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ABSTRACT

During the 1984-1986 academic years, the Nebraska Prevention Center for Alcohol and Drug Abuse again cooperated with the Omaha Public Schools to assess the effects of the videotape-based educational program, "Resisting Pressures to Drink and Drive." This report summarizes the activities of the 1984-1985 year and presents an assessment of the effects of those activities. This educational program was presented to 48 classes of 9th-graders in their English classes. The specific risk reduction strategies taught in this curriculum include learning and practicing techniques to delay decisions to drink and drive, recruiting friends to help counter peer pressure, interpreting one's self-worth as reason enough to avoid risky alcohol situations, and the application of some specific ways to say no to peers and adults. Because this is a skill-based program it was important that students participated in skills-related classroom activities. To encourage actual practice, these skills were illustrated on the videotapes, and a number of exercises in the student/teacher workbook were provided to aid in skills development. Overall, the group exposed to the curriculum did not report significant differences in the alcohol-related behaviors, especially when compared with the control group. However, although this curriculum did not significantly affect immediate behavior over the short term, it may well have affected behavior over the long term. The relationship between knowledge of risk and risk-taking behavior remains unclear. (LLL)

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Prevention Center Papers

Technical Report No. 17

Teaching Students to Resist Pressures To Drink And Drive: First Year Evaluation English Classes

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**TEACHING STUDENTS TO RESIST PRESSURES
TO DRINK AND DRIVE
FIRST YEAR EVALUATION
ENGLISH CLASSES**

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TEACHING STUDENTS TO RESIST PRESSURES TO DRINK AND DRIVE FIRST YEAR EVALUATION ENGLISH CLASSES

During the 1984-1985 and the 1985-1986 academic years, the Nebraska Prevention Center for Alcohol and Drug Abuse again cooperated with the Omaha Public Schools to assess the effects of the videotape-based educational program "Resisting Pressures to Drink and Drive." This report summarizes the activities of the 1984-1985 year and presents an assessment of the effects of those activities. This educational program was presented in the English classrooms, while the program assessed in NPCADA Technical Reports 14 and 16 was presented in the social studies classrooms. The findings of the two reports are very similar, and will be compared in Technical Report 18, utilizing one-year followups of each of the two programs.

BACKGROUND

The critical problem addressed in this project is the need to reduce alcohol-related adolescent automobile accidents. According to the 1986 report of the Accident Records Section, Safety Division, Nebraska Department of Roads, of a total 226 fatal auto accidents which estimated the presence or absence of alcohol some 116 (51% involved alcohol. Half of these accidents involved a driver between the ages of 15 and 24 and half of those who died were also between the ages of 15 and 24. Of these 84% were male.

Fatal automobile accidents in Nebraska involve alcohol, young drivers and deaths of young males in disproportionate numbers. As Table 1 shows, this is nothing new. Similar results were reported in Nebraska in 1985, 1984, and 1983. This phenomenon is replicated in every state of the union.

TABLE 1
SUMMARY - NEBRASKA MOTOR VEHICLE TRAFFIC ACCIDENTS

Year	% All Fatalities Involving Alcohol*	% Alc.Fatalities Drivers 15-24	% Alc. Fatalities Ages 15-24	% Alc.Fatalities 15-24 Male
1986	51%	50%	50%	84%
1985	44%	37%	47%	83%
1984	43%	40%	42%	68%
1983	48%	49%	53%	80%

Source: Standard Summary of Nebraska Motor Vehicle Accidents. Accident Records Section, Safety Division, Nebraska Department of Roads. (This percentage is derived from figures on fatalities in which it was apparent whether alcohol was involved or not. Such estimates were not made in a small percentage of accident fatalities.

In the United States in the last two decades, gross mortality rates for all ages have declined except for individuals 15 to 24 years old. The principal reason for the failure of the 15 to 24-year-olds to benefit from this reduction is that accidental death rates for these ages have not declined. Examination of factors contributing to adolescent and young adult accidental deaths identify the automobile as the principal agent and further analysis indicates that alcohol is the principal contributing factor to automobile fatalities (U.S.P.H.S., 1979). The epidemiological link between adolescent alcohol use and automobile fatalities continues to the present. This same linkage, found between adolescent alcohol use and injuries to automobile drivers, passengers and pedestrians, is just as clear and even more costly.

Adolescents in Nebraska have relatively easy access to automobiles and alcohol is their drug of choice. Data from a survey of 3,500 students in Grades 7 through 12 conducted in a sample of junior and senior high schools in Nebraska in 1981 indicated that of students 15 years and older who had used alcohol at least

1981 indicated that of students 15 years and older who had used alcohol at least once in their lives, 70% had consumed alcohol at least once in the previous thirty days. Among those who had consumed alcohol in the last thirty days, 57% had consumed it on three or more occasions (Gillespie, Newman, Mohr, and Martin, 1982).

Data gathered by the Nebraska Prevention Center for Alcohol and Drug Abuse have also indicated that among a 1983 sample of 489 ninth grade students, 34% reported riding in a car with a drinking driver in the previous two weeks and 39% reported having consumed alcohol at least once in the previous two weeks. (Newman, 1983).

Analysis of the Problem and Proposed Solution

Adolescents have reported that three principal forces are involved in most of their alcohol and drug related decisions. These forces are (1) peer pressure, (2) pressure from media messages, and (3) pressure exerted by parents and other adults (Evans, et al., 1978).

Peer pressure, especially, involves social or group situations. The real force of peer pressure is not found in overt intimidation but in the subtleties of group expectations, often unrecognized by adults (Newman, 1984). The pressure of the media, also somewhat subtle, encourages young people to appear grown up, successful, and conforming to widespread social custom (Evans, et al., 1978). Parental and other adult pressures involve expressed standards of acceptable and unacceptable behavior, including the message of tacit approval from adults who "look the other way" and passively encourage adolescent drinking by failing to enforce fairly community or institution standards, rules or regulations.

Alcohol and automobiles come together through the volitional behavior of a person who chooses to drink and drive. To the adolescent there frequently appears to be strong social pressure encouraging alcohol use and little pressure which clearly objects to driving after drinking. To reduce alcohol-related adolescent automobile injuries young people need to recognize the risks involved in drinking and driving, recognize the pressures to drink and drive, and be better skilled at resisting these pressures.

Analysis of the results of research on risk taking behavior over the past few years suggests that young people are aware of the relative risks of certain behaviors and they are often predisposed to avoid risk taking. This does not necessarily imply that there is no need to continue to point out risks. There is, especially as such information makes the risks more relevant. Efforts to highlight risk and predispose young people to specific actions should continue. Any analysis of past educational efforts, however, clearly shows that the least educational attention has been given to helping young people develop specific skills to carry out successfully any intention they have to reduce personal risk.

Social science research indicates that people are better able to handle pressure-related situations if they have had the opportunity to practice doing so, even in controlled role-playing settings. They are better able to handle these situations if (1) they have observed others handling similar situations, (2) they know that these or similar situations will confront them; and (3) they have simply thought about their options before these situations occur and have visualized or conceptualized strategies they will use.

Based on these assumptions about learning, the Nebraska Prevention Center for Alcohol and Drug Abuse and the Nebraska Educational Television Network developed and produced five 15- to 17-minute videotape programs illustrating strategies that young people can use to avoid and overcome pressures to drink and drive and/or accompany drinking drivers. These programs are designed specifically for ninth grade students on the assumption that relevance is highest at the time when young people are actually beginning to drive automobiles and are frequently exposed to opportunities to consume alcohol. These video programs are important because they show young people specific examples of strategies to resist pressures to drink and drive.

The specific risk reduction strategies taught in this curriculum include learning and practicing techniques to delay decisions to drink and drive, recruiting friends to help counter peer pressure, interpreting one's self-worth as reason enough to avoid risky alcohol situations and the application of some specific ways to say no to peers and adults.

Because this is a skill-based program it was important that students participated in skills-related classroom activities. To encourage actual practice, these skills were illustrated on the videotapes, and a number of exercises in the student/teacher workbook were provided to aid in skills development.

The five videotapes in this program were developed over a period of a year with careful attention paid to scripting and casting. All draft scripts were reviewed by high school students for appropriate language and context. Audition tapes of the principal actors were market-tested with high school populations to ensure that adolescent viewers saw the principal actors as trustworthy, exemplary, relevant, and worth attending to and imitating. The tapes were produced by the professional staff of Nebraska Educational Television.

Briefly, the contents of each of the videotapes are:

Program 1: The Facts. The first tape presents facts about adolescent drinking patterns, statistical information on adolescent exposure to alcohol, involvement in alcohol-related automobile accidents, and explanation of the physiological and behavioral effects of alcohol.

Program 2: The Pressures. The second videotape illustrates three major sources of social pressure that influence adolescents' decisions to use alcohol: media pressure, peer pressure, parental and other adult pressures.

Program 3: Softer Strategies. Four relatively low-risk ways to avoid or escape situations involving alcohol are demonstrated by the actors: 1) making your position clear; 2) buying time; 3) recruiting a friend; and 4) avoiding rides with a person who has been drinking.

Program 4: Stronger Strategies. Three strategies for use when the pressures to conform are high are demonstrated by the actors: 1) personal credit card, 2) confrontation, and 3) assertive verbal and nonverbal language.

Program 5: Alternatives/Summary. This program quickly reviews the seven strategies presented in Programs 3 and 4. Suggestions of fun activities not involving alcohol are presented.

The teacher's manual accompanying the videotapes provides an introductory chapter on a five-step decision making process. One chapter for each videotape provides visual aids, handouts and class and homework activities to reinforce the ideas and skills presented in the videotape.

Program Format

This educational program is designed to be taught over 8 to 10 class periods. During five of the class periods a 15-to 17-minute videotape is shown and associated class exercises performed. The remaining 3 to 5 class periods involve class discussion, role playing, simulation, and knowledge development activities.

Initial pilot testing of the videotapes was carried out with a sample of 480 ninth-grade students during the 1982-83 academic year. Data gathered during this testing period indicated that the program was especially effective in improving students' perceptions of their abilities to handle pressure-related situations and avoid alcohol-related risks. During this pilot testing process teacher training techniques were refined and the teacher/student workbook developed, tested and revised.

Teacher Training

All teachers who taught students in the experimental group received six hours of intensive teacher preparation. This included discussion of the overview of the curriculum, a detailed discussion of each unit of the curriculum, and suggestions for use with other available Nebraska curricula. Pertinent activities in each unit were taught involving teachers as students. All videotapes were viewed in conjunction with the discussion of each unit.

Teachers' expenses to travel to these teacher training workshops were reimbursed, and schools were paid for the cost of substitute teachers while regular teachers were out of their classrooms attending the workshop. All curriculum materials, including the videotapes, were supplied free of charge.

After the year of student evaluation was completed, teachers who had served in the control group were provided the same training under the same terms and conditions.

Specific Outcome Objectives

By the end of the first year of implementation of this curriculum with students, it was hypothesized that the program would result in:

- (1) significantly higher knowledge levels of the risks associated with drinking and driving. This would include knowledge about risk exposure, the effects of alcohol on physiology and behavior, myths about alcohol use and abuse, and knowledge about specific strategies to avoid or escape risky alcohol-related situations.
- (2) significantly higher levels of perceived ability to actually resist the pressures to drink and drive.
- (3) significantly reduced levels of self-reported drinking and driving.
- (4) significantly reduced levels of self-reported accompanying drivers who had been drinking.

Results

The effects of the curriculum on knowledge, perceived ability to resist pressures, actual drinking behavior and riding with a drinking driver were all measured using a pencil and paper test instrument. The entire ninth grade in the Omaha Public Schools was pretested in September 1984 and posttested in December 1984. Fifty percent of the junior high schools (5) received the curriculum in the fall of 1984. There were 48 classes comprising the experimental group and 49 classes making up the control group.

Total Knowledge Scale Scores

At each testing time, the evaluation instrument consisted of a paper and pencil test of 40 items. Twenty-seven measured learning of curriculum information, and correct answers were added together to give a measure of the degree to which classes mastered the information presented. The internal consistency or reliability of this scale was measured at an alpha level of .77 at the pretest, and .91 at the posttest.

The other items on the evaluation instrument gathered information on demographic characteristics, alcohol-related behavior and students' perceptions of their abilities to resist pressures, and will be discussed in subsequent sections of this report.

The means and standard deviations of the experimental and control groups on the Total Knowledge Scale at the two points in time are shown in Table 2. Scores of both groups went up over time, showing that some information was gained due to maturation and other factors not directly related to the curriculum.

Between the pretest and the posttest the means of both the experimental group and the control group rose. Both of these gains were significant. However, the results of the aggregated repeated measures ANOVA (Table 3) show that the experimental group's increase was significantly greater than that of the control group ($p > .0001$). In Table 3, note the significance of the results for "Time," indicates that both groups' knowledge increased as time passed, regardless of whether they received the curriculum. The significance of the results for "TxC" indicates that being in the experimental group meant greater knowledge gained over time. It is this indicator which suggests that the curriculum has had an important effect.

TABLE 2
Effects of Curriculum
Total Knowledge of Curriculum Material
Aggregated Means and Standard Deviations

	Experimental Group		Control Group	
	X	SD	X	SD
Pretest	13.21	1.18	13.58	1.30
Posttest	18.71	1.56	14.61	1.30
	N=48		N=49	

TABLE 3
Effects of Curriculum
Results of Aggregated Repeated Measures Analysis
Total Knowledge of Curriculum

Source	df	ms	f	prob.
Between:				
Condition (C)	1	168.51	53.78	.0000
Error		95	3.13	
Within:				
Time (T)	1	515.68	1111.91	.0000*
T x C	1	241.80	102.3	.0000*
Error	95	.46		

*p < .0001

Specific Knowledge Scales

Three knowledge scales were developed using items from the test instrument: (1) knowledge of the physiological effects of alcohol; (2) knowledge to refute common myths about alcohol; and (3) knowledge of specific strategies to resist pressures to drink or accompany a driver who had been drinking. Students' knowledge of these three areas was measured immediately before the curriculum was taught and immediately afterward. These comparisons are reported in this report; the one year follow-up will be reported in Technical Report 18.

Physiological Effects of Alcohol

Eleven items measured the knowledge of the physiological effects of alcohol. The reliability of this scale was measured at an alpha level of .724 for the pretest and .836 for the posttest. The means and standard deviations for the experimental

and control groups for the pre- and posttests are shown in Table 4. The results of the aggregated repeated measures ANOVA are shown in Table 5.

The significance of the results for "Time" indicate that both groups' knowledge increased as they matured. "TxC" measures an interaction between time and the experimental condition and shows that students who received the curriculum learned it, and displayed significantly greater knowledge ($p < .0001$) than the control group at the posttest.

TABLE 4
Effects of Curriculum
Knowledge of Physiological Effects of Alcohol
Aggregated Means and Standard Deviations

	Experimental Group		Control Group	
	X	SD	X	SD
Pretest	5.25	.67	5.55	.78
Posttest	7.84	.73	6.07	.80
	N=48		N=49	

TABLE 5
Effects of Curriculum
Results of Aggregated Repeated Measures Analysis
Knowledge of Physiological Effects of Alcohol

Source	df	ms	f	prob.
Between:				
Condition (C)	1	26.35	27.89	.0000
Error	95	.95		
Within:				
Time (T)	1	117.51	695.25	.0000*
T x C	1	52.37	309.84	.0000*
Error	95	.16		

*p < .0001

Alcohol Myths.

The curriculum also appeared to correct students' understanding of common myths about alcohol. The reliability, or internal consistency of the seven-item scale shows an alpha of .62 at the pretest and an alpha of .72 at posttest. Examination of the means and standard deviations (Table 6) and the results of the repeated measures ANOVA (Table 7) show that here again, although both groups were more knowledgeable about widespread myths about alcohol as time passed, the group which received the curriculum made significant gains in knowledge about myths between the pretest and the posttest ($p < .0001$) over the control group.

TABLE 6
Effects of Curriculum
Knowledge of Myths About Alcohol
Aggregated Means and Standard Deviations

	Experimental Group		Control Group	
	X	SD	X	SD
Pretest	2.60	.37	2.80	.51
Posttest	4.59	.41	3.1	.50
	N=48		N=49	

TABLE 7
Effects of Curriculum
Knowledge of Myths About Alcohol
Results of Aggregated Repeated Measures Analysis

Source	df	ms	f	prob.
Between:				
Condition (C)	1	18.60	54.52	.0000
Error	108	.18		
Within				
Time (T)	1	66.61	982.80	.0000*
T x C	1	32.50	479.51	.0000*
Error	95	.08		

$p^* < .0001$

Strategies to Resist Pressures

New in this curriculum was the objective to teach specific resistance strategies. An eight-item scale, whose reliability was measured at pretest with an alpha of .47 and at posttest with an alpha of .78 was used to estimate knowledge about specific resistance skills. As shown by the means and standard deviations (Table 8) and the results of the repeated measures ANOVA (Table 9) all students' knowledge increased over time, but the students taught the curriculum again made significantly greater gains in their knowledge of ways to resist pressures than the control group ($p < .0001$).

TABLE 8
Effects of Curriculum
Knowledge of Strategies for Resisting Pressure
Aggregated Means and Standard Deviations

	Experimental Group		Control Group	
	X	SD	X	SD
Pretest	4.33	.48	4.33	.44
Posttest	5.62	.63	4.64	.45
	N=48		N=49	

TABLE 9
Effects of Curriculum
Knowledge of Strategies for Resisting Pressures
Results of Aggregated Repeated Measures Analysis

Source	df	ms	f	prob.
Between:				
Condition(C)	1	11.51	26.33	.0000
Error	95	.44		
Within				
Time (T)	1	31.36	428.29	.0000*
T x C	1	11.76	160.64	.0000*
Error	95	.07		

*p < .0001

Perceived Ability to Resist Pressures

Ultimately, knowledge of a resistance strategy is of little value unless that strategy is carried out. It was hoped that the curriculum, in addition to increasing the number of students who knew actual resistance strategies, would also increase students' perception of their own abilities to use these skills.

Students' perception of their own ability to resist pressures to drink or ride with a drinking driver was measured with a five-item scale with a pretest alpha of .69 and a posttest alpha of .78. The means and standard deviations (Table 10) and the repeated measures ANOVA (Table 11) suggest that the level of both groups' faith in their own abilities to withstand pressure increased somewhat over time, and that these increases were significant.

However, although the experimental group's perceived ability increased more than the control group's scores, this difference was significant only at the .03 level, rather than at the .0001 level as was recorded for the other scales.

TABLE 10
Perceived Ability to Resist Pressures
To Drink or Ride with a Drinking Driver
Means and Standard Deviations

	Experimental Group		Control Group	
	X	SD	X	SD
Pretest	18.99	.97	18.96	1.12
Posttest	20.11	.91	19.66	1.18
	N=48		N=49	

TABLE 11
Effects of Curriculum
Perceived Ability to Resist Pressures
To Drink or Ride with a Drinking Driver
Results of Aggregated Repeated Measures Analysis

Source	df	ms	f	prob.
Between				
Condition (C)	1	2.91	1.61	.21
Error	95	1.81		
Within:				
Time (T)	1	40.16	99.01	.0000*
T x C	1	2.14	5.27	.0239**
Error	95	.41		
*p < .0001		**p > .05		

Behavior

Several items on the test instrument were used to measure self-reported drinking behavior and riding with a drinking driver. While affecting the behavior of students is not often the stated goal of most public school curricula (teachers of history, social studies, English, algebra and the like are not held accountable for students' behavior, but for the amount of knowledge their students acquire) it was nonetheless hoped that knowledge of the physiological facts and knowledge of resistance strategies would influence students' self-reported behavior regarding alcohol.

Drinking

One item asked whether students had ever consumed an entire glass of beer, wine, or liquor. Two items inquired about alcohol used in the last 30 days and at the last "party." These items were used to measure current drinking behavior. Percentages/means are reported in Table 12.

TABLE 12
Changes in Drinking Behavior Pretest to Posttest
as shown by
Percentages or Aggregated Means

	Experimental Group	Control Group
Percentage reporting having consumed at least one glass of alcohol (based on individual responses)		
Pretest	62.8%	63.1%
Posttest	68.1%	69.3%
Average Number of times drinking within last month		
Pretest	1.90	1.53
Posttest	2.15	1.93
Average number of drinks consumed at last party		
Pretest	1.13	1.19
Posttest	1.91	1.96
	N=48	N=49

Between the pretest and the posttest, there was an increase in the percentage of students who had ever consumed at least one glass of alcohol. Students within both groups report more frequent consumption of alcohol within the last thirty days, as well as having more to drink at the last party they attended. However, there were no significant differences in these increases between the experimental and control groups. The repeated measures ANOVAS showed that at posttest the current self-reported alcohol consumption of the experimental group was not significantly less than the control group.

Riding with Drinking Drivers.

Finally, one item asked students to report occasions in the last 30 days when they rode in a car with a driver who had been drinking alcohol. The means and standard deviations at pretest and posttest are shown in Table 13 and show that the number of students who had ridden with a drinking driver in the last 30 days had increased for both the experimental and control groups. The increase of the experimental group was an average of .01 times; the increase of the control group was an average of .04. These differences were not significant, however.

The repeated measures ANOVA (Table 14) shows that the group exposed to the curriculum did not report significantly fewer occasions of riding with a drinking driver. This result is in contrast to the result of the curriculum taught by the social studies teachers (Technical Report 14), where students in the experimental group reported significantly fewer experiences of riding with a drinking driver.

TABLE 13
Times Riding with Drinking Driver, Last 30 Days
Aggregated Means and Standard Deviation

	Experimental Group		Control Group	
	X	SD	X	SD
Pretest	1.09	.70	1.15	.92
Posttest	1.10	.94	1.19	.86
	N=48		N=49	

TABLE 14
Effects of Curriculum
Riding with Drinking Driver Behavior
Results of Aggregated Repeated Measures Analysis

Source	df	ms	f	prob.
Between:				
Condition (C)	1	.26	224.86	.0000
Error	95	1.11		
Within				
Time (T)	1	.04	.09	.7592
T x C	1	.01	.03	.8573

It is important to note that curricula based on the principle of educational immunization, as this was, are not necessarily expected to elicit immediate changes in behavior. Rather, through an increase in knowledge and skills, gradual change in behavior over time is anticipated. While this curriculum did not significantly affect immediate behavior over the short term, it may well have affected behavior over the long term.

Also, the broad behavioral measures assessed in the posttest are not the only tests of the efficacy of the curriculum. Although we know that students receiving the curriculum are more knowledgeable about the specific facts and risks associated with drinking and driving, for example, the relationship between knowledge of risk and risk-taking behavior is not a proven one, by any means.

The results of a follow-up test with these students given one year after the curriculum, in the spring of 1986, are now being analyzed. These results will assess the anticipated long-term outcomes of this educational program, as well as the efficacy of including the curriculum in the English vs. the Social Studies classrooms, and will be reported in Technical Report 18. Finally, a closer examination of what we have learned of the drinking patterns of these adolescents will be presented in Technical Report 19.

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- Resisting Pressures to Drink and Drive (To be used with the videotape series "Resisting Pressures to Drink and Drive")--Teachers Guide
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All of these papers are available from the Nebraska Prevention Center for Alcohol and Drug Abuse, Coliseum, Room 226, University of Nebraska, Lincoln, NE 68588-0136.