drugs in our health book, so we could reinforce what the officer and booklet said. This helped us expand and extend our lesson plans.*

*I would like to go to a class for teachers/parents to help them be aware and to look for signs of drug use. Also, I am not sure that I would recognize "drug paraphernalia" if brought to school. We are hearing about this in the news.*

*I think it was worth the time and effort.*

*I feel the effect and retention of learning would be greatly enhanced if the program could be taught on consecutive days rather than once a week as in our case.*

*Excellent program and DARE instructor.*

*Very good program. I wish we could have the lessons all year!*

*I would like to see the DARE program continued.*

*Good program.*

*Our DARE instructor participated in P.E., ate lunch with our class, and became friends with some children who had developed negative feelings about police officers in general. Our children learned to love and trust police officers.*

*Great program!*

*I believe if this program continues and the children are exposed to the negative side of drugs and alcohol on a continuing on-going basis with an authority figure, who is their friend as well as someone who has actually seen and been around people who have abused these drugs, the lesson will go deeper than if a classroom teacher, who probably never saw an abuser first hand tries to relay the same message. Hero-fixation.*

*The 5th grades were not included in this program. It seems that it would be worthwhile for them to have this experience in 5th grade rather than waiting until 6th grade.*

*I feel that 5th graders should also participate in the program.*

*I would like to see the DARE program expanded to include more grades and also more time during each session.*

*Captain Pickett mixed socially with the students, ate with them and talked with them. DARE helped all of us.*

*I enjoyed the program as much as the children did!*

*I feel the program was a good one. I think it was good that the classroom teacher was in the room while the curriculum was taught.*

*Thank you for providing such a great program. As a teacher and parent I appreciate it.*

*This has been an excellent experience for our school and I hope that it will continue.*

*I feel that DARE helps to enhance what is already being taught in the classroom. It also helps to have another authority figure in the classroom. It is very positive to have the students relate to an officer. He relates well to the students; they all looked forward to his visits.*

*Personally I feel the program should even start with younger students, i.e. fourth grade. This program is not a panacea. But it is one more excellent program to enhance our curriculum.*

*Thank you for allowing my classroom the opportunity to participate in this project.*

*Those in my class who are discipline problems listened. Their actions and attitudes haven't changed. Hopefully when they can change without classmate back-lash they will try another way.*

*Good program, we are lucky to have so many programs available; we have to select one and stay with this for curriculum purposes.*

*It was a significant opportunity for students to be involved in a program to salvage them from the tragedy of drug abuse. It is needed.*

*Since I teach a split 4th and 5th grade, I could have been more involved with the program had I been allowed to have my whole class participate.*

*I have enjoyed the program.*

*I like the idea of having a policeman in the building. It gives the children a different view of law officers. (Teachers should stay in the classroom. We also need to know what is going on.)*

*I hope we are more directly involved. Possibly for the lower grades a coloring book or comic book would be nice about the same concepts.*

*Although I was not involved because I am a third grade teacher, I have heard positive things about the program. As a police officer's wife I know how important it is to establish a good relationship with young adults and children.*

*The only bad point of the program was the inability of the instructor to upgrade the lessons so the eight graders were not bored or intellectually insulted. I know the "teddybear" part bored them.*

*I am impressed that the police department of Boone County cares enough about the young citizens of this area to take the time and effort needed to present the DARE program.*

*I would have liked to know more about what was going to be presented to the children. (Such as a topic list; literature for my grade level, etc.)*

*I would like to see DARE taught in more schools and grade levels throughout our school system.*

*I wish every school in the county could have a DARE officer to teach in their schools for the entire semester. I feel very fortunate by having the DARE program offered to my class. We have really loved this program.*

*We only had the DARE program one day but the children really enjoyed it and have brought out many points the officer made.*

*Very informative. Our follow-up was a classroom unit we did.*

*We need these programs. The children today are exposed to more. They need our help. Thank you for your support! I think the DARE program is great!*

Thanks to: Mr. Tony Cambron of the Kentucky State Police and Mr. Dennis Rice of the Manchester Police Department.

Worth every dime!!

I am still wondering if some kids will experiment even though they've been through the program. Parents need to be involved.

Questions led me to believe that DARE is a cure-all. I confirm that it is not. Though the program is important, not enough is being done to sway the philosophies of children in the right direction.

I would like to see DARE not completely disappear from our middle school. Would it be possible to have a DARE club or DARE assembly or have an officer be "around". I hate to lose the rapport we've gained with these kids.

Hope the program continues!

It is essential that this be part of our against-drug battle.

Gave students more confidence and will help to say NO.

Increase 2nd grade coverage to include saying no to what they may see older children using or offering them.

I believe the DARE program and Mr. Coplen, our instructor, made a very worthwhile impression on my class. I hope the program is repeated.

## **Appendix F**

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### **Survey Instruments**

## Teacher/Principal D.A.R.E. Evaluation

Western Kentucky University is assisting the Kentucky State Police in an evaluation of the DARE Program. As part of this evaluation, faculty and principals are being asked to respond to a series of questions regarding their opinions of the program's content, effect, and delivery. Please **DO NOT** put your name on this questionnaire. All responses will be held as strictly confidential. Results will not be presented in an identifiable form.

### I. Background of Evaluator. Before answering the questions below, please provide the following personal information:

1. What is your primary responsibility? ☐ teaching ☐ administration ☐ other (e.g., LD, EMH, Library, PE, music, etc.)
2. If you are primarily a teacher, what grade(s) have you taught this year? \_\_\_\_\_
3. How long have you been a full-time elementary school teacher? ☐ 1-3 years ☐ 4-6 years ☐ 7-9 years ☐ 10+
4. What is your gender? ☐ male ☐ female

### II. DARE Opinions. Please answer the following attitude questions by circling the response that best summarizes your opinion: **SD** (Strongly Disagree); **D** (Disagree); **U** (Undecided or No Opinion); **A** (Agree); **SA** (Strongly Agree).

- |   |    |   |   |   |    |
|---|----|---|---|---|----|
| 1. Project DARE has made a positive impression on the children in my class (or school for principals).  | SD | D | U | A | SA |
| 2. I support the DARE Project.  | SD | D | U | A | SA |
| 3. I would like to see DARE taught in this school in the future.  | SD | D | U | A | SA |
| 4. I believe that DARE should be taught statewide at additional grade levels.   | SD | D | U | A | SA |
| 5. Students have carried over knowledge and skills they learned in DARE to other subjects.  | SD | D | U | A | SA |
| 6. The classroom learning environment in general has been enhanced.   | SD | D | U | A | SA |
| 7. I believe the non-classroom activities by the DARE Officer (parent involvement, presentations in other classes, recess and lunch with the students) are valuable additions to the program. | SD | D | U | A | SA |
| 8. Parents support DARE.  | SD | D | U | A | SA |
| 9. DARE has helped improve student behavior at school.  | SD | D | U | A | SA |
| 10. There are fewer disciplinary problems.  | SD | D | U | A | SA |
| 11. There has been an increase in students' self-esteem.  | SD | D | U | A | SA |
| 12. Students have more negative attitudes about drug use.   | SD | D | U | A | SA |
| 13. Students are better able to resist peer pressure.   | SD | D | U | A | SA |
| 14. Students are better equipped to deal with drug-oriented situations.   | SD | D | U | A | SA |
| 15. Students are more likely to say "no" to negative behavior.  | SD | D | U | A | SA |
| 16. Students are more aware of the consequences of their actions.   | SD | D | U | A | SA |
| 17. Students have more positive attitudes toward police officers and authority.   | SD | D | U | A | SA |
| 18. School staff awareness of drug abuse problems and ways to deal with with them have been increased.  | SD | D | U | A | SA |
| 19. Students are more willing to openly discuss problems related to drugs.  | SD | D | U | A | SA |
| 20. Students are taking more responsibility for their actions.  | SD | D | U | A | SA |

(Please Complete Backside)

**III. Personal Evaluation.** All responses will be reported anonymously.

1. Do you think it is appropriate for a police officer to teach the DARE curriculum in the classroom? Why or why not?
  
  
  
  
  
  
  
  
  
  
2. Were you satisfied with the quality of the teaching performance of the DARE instructor? Why or why not?
  
  
  
  
  
  
  
  
  
  
3. Based on your knowledge of how DARE has operated in your community, do you think that classroom teachers would have obtained the same results with the DARE curriculum as police officers? Why or why not?
  
  
  
  
  
  
  
  
  
  
4. Would you recommend DARE to your fellow (principals/teachers)?
  
  
  
  
  
  
  
  
  
  
5. Other comments:

*Thank you for your cooperation in completing this survey. Please place your completed questionnaire in the return envelope in the office and check your name off on the list of faculty on the envelope to indicate that your questionnaire has been returned.*

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## STUDENT OPINION SURVEY

### Instructions:

The sentences that you will read and respond to today are different. This is *NOT* a test. Instead, we are going to ask you to tell us how you feel about things. The best answer is the one that fits how you feel.

This study is being conducted by Western Kentucky University with the help of your school. The results will be used to better understand the feelings and experiences of people your age.

All answers will be kept totally secret. You will be identified by code number and not by name. Your name will be physically separated from the questionnaire by you in a moment. The answers you give will never be released, and only general answers for large groups of students will ever be reported. Neither you, your teachers, your parents, nor anyone else will be able to see the results of your questionnaire after you turn it in. We are not allowed to give out your name or anything else that would identify you to anyone. We cannot be forced to do so by the schools, the police, or even the courts. Even if you told us something that is illegal, we would have to keep it secret.

You do not have to complete the questionnaire if you do not want to, and you can skip any question if you feel you cannot answer it. Please remember that the more honest your answers are, the more accurately we can summarize the feelings and experiences of kids your age.

Example Question:					
	<b>I DISAGREE STRONGLY</b>	<b>I DISAGREE BUT NOT STRONGLY</b>	<b>I'M NOT SURE</b>	<b>I AGREE BUT NOT STRONGLY</b>	<b>I AGREE STRONGLY</b>
<b>I like my school.</b>	[D]	[d]	[u]	[a]	[A]

Do you agree or disagree with the sentence?

- \* If you disagree a lot, then you would MARK letter **D**.
- \* If you disagree a little, then you would MARK letter **d**.
- \* If you aren't sure, then you would MARK letter **U**.
- \* If you agree a little, then you would MARK letter **a**.
- \* If you agree a lot, then you would MARK letter **A**.

### REMEMBER:

1. Only *ONE* answer is marked with a check or an "X".
2. *BE HONEST*.
3. *KEEP YOUR EYES ON YOUR OWN PAPER*.

**PLEASE ANSWER THE FOLLOWING QUESTIONS ABOUT YOURSELF.**

- 1. What is your sex?**     ☐ Male                      ☐ Female

- 2. How old are you?** (please fill in)

- 3. How do you describe yourself?**

- ☐ White
 ☐ Puerto Rican/Latin American  
☐ Black
 ☐ Oriental or Asian  
☐ Indian
 ☐ White and Black  
☐ Mexican or Chicano

- 4. Which of the following people LIVE WITH YOU? (Mark all that apply)**

- ☐ Mother
 ☐ Guardian or Guardians  
☐ Father
 ☐ Grandparent or Grandparents  
☐ Stepmother
 ☐ Other relatives (such as brothers,  
☐ Stepfather
 sisters, aunts, uncles, etc.)

5. How many OLDER brothers and sisters live with you? \_\_\_\_\_ (please fill in)

- 6. Taking all of your classes together, how well are you doing in school so far this year?**

- ☐ Very well                      ☐ Not too well
- ☐ Pretty well                  ☐ Not well at all



TELL US IF YOU AGREE OR DISAGREE AND HOW STRONGLY WITH THE STATEMENTS ON THE FOLLOWING PAGES.

	I DISAGREE STRONGLY	I DISAGREE BUT NOT STRONGLY	I'M NOT SURE	I AGREE BUT NOT STRONGLY	I AGREE STRONGLY
7. When my friends are doing something wrong it is hard for me to walk away.	[D]	[d]	[U]	[a]	[A]
8. If you say "no" too often you won't have any friends.	[D]	[d]	[U]	[a]	[A]
9. Sometimes I do what my friends do even though I know it isn't right.	[D]	[d]	[U]	[a]	[A]
10. If you attend a party where everyone else is drinking alcohol, you can have a good time without joining in.	[D]	[d]	[U]	[a]	[A]
11. If my friends smoke I should too.	[D]	[d]	[U]	[a]	[A]
12. I should walk away from those who try to make me use drugs.	[D]	[d]	[U]	[a]	[A]
13. Sometimes I do things because my friends do, even though I later regret it.	[D]	[d]	[U]	[a]	[A]
14. I should drink if my friends do even if I don't want to.	[D]	[d]	[U]	[a]	[A]
15. I feel I can say anything to my friends without being teased.	[D]	[d]	[U]	[a]	[A]
16. I am afraid if I say "No" to drugs my friends won't like me.	[D]	[d]	[U]	[a]	[A]
17. Most kids my age use alcohol or drugs like marijuana.	[D]	[d]	[U]	[a]	[A]

18.	If my friends were going to a party to drink beer I would go with them.	[D]	[d]	[U]	[a]	[A]
19.	If someone pressures me to use drugs I should say "No thanks" and walk away.	[D]	[d]	[U]	[a]	[A]
20.	Kids who use drugs have more friends than those who don't.	[D]	[d]	[U]	[a]	[A]
21.	The best way to say "No" to drugs is to stay away from them.	[D]	[d]	[U]	[a]	[A]
22.	It is better to keep your feelings to yourself.	[D]	[d]	[U]	[a]	[A]
23.	I usually give in to my friends when they pressure me.	[D]	[d]	[U]	[a]	[A]
24.	If my friends drank beer, I probably would too.	[D]	[d]	[U]	[a]	[A]
25.	It is hard for me to say "No" to my friends.	[D]	[d]	[U]	[a]	[A]
26.	A true friend would never ask you to eat or drink something that wasn't really safe.	[D]	[d]	[U]	[a]	[A]
27.	Real friends don't push kids into trying drugs or alcohol.	[D]	[d]	[U]	[a]	[A]
28.	If I don't do what my friends want me to do I will be all alone.	[D]	[d]	[U]	[a]	[A]
29.	If your best friend offers you a drug, you have to take it.	[D]	[d]	[U]	[a]	[A]
30.	If someone you like wants you to do something you think is wrong, there is no way you can say "No" and still be friends.	[D]	[d]	[U]	[a]	[A]
31.	If drugs are pushed on me I can say "No thanks, they make me throw up."	[D]	[d]	[U]	[a]	[A]

**TELL US IF YOU AGREE OR DISAGREE AND HOW STRONGLY WITH THE STATEMENTS ON THE FOLLOWING PAGES.**

	<b>I DISAGREE STRONGLY</b>	<b>I DISAGREE BUT NOT STRONGLY</b>	<b>I'M NOT SURE</b>	<b>I AGREE BUT NOT STRONGLY</b>	<b>I AGREE STRONGLY</b>
32. It is okay to drink a little beer.	[D]	[d]	[U]	[a]	[A]
33. There is nothing wrong with smoking cigarettes as long as you don't smoke too many.	[D]	[d]	[U]	[a]	[A]
34. Kids who take drugs seem more grown up.	[D]	[d]	[U]	[a]	[A]
35. Kids who smoke cigarettes regularly can quit anytime they want.	[D]	[d]	[U]	[a]	[A]
36. It is okay for kids to drink alcohol as long as they quit before it becomes a habit.	[D]	[d]	[U]	[a]	[A]
37. Teenagers who drink alcohol are more grown up.	[D]	[d]	[U]	[a]	[A]
38. If I smoked "crack" I would become addicted.	[D]	[d]	[U]	[a]	[A]
39. LSD can make people so crazy they think they can fly.	[D]	[d]	[U]	[a]	[A]
40. People who smoke marijuana might have deformed children.	[D]	[d]	[U]	[a]	[A]
41. It is perfectly safe to take medicine that a doctor has given to someone else.	[D]	[d]	[U]	[a]	[A]
42. Drugs bought on the street are not safe to use.	[D]	[d]	[U]	[a]	[A]

43.	It is okay for kids to try marijuana just to satisfy their curiosity.	[D]	[d]	[U]	[a]	[A]
44.	It is okay to sell drugs if you don't use them.	[D]	[d]	[U]	[a]	[A]
45.	Alcohol is reward for hard work.	[D]	[d]	[U]	[a]	[A]
46.	Marijuana is okay as long as it is smoked with friends.	[D]	[d]	[U]	[a]	[A]
47.	Drugs change the way people act.	[D]	[d]	[U]	[a]	[A]
48.	Drugs make you look cool in front of your friends.	[D]	[d]	[U]	[a]	[A]
49.	Using drugs will cause you to dislike yourself because they are wrong.	[D]	[d]	[U]	[a]	[A]
50.	Kids who drink alcohol are more grown up than those who don't.	[D]	[d]	[U]	[a]	[A]
51.	If you are under stress, drinking alcohol or taking drugs won't really help.	[D]	[d]	[U]	[a]	[A]
52.	Using street drugs is wrong, no matter how little you use them.	[D]	[d]	[U]	[a]	[A]
53.	I can use drugs without anyone knowing it.	[D]	[d]	[U]	[a]	[A]
54.	Any kid who says that drinking alcohol isn't fun is really out of it.	[D]	[d]	[U]	[a]	[A]
55.	Taking drugs can help you have more fun when you're bored.	[D]	[d]	[U]	[a]	[A]
56.	Sometimes the only way to keep from feeling sad is to get "high."	[D]	[d]	[U]	[a]	[A]

**57. How many cigarettes have you smoked in YOUR WHOLE LIFE?**

- |  |   |
|--|---|
| <input type="checkbox"/> None                    | <input type="checkbox"/> 11-20 cigarettes (1/2 pack to 1 pack)    |
| <input type="checkbox"/> Less than one cigarette | <input type="checkbox"/> 21-30 cigarettes (1 to 1 1/2 packs)      |
| <input type="checkbox"/> 1-5 cigarettes          | <input type="checkbox"/> 31 or more cigarettes (over 1 1/2 packs) |
| <input type="checkbox"/> 6-10 cigarettes         |   |

**58. How many cigarettes have you smoked in THE PAST YEAR?**

- |  |   |
|--|---|
| <input type="checkbox"/> None                    | <input type="checkbox"/> 11-20 cigarettes (1/2 pack to 1 pack)    |
| <input type="checkbox"/> Less than one cigarette | <input type="checkbox"/> 21-30 cigarettes (1 to 1 1/2 packs)      |
| <input type="checkbox"/> 1-5 cigarettes          | <input type="checkbox"/> 31 or more cigarettes (over 1 1/2 packs) |
| <input type="checkbox"/> 6-10 cigarettes         |   |

**59. IN YOUR WHOLE LIFE, how many times have you used smokeless tobacco or snuff (Examples: Dip, Skoal, Happy Days, Red Man)?**

- |                                  |                                     |
|----------------------------------|-------------------------------------|
| <input type="checkbox"/> 0 times | <input type="checkbox"/> 10-19      |
| <input type="checkbox"/> 1-2     | <input type="checkbox"/> 20-39      |
| <input type="checkbox"/> 3-5     | <input type="checkbox"/> 40 or more |
| <input type="checkbox"/> 6-9     |                                     |

**60. IN THE PAST YEAR, how many times have you used smokeless tobacco or snuff?**

- |                                  |                                     |
|----------------------------------|-------------------------------------|
| <input type="checkbox"/> 0 times | <input type="checkbox"/> 10-19      |
| <input type="checkbox"/> 1-2     | <input type="checkbox"/> 20-39      |
| <input type="checkbox"/> 3-5     | <input type="checkbox"/> 40 or more |
| <input type="checkbox"/> 6-9     |                                     |

**61. IN YOUR WHOLE LIFE, how many times have you drunk a FULL GLASS of alcohol (beer, wine, liquor)?**

- |                                  |                                     |
|----------------------------------|-------------------------------------|
| <input type="checkbox"/> 0 times | <input type="checkbox"/> 10-19      |
| <input type="checkbox"/> 1-2     | <input type="checkbox"/> 20-39      |
| <input type="checkbox"/> 3-5     | <input type="checkbox"/> 40 or more |
| <input type="checkbox"/> 6-9     |                                     |

62. **IN THE PAST YEAR, how many times have you drunk a FULL GLASS of alcohol (beer, wine, liquor)?**

☐ 0 times

☐ 10-19

☐ 1-2

☐ 20-39

☐ 3-5

☐ 40 or more

☐ 6-9

63. **IN YOUR WHOLE LIFE, how many times have you smoked marijuana (grass, pot, hash)?**

☐ 0 times

☐ 10-19

☐ 1-2

☐ 20-39

☐ 3-5

☐ 40 or more

☐ 6-9

64. **IN THE PAST YEAR, how many times have you smoked marijuana (grass, pot, hash)?**

☐ 0 times

☐ 10-19

☐ 1-2

☐ 20-39

☐ 3-5

☐ 40 or more

☐ 6-9

65. **About how many kids in your class level smoke cigarettes?**

☐ None

☐ A lot

☐ Just a few

☐ Most

☐ Several

☐ I don't know

66. **About how many kids in your class level drink alcohol (beer, wine, liquor)?**

☐ None

☐ A lot

☐ Just a few

☐ Most

☐ Several

☐ I don't know

67. **About how many kids in your class level smoke marijuana (grass, pot, hash)?**

☐ None

☐ A lot

☐ Just a few

☐ Most

☐ Several

☐ I don't know

How much does smoking cigarettes help a person to . . .

	DOES NOT HELP AT ALL	HELPS A LITTLE	HELPS SOME	HELPS VERY MUCH
68. stop feeling bored or lonely?	[ ]	[ ]	[ ]	[ ]
69. have fun with friends?	[ ]	[ ]	[ ]	[ ]
70. feel good?	[ ]	[ ]	[ ]	[ ]
71. experience new things?	[ ]	[ ]	[ ]	[ ]
72. get away from problems?	[ ]	[ ]	[ ]	[ ]
73. face a difficult situation?	[ ]	[ ]	[ ]	[ ]
74. do things better or be more creative?	[ ]	[ ]	[ ]	[ ]
75. become popular or one of the crowd?	[ ]	[ ]	[ ]	[ ]

TELL US IF YOU AGREE OR DISAGREE AND HOW STRONGLY WITH THE FOLLOWING STATEMENTS.

Smoking cigarettes . . .

	I DISAGREE STRONGLY	I DISAGREE BUT NOT STRONGLY	I'M NOT SURE	I AGREE BUT NOT STRONGLY	I AGREE STRONGLY
76. makes a person lose their friends.	[ D ]	[ d ]	[ U ]	[ a ]	[ A ]
77. makes a person feel bad.	[ D ]	[ d ]	[ U ]	[ a ]	[ A ]
78. is bad for a person's health.	[ D ]	[ d ]	[ U ]	[ a ]	[ A ]
79. makes a person do poorly in school.	[ D ]	[ d ]	[ U ]	[ a ]	[ A ]
80. gets a person in trouble with the law.	[ D ]	[ d ]	[ U ]	[ a ]	[ A ]

How much does drinking alcohol (beer, wine, liquor) help a person to . . .

	DOES NOT HELP AT ALL	HELPS A LITTLE	HELPS SOME	HELPS VERY MUCH
81. stop feeling bored or lonely?	[ ]	[ ]	[ ]	[ ]
82. have fun with friends?	[ ]	[ ]	[ ]	[ ]
83. feel good?	[ ]	[ ]	[ ]	[ ]
84. experience new things?	[ ]	[ ]	[ ]	[ ]
85. get away from problems?	[ ]	[ ]	[ ]	[ ]
86. face a difficult situation?	[ ]	[ ]	[ ]	[ ]
87. do things better or be more creative?	[ ]	[ ]	[ ]	[ ]
88. become popular or one of the crowd?	[ ]	[ ]	[ ]	[ ]

TELL US IF YOU AGREE OR DISAGREE AND HOW STRONGLY WITH THE FOLLOWING STATEMENTS.

Drinking alcohol . . .

	I DISAGREE STRONGLY	I DISAGREE BUT NOT STRONGLY	I'M NOT SURE	I AGREE BUT NOT STRONGLY	I AGREE STRONGLY
89. makes a person lose their friends.	[ D ]	[ d ]	[ U ]	[ a ]	[ A ]
90. makes a person feel bad.	[ D ]	[ d ]	[ U ]	[ a ]	[ A ]
91. is bad for a person's health.	[ D ]	[ d ]	[ U ]	[ a ]	[ A ]
92. makes a person do poorly in school.	[ D ]	[ d ]	[ U ]	[ a ]	[ A ]
93. gets a person in trouble with the law.	[ D ]	[ d ]	[ U ]	[ a ]	[ A ]



How much does smoking marijuana (grass, pot, hash) help a person to . . .

94. stop feeling bored or lonely?

[ ]

[ ]

[ ]

[ ]

95. have fun with friends?

[ ]

[ ]

[ ]

[ ]

96. feel good?

[ ]

[ ]

[ ]

[ ]

97. experience new things?

[ ]

[ ]

[ ]

[ ]

98. get away from problems?

[ ]

[ ]

[ ]

[ ]

99. face a difficult situation?

[ ]

[ ]

[ ]

[ ]

100. do things better or be more creative?

[ ]

[ ]

[ ]

[ ]

101. become popular or one of the crowd?

[ ]

[ ]

[ ]

[ ]

TELL US IF YOU AGREE OR DISAGREE AND HOW STRONGLY WITH THE FOLLOWING STATEMENTS.

Smoking marijuana . . .

102. makes a person lose their friends.

[D]

[d]

[U]

[a]

[A]

103. makes a person feel bad.

[D]

[d]

[U]

[a]

[A]

104. is bad for a person's health.

[D]

[d]

[U]

[a]

[A]

105. makes a person do poorly in school.

[D]

[d]

[U]

[a]

[A]

106. gets a person in trouble with the law.

[D]

[d]

[U]

[a]

[A]

**MOST STUDENTS in my class**  
**think that . . .**

107. smoking cigarettes is . . .

[B]

[b]

[U]

[g]

[G]

108. drinking alcohol (beer,  
wine, liquor) is . . .

[B]

[b]

[U]

[g]

[G]

109. smoking marijuana (grass,  
pot, hash) is . . .

[B]

[b]

[U]

[g]

[G]

**I THINK THAT . . .**

110. smoking cigarettes is . . .

[B]

[b]

[U]

[g]

[G]

111. drinking alcohol (beer,  
wine, liquor) is . . .

[B]

[b]

[U]

[g]

[G]

112. smoking marijuana (grass,  
pot, hash) is . . .

[B]

[b]

[U]

[g]

[G]

113. About how many of your friends smoke cigarettes?

[ ] None

[ ] Most

[ ] 1 or 2

[ ] All

[ ] Some

114. About how many of your friends get drunk at least once a week?

[ ] None

[ ] Most

[ ] 1 or 2

[ ] All

[ ] Some

115. About how many of your friends smoke marijuana?

[ ] None

[ ] Most

[ ] 1 or 2

[ ] All

[ ] Some

TELL US IF YOU AGREE OR DISAGREE AND HOW STRONGLY WITH THE FOLLOWING STATEMENTS.

	I DISAGREE STRONGLY	I DISAGREE BUT NOT STRONGLY	I'M NOT SURE	I AGREE BUT NOT STRONGLY	I AGREE STRONGLY
116. I have a lot of respect for the police.	[D]	[d]	[U]	[a]	[A]
117. Most police officers are honest.	[D]	[d]	[U]	[a]	[A]
118. Most police officers like to act tough.	[D]	[d]	[U]	[a]	[A]
119. Most police officers are pretty nice guys.	[D]	[d]	[U]	[a]	[A]
120. Most police officers like to help kids.	[D]	[d]	[U]	[a]	[A]
121. Most police officers like to pick on kids.	[D]	[d]	[U]	[a]	[A]
122. Police officers have a right to tell kids what to do.	[D]	[d]	[U]	[a]	[A]
123. Most police officers <u>don't</u> understand a kid's problems.	[D]	[d]	[U]	[a]	[A]
124. Most police officers go out of their way to keep a kid out of trouble.	[D]	[d]	[U]	[a]	[A]
125. Police officers make me nervous.	[D]	[d]	[U]	[a]	[A]
126. I would like to be a police officer.	[D]	[d]	[U]	[a]	[A]
127. I have <u>never</u> met a nice police officer.	[D]	[d]	[U]	[a]	[A]
128. Police really care about kids my age.	[D]	[d]	[U]	[a]	[A]
129. Police officers like to scare kids.	[D]	[d]	[U]	[a]	[A]

130. I feel if I had a problem I could talk to a police officer about it.	[D]	[d]	[U]	[a]	[A]
131. Police officers like to push people around.	[D]	[d]	[U]	[a]	[A]
132. We can learn from police officers.	[D]	[d]	[U]	[a]	[A]
133. Police officers are there to help us.	[D]	[d]	[U]	[a]	[A]
134. If I got into trouble the police would listen to my side of the story.	[D]	[d]	[U]	[a]	[A]
135. Police officers like to hassle kids for no reason at all.	[D]	[d]	[U]	[a]	[A]
136. If you give a police officer a chance, he will be your friend.	[D]	[d]	[U]	[a]	[A]
137. Police officers do good things in my community.	[D]	[d]	[U]	[a]	[A]
138. Police officers try to help kids who use drugs.	[D]	[d]	[U]	[a]	[A]
139. Police officers would rather catch you doing something wrong than try to help you.	[D]	[d]	[U]	[a]	[A]
140. You only see the police when there is trouble.	[D]	[d]	[U]	[a]	[A]
141. Kids should listen to what police officers have to say.	[D]	[d]	[U]	[a]	[A]