THE COGNITIVE AND AFFECTIVE RESULTS OF PARTICIPATION IN A RISK REDUCTION PEER EDUCATION PROGRAM ON TOBACCO

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CHAPTER 1

INTRODUCTION

Rationale for the Study

The premise that the use of tobacco is related to certain chronic health risks has been reviewed and documented by many writers (Liard, Perdrizet, Correman, & Bidou, 1980). The physiological health risks associated with tobacco have warranted the identification of this problem as most important in containing yearly economic and medical costs (Frederiksen, Martin, & Webster, 1979; Gori & Bock, 1980). Adults who recognize tobacco as a health risk have contributed to the decline of tobacco use in that population (Smoking, 1979). However, tobacco continues to be a significant problem among adolescents ("Teen Pot", 1980). Iverson, Johnson, and Rohen (1978) contended that the use of drugs by the nation's youth has become so commonplace that some writers even consider the practice to be an expected, and perhaps normal, phase of adolescence.

Educators continue to seek strategies designed to convince students that the use of tobacco is not in their

best interests. Despite the increasing number of experimental programs for high school students, few have reported success (Gladstone & Sherman, 1975). Although programs have attempted to dissuade teenagers from smoking, they generally have had a minimal initial impact on the confirmed teenage smoker. According to Swanson (1978), education about smoking needs a set of expectations designed for realistic results in smoking education. Kunkle-Miller and Blane (1977) pointed out that education about smoking was most effective when it: (a) addressed itself to questions and concerns of students themselves; (b) attempted to sort out feelings, facts, and misinformation; (c) was conducted in a manner that engaged the active interest of students while respecting their integrity as individuals.

After a tobacco education program is carefully planned to improve cognitive attainments, attention to implementation factors that achieve success in affective education is needed. A popular educational maxim for which no one has been credited, may serve as a catalyst in changing attitudes through tobacco education:

> Tell me and I will forget
> Show me and I will remember
> Involve me and I will understand

The theoretical construct indicated is that students who become actively involved in learning activities concerning tobacco may better perceive the implications of tobacco use for their own health risks. The result may be a change in knowledge and attitudes concerning the use of tobacco.

A method for actively involving students in learning activities is the use of peer tutors. Von Harrison and Guymon (1980) defined peer tutoring as an interaction between a tutor and a student in which skills or knowledge are transferred. Numerous studies are cited in the literature which report the success of peer tutoring in various disciplines. Jorgensen (1978), Sowell, Candler, Blackburn, and Blackburn (1978), and Dollar (1974) indicated that the usual classroom instruction can be markedly enhanced by the use of peer tutors. Jason and Frasure (1979) pointed out that peer tutoring projects utilize untapped resources and provide opportunities for students to help each other understand. Jorgensen (1978) found that as students prepared to tutor, personal motivation increased. Hagen and Moeller (1971) were of the opinion that the anticipation that the tutors will face a "real audience" activates a change

in self-confidence, attitude, and personal responsibility. Ellis, Indyke, and Debevoise (1980) and Allen (1976) agreed that education can be made more relevant when students are actively involved in creating and implementing their own experiences concerning programs for youth. The benefits include enthusiasm, energy, self-worth, new skills, and pride in an accomplishment that encourages a sense of personal commitment and motivation (Gartner, Kohler, & Riessman, 1971). The literature indicates that peer tutoring provides positive benefits for the tutors such as improvement in cognitive and personal life skills.

Studies of peer tutoring cited above also report academic success and changes in attitudes toward school. Will the increased knowledge and involvement of peer instructors who are training for a peer smoking education program become significant factors which lead to a change in their attitudes toward the use of tobacco?

Anti-smoking programs using peer tutors traditionally report changes in knowledge and attitudes of the tutees, however, some of the key elements are the knowledge and attitudes of the peer tutors (Davis, 1978). Duryea and Martin (1981) and Iverson (1978) presented a theoretical health belief model that emphasized the need

to recognize individual knowledge and psychological perceptions of tutors actively involved in health prevention programs. Fisher (1980) agreed that research concerning anti-smoking programs that involve peer tutors should emphasize an essential component of the program, the peer tutors.

Few research attempts have been made to identify characteristics of the peer tutors. Von Harrison and Guymon (1980) stated that a survey of major tutorial programs indicated that in no instance were any empirical data collected to identify the assumed benefits for the tutor. Information pertaining to the knowledge and attitudes of tutors in anti-smoking programs is necessary to assess the impact of peer tutoring programs on the peer tutors.

Purpose of the Study

The general purpose of this study was to evaluate changes in attitudes and knowledge of teenagers who were trained and functioned as peer tutors in the Risk Reduction Health Education Program on Smoking. This program was planned and implemented by the Dallas Independent School District, Dallas, Texas.

Statement of the Problem

This study compared the knowledge and the attitudes of the 87 students who participated in the Risk Reduction Health Education Program on Smoking with 29 students in a control group. All of the 87 students in the program received information on tobacco, alcohol, and other drugs. Twenty-nine of the tutors subsequently taught information on the use of tobacco only, 29 tutors taught tobacco and alcohol education, and 29 tutors taught only alcohol education. These subjects were part of a group working under a grant. The Dallas Independent School District, Dallas, Texas received a grant from the Center for Disease Control, Atlanta, Georgia to study the effects of risk reduction peer education. The tutors in the present study came from 15 high schools in the Dallas Independent School District and were selected by high school teachers who had been assigned by the principals of each school to assist with the program. Students in the control group were volunteers from 10 randomly selected high schools located throughout the district.

Peer tutors and the control group were administered a knowledge and an attitude pretest and posttest in the spring of 1981. Peer tutors were given the pretest

before tutoring elementary and/or junior high school students, and a posttest following the tutoring sessions. The control group was pretested and posttested at approximately the same times as the tutors. The data were treated by means of the t-test, and one-way analysis of covariance.

Hypotheses

The major hypotheses of the study were:

1. There is no significant difference in level of knowledge about tobacco between tutors who teach about tobacco and students who are not trained as part of the peer tutoring program.

2. There is no significant difference in attitudes about tobacco between tutors who teach about tobacco and students who are not trained as part of the peer tutoring program.

Although the major purpose of the study was to compare tutors who presented tobacco information with a control group, all tutors were compared to determine any significant differences involved with presenting risk reduction information. Therefore comparisons were made to determine if differences occurred among the tutors when a specific risk reduction topic was taught;

also, if there were differences between each group of tutors and the control group. The following additional hypotheses were tested:

3. There is no significant difference in level of knowledge about tobacco between tutors who teach information about tobacco and the tutors who teach alcohol information.

4. There is no significant difference in level of knowledge about tobacco between tutors who teach information about tobacco and the tutors who teach alcohol and tobacco information.

5. There is no significant difference in level of knowledge about tobacco between tutors who teach alcohol and tobacco information and tutors who teach alcohol information.

6. There is no significant difference in level of knowledge about tobacco between tutors who teach about tobacco and alcohol information and students who are not trained as part of the peer tutoring program.

7. There is no significant difference in level of knowledge about tobacco between tutors who teach about alcohol and students who are not trained as part of the peer tutoring program.

8. There is no significant difference in attitudes about tobacco between tutors who teach information about tobacco and the tutors who teach alcohol information.

9. There is no significant difference in attitudes about tobacco between tutors who teach information about tobacco and the tutors who teach alcohol and tobacco information.

10. There is no significant difference in attitudes about tobacco between tutors who teach alcohol and tobacco information and tutors who teach alcohol information.

11. There is no significant difference in attitudes about tobacco between tutors who teach about tobacco and alcohol information and students who are not trained as part of the peer tutoring program.

12. There is no significant difference in attitudes about tobacco between tutors who teach about alcohol information and students who are not trained as part of the peer tutoring program.

Delimitations

The study was subject to the following delimitations:

1. One-hundred and sixteen subjects in grades 9, 10, 11, and 12 from the Dallas Independent School District.

2. Subjects with an average grade of "C" or above and limited involvement in extracurricular activities.

Limitations

The study was subject to the following limitations:

1. The degree to which the subjects were representative of the populations from which they were taken.

2. The degree to which the subjects were motivated to tutor.

3. The degree to which the personnel who tested the students followed the testing procedure.

4. The validity of a self-reporting attitude instrument concerning tobacco.

5. The effectiveness of a 1-day training program for the peer tutors.

Definition of Terms

For the purposes of clarification, the following definitions of terms were established by the investigator for use throughout the study:

1. Risk Reduction Health Education Program on Smoking--a health education intervention project through Grant No. H11-CCH-60028-02-80-TX-10 from the National Center for Disease Control, Bureau of Health Education, Atlanta, Georgia.

2. Peer tutor--selected high school students participating in the Risk Reduction Health Education Program on Smoking who teach elementary and junior high school students.

3. Cognitive/knowledge--the factual information concerning tobacco and other drugs included in the Risk Reduction Health Education Program on Smoking, Peer Instructor's Guide.

4. Affective/attitudes--the feelings and concerns of students relating to the use of tobacco.

CHAPTER 2

SURVEY OF RELATED LITERATURE

The general purpose of this study was to evaluate changes in attitudes and knowledge of teenagers who were trained and functioned as peer tutors in a Risk Reduction Health Education Program on Smoking. A review of literature indicated that the present study does not duplicate any known study. This chapter will present literature that is related to the study and is divided into the following three topics: (a) adolescent smoking, (b) peer tutoring, and (c) peer tutoring and anti-smoking programs.

Adolescent Smoking

Data on the prevalence of adolescent smoking were collected by the National Institute of Education through telephone interviews from approximately 200 teenagers (Green, 1979). Data on the teenagers ranging in age from 12 through 18 years revealed that there had been a decrease in the number of teenagers who smoke. In 1979, only one in five 17 and 18 year old boys smoked as compared to one in three in 1974. Fourteen percent of the 15 and 16 year old boys smoked which represented

a drop from 18% in 1974. The investigator stated that the ages of 12, 13, and 14 years have always had a very low smoking rate.

Smoking patterns of the girls indicated some differences from that of boys. The smoking rate for 17 and 18 year old girls had shown no change in the last 7 years, and indications were that the smoking habit had leveled off for this age group. According to the National Institute of Education's study, the biggest change occurred in the 15 to 16 year-old group. In 1974, 15 to 16 year-old girls had a smoking rate of 20.2%; in 1979, the rate dropped to 11.5%. In 1979, girls surpassed boys with 12.7% of girls and 10.7% of boys being classified as smokers. The greatest difference was found in the 17 and 18 year old girls with 26.2% of the girls smoking contrasted with 19.3% of the boys. The prevalence of smoking in girls who are 12, 13, and 14 years old is very low.

The data collected by the National Institute of Education support the hypothesis that there is no evidence to sustain the contention that teenagers are starting to smoke at earlier ages. It is evident that smoking has markedly decreased among both boys and girls

below the age of 16 years. The 1979 Surgeon General's Report on Smoking (Smoking, 1979) revealed:

> Inferences about the evolution of smoking suggest that by the end of the 9th grade very few adolescents are confirmed smokers; the critical level of the onset of confirmed smoking appears to be in high school. (Chapter 1, p. 33)

Rudolph and Borland (1976) conducted a study of 1,949 Pennsylvania high school students to determine the number of smokers. Results indicated that for both boys and girls, the percentage of smoking increased between grade 10 and grade 12. The number of 10th grade boys smoking was 33.3%, 11th grade boys smoking represented 34.8% of the study group, and the 12th grade male smokers represented 42.5% of the study group. Tenth grade girls' smoking was reported as 33.5%, 11th grade girls as 32.1%, and 12th grade girls smoking was listed as 37.7% of the study group. The percentage of smoking increased more steadily among boys than girls in grade 10 to grade 12. The differences in the incidence of girls and boys who smoke were statistically significant for grade 12 students only, with boys showing the largest increase.

The Smoking Programs for Youth study conducted by the National Cancer Institute (Ellis, Indyke, & Debevoise, 1980) reported that although there is a

decrease in the prevalence of smoking among teenagers, approximately 1,000,000 adolescents begin to smoke each year. As previously indicated, teenage girls make up a large part of this statistic. An additional study of 3,009 households conducted by the National Cancer Institute ("Cigarette", 1975) determined specific factors associated with the prevalence of smoking among teenage girls.

Of the 267 teenage girls who were interviewed in their homes, 87% reported smoking with parents' knowledge and 34% with parental approval. Statistics revealed further that 32% of the teenage girl smokers sometimes drank to get drunk compared with 4% of the nonsmokers. Twenty-five percent of the girl smokers used marijuana compared with only 3% of the nonsmokers. Among teenage girl smokers, 81% drank alcohol compared with 42% of the nonsmokers. Sixty-nine percent of the adolescent girl smokers reported that one-half or more of their male friends smoked and 79% had dates who smoked contrasted to 27% of the nonsmokers. In addition, 66% of the girl smokers reported that more than one-half of their female friends smoked, while 19% of the nonsmokers indicated that more than one-half of their girl friends smoked. A 1980 report of the smoking

characteristics of women outlined similar findings as those reported in the 1975 study conducted by the National Cancer Institute ("The Health", 1980).

In a study completed by Hunter, Webber, and Berenson (1980), approximately 3,000 black and white children in grades 3 to 12 responded to a taped health habits questionnaire. The questionnaire was part of the Bogalusa Heart Study to determine risk factor variables associated with coronary artery disease and hypertension. Sixty-four percent of the sample was white and 36% of the sample was black, while 52% was male and 48% was female. The health habits questionnaire contained 27 items concerning attitudes or beliefs regarding smoking, 7 items concerning environmental influences, 9 items identifying smoking behavior, 2 items describing smoking age, and 8 questions concerning other health related issues.

Results indicated that the percentage distribution of nonsmokers decreased with age for all categories by race, sex, and age. The 8 to 10 year old white males represented the smallest group of nonsmokers, while the white girls represented the largest group of nonsmokers. White males began habitual smoking at ages 14 to 15 years and began smoking earlier than any of the other groups. White females caught up to and surpassed white

males at ages 16 to 17 as habitual smokers. Black male and female children lagged behind white children in early tobacco exposure and usage; however, the number of black teenage smokers continuously increased with age.

The percentage of all the participants who smoked regularly but quit increased with age. White males quit at a rate of 3% between ages 8 and 9 years and 12% between ages 16 and 17 years. Both black and white females reported that approximately 3% to 8% quit between ages 8 and 17 years. The greatest percentage of quitters for all groups occurred in black and white females at ages 14 and 15 years, and black and white males at ages 16 and 17 years. White males far exceeded any other race or sex category in terms of tobacco usage other than cigarettes such as chewing tobacco, smoking cigars or pipes, and using snuff.

A national survey conducted by Abelson, Fishburne, and Cusin (1977) supported the observation that cigarette usage by adolescents between the ages of 12 and 17 years is decreasing. In addition, teenage girls from 16 to 17 years old have the highest rate of smoking. The survey further revealed that smoking marijuana increased from 20% to 29% for teenagers 16 to 17 years old in

a 2-year period. The female adolescents' percentage rate for smoking marijuana increased from 11% to 13%, and the male adolescent rate increased from 12% to 19% during the same time period.

Peer Tutoring

Vassallo (1973) reported the results of a tutoring program to help low-achieving students in the Dallas Independent School District. Tutors participating in the program entered by invitation from teachers who thought they would do well as tutors. Other students applied for the program after observing the success of the program. Tutors held weekly conferences with their tutees' teacher to discuss the program and possible approaches for improvements. Tutors were being tutored in subjects in which they were weak, while tutoring in subjects in which they excelled.

One year-end evaluation indicated that 43% of the students receiving tutoring had brought grades up one full grade level; another 8% had made even greater improvement. Self-confidence and scholastic improvement were recorded for the peer tutors. According to Vassallo, economic and cultural cliques became less evident in the schools participating in the tutoring program.

A study conducted by Conrad (1975) investigated the achievement level of corrective feedback procedure and tutor expectancy about tutor performance. One-hundred and twelve high and low achieving second graders were selected as tutors. One-half of the tutors received two 1/2-hour training sessions and one-half remained untrained. One hundred and twelve first graders were randomly selected as tutees. Both tutors and tutees were pretested and posttested on knowledge by use of flash cards. A behavioral observation instrument measured tutor teaching behavior, number of cards presented, type and frequency of corrective feedback, and positive reinforcement. There was no difference between the tutors and tutees in the pretest. Data illustrated that an increase in tutoring skills after training resulted in increased achievement for trained tutors. The trained tutors also demonstrated a significantly higher frequency of the behavioral measures of corrective feedback than did untrained tutors. Results indicated that more positive effects were observed for low achieving than for high achieving tutors. The most effective peer tutors, as measured, were the trained females.

Jason and Frasure (1979) conducted a study to determine the effectiveness of training on peer tutors. A multiple baseline design was used to document tutor behavior of 10 eighth grade students tutoring 31 first grade students. Eighth grade students working in groups of three rotated roles as they learned tutoring techniques from university students. The first graders learned tutoring techniques from the eighth grade students. First graders were subsequently divided into groups to practice tutoring each other.

During the first tutoring sessions eighth grade tutors were instructed to help the tutoring effort in any constructive way. Eighth grade tutors were not given instruction on how to prompt specific teaching behavior for the first graders during the initial training sessions. Subsequent training sessions taught prompting responses to the eighth grade students.

Eighth graders were scored on an observer recording form as successful in using impromptu and learned prompting to teach peer tutoring behavior to an entire class of first graders. The continued usage of peer tutoring skills in the absence of prompting by university observers suggested that eighth graders were effective in learning behavior necessary to implement peer tutoring programs.

A peer tutoring program conducted by Ehly and Larsen (1976) was developed to explore situations where pupils of the same age and grade placement were involved in tutoring programs. The sex of the tutors and tutees, the pairing of boy and girl tutors, and peer acceptance and rejection of tutor and tutee were evaluated to determine the factors influencing learning outcome. Twenty-four tutors and tutees from a sixth grade classroom participated in the study. Students scoring in the upper 50% of the class on a spelling test were selected as tutors. Those scoring in the lower 50% were selected as tutees. Participants in the study were given a 500-word spelling test. The content of the tutorial sessions was composed of words missed by tutees on the pretest. Each tutorial pair was selected by a peer rankings procedure. Tutors were trained through a modified tutorial program before conducting 20 tutorial sessions of 30 minutes each.

Results were determined by using linear regression model analysis. Model one produced a significant F. No results were significant for model two. Findings indicated that the tutee's pretutorial score was the only significant predictor of the amount of learning.

Tutor and tutee characteristics did not permit the tutee's success in the spelling program.

Collins (1980) conducted a study of approximately 500 students in the Dallas Independent School District to determine the long-term and short-term effects of a peer education program concerning knowledge of alcohol and involvement with alcohol. The experimental group received instruction from peer tutors trained by a drug intervention team, as well as instruction in a regular health education unit on drugs, alcohol, and tobacco. The control group received instruction through a health education unit on drugs, alcohol, and tobacco taught in a regular health education class. The peer tutors conducted three 50-minute class periods on alcohol information, problem solving, and decision-making. The experimental group demonstrated significantly more knowledge concerning alcohol than the control group. The experimental and control group did not demonstrate any significant difference in patterns of use or misuse of alcohol.

Duff and Swick (1974) investigated the effect of a tutorial program on the reading achievement scores and self-concept scores of both tutor and tutee. The study used a pretest-posttest control group design.

Participants in the study were primary and lower elementary grade children in first through fourth grades. Fifteen subjects were randomly selected as tutors; the remaining 15 were the control group. Criteria for selection of participants were: (a) regular public school pupil; (b) mental ability level of 90 or above as indicated by intelligence tests; (c) a below-grade-level achievement in reading as determined by school records. Tutors were trained in five 30 to 40 minute sessions conducted over a period of 6 weeks. These sessions focused on tutorial behaviors and procedures, and information about the respective tutees.

Data revealed that the difference between the reading achievement change scores of the tutees and their controls was significant. There was a positive correlation between the reading achievement level of the tutors and impact of their instructional assistance upon the tutee's reading achievement level. Students with greater reading ability had more effect on the reading achievement of the tutees than those with less skills. There were no statistically significant findings to indicate changes in the tutors.

Peer Tutoring and Anti-Smoking Programs

McAlister, Perry, and Maccoby (1979) reported the development of a peer leadership curriculum for implementation in the sixth and seventh grades. Peer tutors were recruited by teachers working in the high schools. The criteria for tutors included attractiveness and the ability to communicate, as well as the quality and appropriateness of their written response to a question about reasons for volunteering for the program. Tutors were trained in a series of 2-hour sessions of demonstration and practice.

Teams of five to seven tutors conducted six classroom sessions to address problems of smoking, alcohol, and drug abuse. The first session strengthened the commitment not to become dependent on tobacco and identified social influences to smoke. The second session gave the students opportunities to develop ideas and responses to pressure situations. The third session allowed students to create skits to role play verbal responses to inducements to smoke. Other sessions supported the first three sessions.

An evaluation of the tutoring program was completed as a longitudinal pilot study. During two school years,

526 students from two junior high schools were evaluated. Students in one high school participating in the study received the tutoring program. Students in the second high school received an intensive course of health education, but were not given special training in resisting pressures toward tobacco, alcohol, or other drugs such as marijuana. Students answered a survey form and gave breath samples to determine carbon monoxide levels (McAlister, Perry, Killen, Slinkard, & Maccoby, 1980).

Students from both high schools reported prevalence of smoking behavior as similar at the beginning of the study. Onset rates diverged during follow-up periods. The linear onset rate was 8.4% per year in the control school, but only 3.2% per year in the experimental school. Therefore, more students in the control group increased smoking behavior. There were significant differences at the .01 level in the frequency of being "high" between the control and experimental group. The difference was 16.2% for the control group versus 5.6% for the experimental group. The control group indicated that 14.9% reported smoking marijuana at least once a week compared to 7.6% in the experimental group.

Project CLASP (Counseling Leadership About Smoking Pressures) is a peer counseling program using high school students as tutors (Ellis, Indyke, & Debevoise, 1980). College graduate students taught high school students to tutor seventh and eighth graders. The graduate students worked with high school health education classes by presenting information and demonstrations of the immediate effects of smoking on the body. Peer teachers were chosen by a student and teacher steering committee. They were selected if they were considered viable role models, if they were nonsmokers, and if they volunteered for the program.

Evaluation conducted with 1,450 junior high school students revealed that 3% in the experimental group reported weekly smoking. In contrast, 10% and 12% in the control group reported weekly smoking. No further information about methods of data collection was reported.

Ellis et al. (1980) reviewed the Students Teaching Students Peer Program sponsored by the Wisconsin Lung Association. High School peer tutors volunteered to present information to fifth and sixth graders concerning the positive and negative aspects of smoking. Nonsmoking students recommended by the high school faculty

were trained after school for five 1-hour periods. Training sessions emphasized information concerning peer pressure, the history of tobacco, physiology of the respiratory system, diseases caused by smoking, factors in decision-making, and instruction on how to answer questions of elementary school students. In 1976-1977, the data were collected from 17,864 fifth and sixth graders participating in the Students Teaching Students peer program using pretests and post-tests. There was no control group reported in this study. Results indicated an average improvement of 50.3% in knowledge of the anatomy and physiology of the respiratory system, effects of smoking, and factors affecting a decision to smoke.

A study conducted by Irwin, Creswell, and Stauffer (1970) investigated approaches for effective education concerning cigarette smoking. A trained and untrained teacher-led approach, peer-led approach, and an individual approach were used with 12 groups of boys and girls over a 6-week period. The varied educational approaches utilized the same curricular materials and sequence of lessons. An attitude-belief scale and a smoking knowledge test were given as pretests and post-tests to 575 seventh grade students in Illinois.

Data revealed a 130% increase in the grand mean in the attitude-belief scores of the students. Knowledge test scores increased by approximately 15%. The peer-led approach appeared to be most effective in the smaller classes and resulted in higher test and attitude scores than the scores for the students in the trained teacher-led approach. Students in the individual approach group achieved significantly higher attitude-belief scores than the students in the peer-led approach groups. The untrained teacher-led approach used a combined program of individual study, peer tutoring, and teacher-led discussions. This approach achieved higher test scores than those reported for either the individual approach, the peer-led approach, or the trained teacher-led approach.

Approximately 70 teenagers from 13 school districts were selected by a principal or other designated person to participate in the Youth Leadership Development Committee on Smoking and Health in New York (McRae & Nelson, 1971). Twenty-six training sessions presented information on the hazards of smoking and methods of classroom management to be used in presentations to approximately 8,000 fifth and sixth graders. No data

were reported by McRae and Nelson concerning the effect of the peer tutoring program.

Campbell (1974) outlined a study using three groups of peer tutors consisting of one male and one female student in each group who were selected by a teacher on the basis of the ability to speak before a group, the ability to perform laboratory experiments, and the possible influence of the tutors on fifth and sixth graders. Two peer tutors wrote and gave speeches on the factual and social information pertaining to smoking and two tutors presented visual aids, pamphlets, and bulletin boards. Two students performed laboratory experiments for the tutees to demonstrate the effects of smoking on respiration, loss of muscular control, deterioration of the central nervous system, and death. Written critiques were submitted by each class taught by the peer tutors. No statistical data were reported for this study.

CHAPTER 3

PROCEDURES FOR COLLECTION AND TREATMENT OF DATA

The present study was undertaken to evaluate changes in attitudes and knowledge of teenagers who had been trained and had functioned as peer tutors in a Risk Reduction Health Education Progam on Smoking. Chapter 3 is a report of the procedures used in this study. This chapter includes a discussion of the participants, preliminary procedures, selection of the instrument, test administration, and collection and treatment of the data.

Participants

The tutors designated as the experimental group in the study were selected by teachers from 15 schools in the Dallas Independent School District. These teachers were appointed by their principals to make the selections of tutors. Criteria for the student participants in the tutor group were that the students should have at least a "C" average in school and have had a minimum involvement with extracurricular activities.

Tutors participated in a 1-day training program conducted by Dr. Pam Collins, Program Specialist in

Charge of the Intervention Program of the Dallas Independent School District. The amount of time designated for tutor training was determined by Dr. Collins and the curriculum staff in charge of the peer tutoring program. During the 8-hour training session, information was presented on how to be a group leader; the purpose of the tutoring program; outlines of what happens during team tutoring visits to schools; myths and beliefs about tobacco, alcohol, and other drugs; and activities to use with student tutees. A copy of the Peer Instructor's Guide appears in Appendix C.

One hundred and twenty-seven students in grades 9 through 12 were organized into three tutor categories. The categories were tobacco information tutors, alcohol information tutors, and tobacco and alcohol information tutors. Assignment of students in each tutor category and the assignment of tutors to schools were made by Beth Melton, Program Specialist-Project Manager for Curriculum Instruction, and Ann Minick, Resource Teacher, Curriculum Instruction of the Dallas Independent School District. The assignments were made to parallel the location of the high school tutors with the requests for tutors from elementary and junior high schools so that travel for the tutors would be minimized.

Peer tutor teams ranging in size from 1 to 6 students were assigned to tutor in either an elementary or a junior high school or both. The size of the team was determined without consideration of numerical balance. Each peer tutor team was organized so that part of the team taught only tobacco information in an elementary school (5th grade), part of the team taught only alcohol information in a junior high school (7th grade), and part of the team taught both alcohol and tobacco information in elementary and junior high school.

The class size for the learners ranged from 10 to 30 students. The larger teams organized the learners into small groups of 3 to 8 tutees. In some of the teams, there were two or more tutors together with one group of students. In other situations, a tutor was by himself in a class. There was no specific structure in the assignment of the number of tutors to each school. The number of tutors assigned to a school depended on the students available to tutor and requests from elementary and junior high school teachers for tutors. The amount of time spent tutoring in a school ranged from one class period to seven class periods a day. For data computation, a tutor was listed in a one day teaching category if the tutor spent any part of the

day in the school. If the tutors subsequently visited the same or another school, then the tutors were listed in the 2 days of tutoring category, etc.

Participants in the control group were volunteers from grades 9 through 12 who were identified by teachers in 10 high schools throughout the Dallas Independent School District. Schools selected were chosen to correspond with the location of the five subdistricts within the Dallas Independent School District. Five students from each subdistrict and five from each of two vocational high schools volunteered to participate in the study. Each student in the control group had at least a "C" average and had minimum involvement in extracurricular activities.

Students were eliminated from the experimental and control groups for the following reasons: (a) lack of parental permission, (b) failure to tutor on the assigned date, (c) failure to take the pretest and post-test, and (d) prior participation on a tutoring team for the Dallas Independent School District. Subsequently, the investigator obtained 29 subjects in each of the four study groups. A total of 116 students participated in the present study.

Preliminary Procedures

The investigator received permission from Dr. Pam Collins, director of the Dallas Independent School District's Drug Intervention Team, to use data from students participating in the Risk Reduction Health Education Program on Smoking. A copy of the approval letter appears in Appendix A. Prior to testing the participants, the investigator received permission from the Human Subjects Review Committee of the Texas Woman's University to conduct the study.

The teachers of all the subjects gave each student a sealed envelope which contained a letter of consent to be signed by parents and returned to the investigator in a self-addressed stamped envelope. The letters and envelopes were coded with preselected student numbers and were sent to the parents of the control group and to the parents of the tutors. Copies of the two letters appear in Appendix A.

Selection of the Instrument

A questionnaire consisting of 87 items was developed for the study. Questions 1 through 20 of the questionnaire were jointly developed by Vicki Peters of the Research and Evaluation Department of the Dallas Independent School District and the investigator of the present

study. Test questions 1 through 20 were concerned with the smoking content in the Peer Instructor's Guide. The questions were developed to cover the material to which the tutors had been exposed during the tutor training sessions.

Most of the test questions concerned factual information about smoking cigarettes. Information on marijuana was included in the program on tobacco and subsequently appeared on the test instrument because marijuana is usually smoked. Information on inhalants was included in the program on tobacco and subsequently was included on the test instrument because "aside from marijuana and cigarette smoke, other harmful substances and vapors are inhaled" (Peer Education, 1981).

The section of the instrument designed to elicit the affective information contained 44 questions taken from the Illinois Smoking Survey Questionnaire. Questions 21 through 28 were answered by nonsmokers, questions 29 through 43 were answered by smokers, and questions 44 through 87 were answered by both smokers and non-smokers. Items 44 through 87 were attitude items to be answered by selecting one of the following responses: (a) strongly agree, (b) mildly agree, (c) neither agree

nor disagree, (d) mildly disagree, and (e) strongly disagree.

The latter 44 questions from the Illinois Smoking Survey were assessed codes of 5 to 1. The response "strongly agree" was assigned a value of 5; "mildly agree", 4; "neither agree nor disagree", 3; "mildly disagree", 2; and "strongly disagree", a value of 1. These scores were assigned so that the high value (5) was always given to the nonsmoking position. The maximum possible score of 220 for this section of the instrument was derived by multiplying the value of 5 times the total number of questions.

The questions covering material from the Peer Instructor's Guide and the questions selected from the Illinois Smoking Survey were combined to make an instrument consisting of 87 items. A copy of the instrument appears in Appendix B.

Questions 1 through 20 of the questionnaire were reviewed and approved for content validity by Beth Melton and Ann Minick of the Dallas Independent School District's Risk Reduction Health Education Program on Smoking, and Dr. Ruth Tandy, Chairperson of the Department of Health Education, Texas Woman's University. The

reliability of the questions of the attitude scale was reported by Merki (1967) as .80 for eighth grade students and .84 for eleventh grade students.

Test Administration

Tutors were tested in the spring of 1981. Each high school team of tutors was tested prior to tutoring either fifth or seventh graders concerning tobacco, alcohol, or alcohol and tobacco information. Tutoring dates were determined by requests from elementary or junior high schools. A calendar of all tutoring sessions was made available to the investigator. Posttests were administered to students following their last tutoring session. A comparable number of the control group was posttested at the same time. This schedule of testing for both groups continued for approximately 2 months. Students in the control group answered the same test instrument as the tutors.

All computer answer sheets were coded with numbers by the investigator. A copy of the computer sheet appears in Appendix B. Teachers recorded the students' last names next to the corresponding numbers of the computer answer sheets on an instruction page provided for the teachers. Students' last names and numbers were

then listed by the teacher according to whether the student tutored tobacco, alcohol, or tobacco and alcohol education.

The investigator had a conference with each teacher to explain the procedure for administering the test. Teachers of the tutors and of the control group were given the same set of instructions, test questions, and answer sheets. The investigator randomly selected control and experimental groups to visit during their predetermined testing times to assure that the instructions for the test were followed. Test instructions appear in Appendix B.

Collection and Treatment of the Data

The data were collected by the researcher and the participating classroom teachers instructed by the researcher. The Statistical Package for the Social Sciences computer program was used for processing the study data. Frequencies were used for the demographic variables. The data from the cognitive questions 1 through 20 and affective questions 21 through 87 were treated by the *t*- test and analysis of covariance. A copy of the test questions appears in Appendix B.

CHAPTER 4

PRESENTATION OF DATA

The results of the study are presented in Chapter 4. The general purpose of this study was to evaluate changes in attitudes and knowledge concerning smoking of teenagers who were trained and functioned as peer tutors in the Risk Reduction Health Education Program on Smoking. This chapter includes presentation of demographic data, cognitive data, and affective data in relation to the stated hypotheses.

Demographic Data

This study compared the knowledge and the attitudes of 87 students who participated in the Risk Reduction Health Education Program on Smoking with 29 students in a control group. All of the 87 students in the smoking program received information on tobacco, alcohol, and other drugs and all 87 had some peer tutoring experience as a part of the study. Twenty-nine of the tutors taught information on tobacco only, 29 tutors taught only alcohol education, and 29 tutors taught information on tobacco and alcohol.

All of the students in the study were asked questions about their smoking behavior. Six students

reported themselves as smokers and 110 students indicated that they were nonsmokers by answering questions designated for smokers only or nonsmokers only (Appendix D).

A summary of the participants by grade level appears in Table 1. The 116 participants in the study were in grades 9 through 12.

Table 1

Grade Level of Participants

Grade Level	Number of Participants in Eacn Grade[a]
9	(14) 12.1%
10	(37) 31.9%
11	(37) 31.9%
12	(28) 24.1%

[a] n = 116

A summary of the participants by sex appears in Table 2. Of the 116 participants in the study, 37 were boys and 79 were girls.

Table 2

Number of Participants by Sex

Sex	Number of Participants by Sex
Boys	(37) 31.9%
Girls	(79) 68.1%

Table 3 shows the number of participants completing health education. Seventy-eight percent of the total population had completed a course in health education which included units on tobacco, alcohol, and drugs, and 22% indicated that they had not had health education. The amount of time spent on each topic varied with each teacher.

Table 3

Participants Completing Health Education

Completed Health Education	Percentage of Participants
Yes	(90) 78
No	(26) 22

Table 4 indicates the percentage of students in relation to the number of days tutored. Peer tutors spent from 1 to 5 days tutoring in the elementary and junior high schools.

Table 4

Number of Days Participants Spent Tutoring

Number of Days	Percentage of Participants
1	13.8
2	72.4
3	2.3
4	6.9
5	4.6

Peer tutors were asked to indicate whether they believed that peer tutoring was helpful as a method to teach about smoking (Appendix B). Table 5 presents a summary of the responses concerning the helpfulness of tutoring. A total of 74.7% of the tutors responded that peer tutoring was totally helpful, 23.0% indicated that peer tutoring was partially helpful, and only 2.3% indicated that peer tutoring was not helpful in teaching about smoking.

Table 5

Number of Responses Concerning Helpfulness of Peer Tutoring

Responses	Percentage[a]
Not Helpful	(2) 2.3
Partially Helpful	(20) 23.0
Totally Helpful	(65) 74.7

[a] $n = 87$

The peer tutors were also asked to indicate if they enjoyed the peer tutoring experience (Appendix B). A summary of the responses concerning the enjoyment of tutoring appears in Table 6. Less than 5% of the tutors indicated that they did not enjoy peer tutoring, 10.3% partially enjoyed tutoring, and 85.1% totally enjoyed tutoring.

Table 6

Number of Responses Concerning Enjoyment of Peer Tutoring

Responses	Percentage[a]
Not Enjoyed	(4) 4.6
Partially Enjoyed	(9) 10.3
Totally Enjoyed	(74) 85.1

[a] $n = 87$

Cognitive Data

Questions 1 through 20 of the test instrument were cognitive questions concerning smoking developed from the Peer Instructor's Guide (Appendix C). Each correct response was assessed a value of 1 point; therefore, 20 represented the highest possible score. A summary of the pretest and posttest scores for all participants is found in Appendix D. A summary of the range, mean, and standard deviation of the pretest and posttest cognitive scores appears in Table 7. The mean pretest score for the 29 students who taught information about tobacco was 14.79, whereas the pretest mean score for control group was 14.00. The posttest mean for the 29 tutors who taught tobacco information was 14.79, and the posttest mean for the control group was 14.38. The scores for the tobacco tutors and the control group ranged from 8-18 on the pretest and 8-19 on the post-test.

Table 7

Ranges, Means, and Standard Deviations of Cognitive Test Scores of the Tobacco Tutors and the Control Group

	Pretest		Posttest	
	Tutors[a]	Control[b]	Tutors[a]	Control[b]
Range	10(8-18)	10(8-18)	10(9-19)	10(8-18)
M	14.79	14.00	14.79	14.38
SD	2.76	2.90	2.55	2.88

[a] $n = 29$

[b] $n = 29$

The pretest revealed that there was no significant difference between the tobacco tutors and the control group, $t = 1.07$, $p > .05$. In addition, the posttest results indicated no significant difference between the tobacco tutors and the control group, $t = 0.58$, $p > .05$. Therefore, the first major hypothesis which stated that there is no significant difference in level of knowledge about tobacco between tutors who teach about tobacco and students who are not trained as part of the peer tutoring program was accepted.

Affective Data

The affective data were obtained from questions 44 to 87 of the Illinois Smoking Survey (Appendix B). The total possible score for this part of the survey was 220. The range, mean, and standard deviation scores of the participants appear in Table 8. Tobacco tutors' scores ranged from 134 to 211 on the pretest and 147 to 203 on the posttest. The control group ranged from 125 to 195 on the pretest and 113 to 197 on the posttest. The pretest mean score for the 29 students who taught information about tobacco was 175.34 and the pretest mean score for the control group was 169.69. The posttest mean for the control group was 166.93 and the posttest mean for the tutors was 177.21 (Appendix D).

Table 8

Ranges, Means, and Standard Deviations of Affective Test Scores of the Tobacco Tutors and the Control Group

	Pretest		Posttest	
	Tutors[a]	Control[b]	Tutors[a]	Control[b]
Range	77(134-211)	70(125-195)	56(147-203)	84(113-197)
M	175.34	169.69	177.21	166.93
SD	16.00	19.99	14.79	23.38

[a] *n* = 29

[b] *n* = 29

The pretest revealed there was no significant difference between the 2 groups, $t = 1.22$, $p > .05$. Also, the posttest results indicated that there was no significant difference between the two groups, $t = 2.00$, $p > .05$. Therefore, the second major hypothesis which stated that there is no significant difference in attitudes about tobacco between tutors who teach about tobacco and students who are not trained as part of the peer tutoring program was accepted.

One-hundred and ten participants classified themselves as nonsmokers. This group responded to questions 21 through 28 of the instrument (Appendix B). A majority of the nonsmokers indicated that they had never smoked, that they probably would never smoke, and that their parents would disapprove of their smoking. The mean responses for each question for the nonsmokers appears in Appendix D.

Only 6 participants in the study indicated themselves as smokers. Although the 6 participants did not provide enough data for statistical analysis, their responses are presented. They responded to questions 29 through 43 of the instrument (Appendix B). A majority of the smokers had been smoking for more than 2 years, smoked more than 3 packs of cigarettes a week, were

likely to smoke at almost anytime, and indicated that they would probably be smoking 5 years from now. Smoking participants agreed that smoking was enjoyable to them and it allowed them to relax. Smokers generally agreed that the Surgeon General's Report on smoking and the warning label on cigarette packages did not effect their decisions concerning smoking. A summary of the mean responses of the smokers for each question is found in Appendix D.

Additional Hypotheses

Ten additional hypotheses were tested to (a) determine if there were differences among the tutors who presented either tobacco, alcohol, or tobacco and alcohol information, and (b) to determine if there were differences between these tutors and the control group. No significant differences were found in the 10 additional hypotheses.

Table 9 presents the results of an analysis of covariance for both the pretest and posttest cognitive scores. The F value of .77 was not statistically significant.

Table 9

Analysis of Covariance Table of Pretest and Posttest Cognitive Scores for Tutors and the Control Group

Source	df	SS	MS	F[a]
Groups	3	12.04	4.01	.77
Error	111	580.89		

[a] $F_{.95}(3,111) = 2.70$

Table 10 presents the results of an analysis of covariance for both the pretest and posttest affective scores. The F value of 1.05 was not statistically significant.

Table 10

Analysis of Covariance Table of Pretest and Posttest Affective Scores for Tutors and the Control Group

Source	df	SS	MS	F[a]
Groups	3	614.40	204.80	1.05
Error	111	21677.97		

[a] $F_{.95}(3,111) = 2.70$

CHAPTER 5

SUMMARY OF THE STUDY

The purpose of the present study was to investigate changes in attitudes and knowledge of 87 teenagers who were trained and functioned as peer tutors in the Risk Reduction Health Education Program on Smoking. The knowledge and attitudes of the peer tutors were compared with the knowledge and the attitudes of 29 students in a control group. This chapter contains a background of the present study, findings, discussion, conclusions, and recommendations for future studies.

Background

The investigator reviewed current literature concerning adolescent smoking, peer tutoring programs, and anti-smoking peer tutoring programs. General peer tutoring programs reported success in improvements in self-confidence, scholastic achievements, and increased socialization among the participants. Peer tutoring programs concerned with anti-smoking information revealed that tutees in the peer tutoring programs reported smoking less frequently than the students who did not participate in the anti-smoking

programs. The anti-smoking programs presented by the tutors involved them in activities such as role-playing, demonstrations, and making speeches. Studies revealed that peer tutoring techniques can be acquired by students as young as 6 or 7 years old. Also, findings indicated that the effectiveness of peer tutoring in anti-smoking programs would depend on the knowledge and attitudes of the tutors. But few peer tutoring programs reported data that determined if such benefits were derived by the tutors.

One-hundred and sixteen students in 3 tutor groups and 1 control group participated in the present study. The categories of tutors were tobacco information tutors, alcohol information tutors, and tobacco and alcohol information tutors.

Tutors participated in a 1-day training program before being assigned by teams to tutor elementary and junior high school students for an average of 2 days. Tutors and the control group were pretested and post-tested using the same instruments at approximately the same times. The test instrument contained 87 items concerned with the knowledge and the attitudes of students about smoking.

Findings

Demographic Data

Results from the demographic data revealed the mean grade level for the 116 participants was 10.7. Seventy-eight percent of the participants had completed a course in health education. The number of days spent tutoring varied, but 72.4% of the tutors taught for 2 days. Approximately 75% of the tutors indicated that tutoring was helpful in teaching about smoking. In addition, 85% indicated that they totally enjoyed the tutoring experience.

Tests of Hypotheses

The major hypotheses of the present study were:

1. There is no significant difference in level of knowledge about tobacco between tutors who teach about tobacco and students who are not trained as part of the peer tutoring program.

2. There is no significant difference in attitudes about tobacco between tutors who teach about tobacco and students who are not trained as part of the peer tutoring program.

The *t*-test revealed no significant difference between the groups on the cognitive test or the

affective test. Therefore, the two major hypotheses were accepted.

In addition to the major hypotheses, the following hypotheses were also tested using an analysis of covariance:

1. There is no significant difference in level of knowledge about tobacco between tutors who teach information about tobacco and the tutors who teach alcohol information.

2. There is no significant difference in level of knowledge about tobacco between tutors who teach information about tobacco and the tutors who teach alcohol and tobacco information.

3. There is no significant difference in level of knowledge about tobacco between tutors who teach alcohol and tobacco information and tutors who teach alcohol information.

4. There is no significant difference in level of knowledge about tobacco between tutors who teach about tobacco and alcohol information and students who are not trained as part of the peer tutoring program.

5. There is no significant difference in level of knowledge about tobacco between tutors who teach about alcohol and students who are not trained as part

of the peer tutoring program.

6. There is no significant difference in attitudes about tobacco between tutors who teach information about tobacco and the tutors who teach alcohol information.

7. There is no significant difference in attitudes about tobacco between tutors who teach information about tobacco and the tutors who teach alcohol and tobacco information.

8. There is no signficiant difference in attitudes about tobacco between tutors who teach alcohol and tobacco information and tutors who teach alcohol information.

9. There is no significant difference in attitudes about tobacco between tutors who teach about tobacco and alcohol information and students who are not trained as part of the peer tutoring program.

10. There is no significant difference in attitudes about tobacco between tutors who teach about alcohol information and students who are not trained as part of the peer tutoring program.

There were no significant differences found in any of the 10 additional hypotheses. Therefore, all the additional hypotheses were accepted.

Discussion

The study compared changes in attitudes and knowledge of 87 teenagers who were trained and who functioned as peer tutors with 29 students who were not a part of the peer tutoring program. Results of the cognitive and attitude measures did not show any significant differences between knowledge or attitudes concerning smoking of the peer tutors and those students who did not tutor.

There are several considerations that may have contributed to the lack of change found in the tutor group. Observations by the investigator and monitors of the Research and Evaluation Department of the Dallas Independent School District revealed that peer tutors were generally enthusiastic and competent. However, the tutors often digressed during the tutoring sessions because of questions from their tutees. They were asked questions which had no relation to tobacco and drug information.

It should be pointed out that in the population of 116, only six students designated themselves as smokers which is a low percentage compared with the national average of more than 20 percent (Smoking, 1979). It

would appear that a majority of the students had already made some decision about their smoking behavior. The students may have been reluctant to identify themselves as smokers, therefore non-smokers may have inadvertently been selected.

The 1-day training session does not offer adequate training in group process which may have contributed to the inability of the peer tutors to manage groups, i.e., keep the group focused on the topic being presented. Also, a 1-day session does not provide time to be familiar with and competent to deal with the differences between elementary and junior high school students.

All of the cognitive information presented in the Peer Instructor's Guide was not covered in the 1-day peer training session. Students who did not read the additional information for themselves did not acquire some of the information which could have enhanced their own knowledge and their tutoring presentations. The Risk Reduction Health Education Program on Smoking training session appears to be too brief. Johnson and Bailey (1974) were of the opinion that training periods longer than 1 day are necessary for effective peer tutoring programs. However, because the study had to fit into guidelines determined by the Dallas

Independent School District, this study was restricted to the use of a 1-day only peer training session.

It also would appear that the peer tutoring time needs to be lengthened. Students have been asked to invest time in a training session to teach for an average of only 2 days. Two days does not afford sufficient time to become adequately familiar with the information to be presented while tutoring. Nor does this short time allow the tutors sufficient time to increase their communication skills.

The present study does not identify inherent variables which are usually present in large urban school districts. Variables such as travel convenience for tutors, district-wide agendas, class schedules, and administrative directives concerning student activities may have influenced the findings.

Conclusions

The current study did not support the use of peer tutoring as a viable vehicle for increasing knowledge and influencing attitudes of tutors about smoking when used within the limitations of the investigation. However, there are many unanswered questions about the effectiveness of a peer tutoring program on smoking and

its effect on attitudes and behavior of both the tutors and the learners.

Recommendations

The investigator recommends the following:

1. A longitudinal study to determine the level of retention of information by the tutors and to assess changes in attitudes.

2. A study determining the effect of a minimum 3-day training period for the tutors.

3. A study utilizing smokers only as tutors to determine pretest and posttest changes in attitudes concerning smoking.

4. A study determining the effect of a 2-week tutoring period.

5. A study utilizing a different mode of teaching information concerning smoking to elementary students, such as pantomime, to determine the effects on the knowledge and attitudes of the tutors.

6. A study determining the effects of peer tutoring on self-confidence and self-esteem.

APPENDIX A

Dear Parent,

I am currently working with the Dallas Independent School District's Risk Reduction Program on Tobacco. Although your child is not a part of this program, information is needed from additional DISD students for a follow-up study.

Your child has volunteered to complete a survey form on tobacco. Responses to the survey will be completely anonymous. Students will not use their names on the survey form and the students may withdraw from the study at any time. If you have no objections to participation by your son or daughter in this endeavor, please sign below.

Yours truly,

Phyllis E. Simpson
Health Education Instructor
High School for the Health Professions

Although there is no mental or physical risk involved in completing a survey form, Texas Woman's University requires the following statement of consent:

I have no objections to this study. I further understand that no medical service or compensation is provided to subjects by the university as a result of injury from participation in research.

Signature _____ Date _____

3822 Kiest Valley Parkway
Dallas, Texas 75233
February 20, 1981

Pam Collins, Ed.D.
Coordinator, DISD Risk
Reduction Program on Smoking
Letot Academy
2727 Lombardy
Dallas, Texas 75220

Dear Dr. Collins:

I am a health education teacher with the Dallas Independent School District and a doctoral student at Texas Woman's University in Denton, Texas. I am interested in working with you and your staff to evaluate the Risk Reduction Program on Smoking.

I would like to gather additional information on the peer tutors who are participating in the tobacco education program. I would like to ask each student to respond to statements on a survey form on tobacco. Students will not use their names on the survey forms and they may withdraw from participation at anytime. All information will be kept anonymous. If you have no objections to my participation in this study, please sign below.

Yours truly,

Phyllis E. Simpson

Phyllis E. Simpson
Health Education Instructor
High School for the Health
Professions

I understand the nature of this study and agree to allow the director of the study to work with the tobacco peer tutoring program. I further understand that no medical service or compensation is provided to participants by the university as a result of injury from this research.

Pam Collins, Ed.D.

Dear Parent,

Your son or daughter is currently involved in the Dallas Independent School District's Risk Reduction Program on Tobacco as a peer tutor. Peer tutors have already completed survey forms on tobacco as a part of the program.

I am currently working with the DISD Coordinators of the peer tutoring program to gather additional information to be used in a follow-up study on teenagers and tobacco. I would like for your child to respond to statements on a survey form on tobacco. Students will not use their names on the survey forms so that all information will be anonymous and students may withdraw from the study at any time. If you have no objections to participation by your son or daughter in this endeavor, please sign below and return in the enclosed self-addressed stamped envelope.

Yours truly,

Phyllis E. Simpson

Phyllis E. Simpson
Instructor of Health Education
High School for the Health Professions

Although there is no mental or physical risk involved in completing a survey form, Texas Woman's University requires the following statement of consent:

I have no objections to this study. I further understand that no medical service or compensation is provided to subjects by the university as a result of injury from participation in research.

Signature _____ Date _____

APPENDIX B

Test Instructions

1. See that all students have a number 2 pencil.

2. Pass out the answer sheet.

3. Ask students to turn the answer sheets to the front. They do not need to fill in the names, but should fill in sex.

4. In the numeric grid section have students fill in columns 1-2 with their grade level (09, 10, 11, or 12) and columns 24-25 with 00.

5. The instrument must be answered on the answer sheet in spaces marked Test A and Test B. The item numbers will correspond.

6. Students who have had high school health education should fill in column 3 of the numeric grid with 1. Those who have not had health education should fill in column 3 with 0.

7. Pass out tests.

8. Give students enough time to comfortably finish the test.

Students were given the same instructions on the posttest as for the pretest, except that item "6" was deleted for the posttest information. In addition, peer tutors only were asked to respond to the three additional posttest questions as follows:

1. How many days did you spend tutoring?

2. Do you think that peer tutoring is a helpful way to teach about smoking?

3. Did you enjoy tutoring?

Tutors recorded the number of days spent tutoring in the numeric grid of the computer answer sheet. Students responded on the computer answer sheets to the questions "2" and "3" above by shading "0" for "not at all," "1" for "partially," and "2" for "totally."

SMOKING KNOWLEDGE INVENTORY

Choose the one best answer and mark it on the answer sheet.

1. What happens in the air sacs in the lungs?

   (a) red blood cells take on oxygen and give off carbon dioxide
   (b) germs are collected from the blood cells
   (c) mucus is given off by the blood
   (d) air is warmed before it enters the blood

2. What does mucus do?

   (a) dissolves dirt and germs
   (b) stores oxygen
   (c) catches and holds dirt and germs
   (d) gives off carbon dioxide

3. What does smoking do to the cilia?

   (a) makes them grow longer
   (b) destroys them
   (c) makes them stiff
   (d) curls them

4. The cilia

   (a) absorb moisture
   (b) give off oxygen
   (c) take in carbon dioxide
   (d) sweep out mucus

5. The drug in tobacco is

   (a) nicotine
   (b) caffeine
   (c) codeine
   (d) nolamine

6. Which of the following is true?

   (a) Smoking a few cigarettes a day is not harmful?
   (b) The effects of a few cigarettes a day add up over the years.

(c) A person is not smoking too many cigarettes until he starts coughing.
(d) Smoking is only harmful for someone who is already unhealthy.

7. If a person already smokes,

(a) quitting won't help his/her health
(b) he/she can't quit
(c) quitting will improve health
(d) quitting may be harmful

8. Although someone may start smoking to be like friends or family, he/she soon

(a) finds it hard to stop
(b) can stop easily anytime
(c) is never able to stop
(d) tires of it and wants to stop

9. Cigarette smoke

(a) only affects the person smoking
(b) is harmful only to people with bad lungs
(c) is harmful only to other smokers
(d) is harmful to all who breathe it

10. Who is most responsible for your health?

(a) your parents
(b) you
(c) your doctor
(d) your friends

11. The drug in cigarettes causes the blood vessels to

(a) become more narrow
(b) burst
(c) become larger
(d) break

12. Smoking causes the heartbeat to

(a) become slower
(b) become more regular
(c) become faster
(d) become louder

13. A substance in cigarettes that coats the lungs is

    (a) pollution
    (b) nicotine
    (c) ashes
    (d) tar

14. The amount of carbon dioxide the body must get rid of

    (a) is always the same
    (b) is less when you smoke
    (c) is more when you are more active
    (d) is less when you are more active

15. Pipes and cigars are not as harmful as cigarettes because

    (a) the smoke is not poison
    (b) the smoker does not inhale their smoke
    (c) their smoke is filtered
    (d) they don't contain as much tobacco

16. The damage from inhalants to the body may cause

    (a) mild physical reactions
    (b) permanent physical damage
    (c) no physical reactions
    (d) changes in physical appearance

17. The user of marijuana may react by

    (a) feeling hungry
    (b) thinking clearly
    (c) increasing coordination
    (d) becoming more alert

18. Other names for marijuana do <u>NOT</u> include:

    (a) hemp
    (b) weed
    (c) angel dust
    (d) rope

19. The breathing center which controls oxygen and carbon monoxide levels is located in the

(a) brain
(b) lungs
(c) air sacs
(d) nasal cavity

20. Which of the following drugs is said to cause physical reactions equal to those of marijuana?

(a) tobacco
(b) alcohol
(c) angel dust
(d) inhalants

NONSMOKERS:

Please answer the following questions. Smokers skip these items and go on to the smoker section.

21. Do you think you will smoke cigarettes at some future time?

(a) Definitely yes.
(b) probably yes.
(c) Definitely no.
(d) Probably no.

22. If you were to begin smoking now, who would be the person most upset about it?

(a) Mother.
(b) Father.
(c) Minister, Priest, or Rabbi.
(d) Best boy friend.
(e) Best girl friend.

23. What would your mother do if you started smoking now?

(a) She would forbid it.
(b) She would disapprove.
(c) She would approve.
(d) She wouldn't care.
(e) I don't know.

24. What would your father do if you started smoking now?

(a) He would forbid it.
(b) He would disapprove.
(c) He would approve.
(d) He wouldn't care.
(e) I don't know.

25. If you have EVER smoked, about how long did you smoke?

(a) Less than 1 month.
(b) From 1 month up to 1 year.
(c) For more than 1 year up to 2 years.
(d) More than 2 years.
(e) I have never smoked.

26. If you NO LONGER smoke, how long has it been since you stopped smoking?

(a) Less than 1 month.
(b) From 1 month up to 1 year.
(c) For more than 1 year up to 2 years.
(d) More than 2 years.
(e) I have never smoked.

27. The Surgeon General's Report on smoking

(a) influenced my decision not to smoke.
(b) influenced my decision to stop smoking.
(c) had no influence on my decision about smoking.
(d) has not influenced me because I haven't heard of it.

28. The warning label on cigarette packages

(a) influenced my decision not to smoke.
(b) influenced my decision to stop smoking.
(c) had no influence on my decision about smoking.
(d) has not influenced me because I haven't heard of it.

SMOKERS:

Please answer the following questions. Nonsmokers skip to question 44.

29. How long have you been smoking?

(a) Less than 1 month.
(b) From 1 month up to 1 year.
(c) For more than 1 year up to 2 years.
(d) More than 2 years.

30. On the average, how many cigarettes do you smoke a WEEK?

(a) I smoke less than 1 pack a week.
(b) I smoke about 1 pack (20) a week.
(c) I smoke about 2 packs (40) a week.
(d) I smoke about 3 packs (60) a week.
(e) I smoke more than 3 packs (60) a week.

31. When I smoke cigarettes, I usually smoke

(a) regular, non-filter.
(b) regular, filter.
(c) king-size, plain.
(d) king-size, filter.
(e) any kind available.

32. When do you usually smoke cigarettes?

(a) When I am by myself.
(b) When I am with people my own age.
(c) When I am with older people.
(d) I am just as likely to smoke at any of these times.

33. How do you usually feel when you smoke cigarettes?

(a) I feel happy, or I am having fun.
(b) I feel nervous, upset, or I am unhappy.
(c) When I feel there is nothing else to do.
(d) I am just as likely to smoke at any of these times.

34. Select the ONE reason that best explains why you feel you started smoking cigarettes.

(a) To see what it was like.
(b) Because my friends smoked.
(c) Because my parent(s) smoked.
(d) To act or feel more like an adult.
(e) Some other reason not given here.

35. Select the one reason that best explains why you now smoke.

(a) My friends smoke.
(b) I enjoy it.
(c) It calms me.
(d) I feel like an adult.
(e) Some other reason not given here.

36. Do you smoke in the presence of either of your parents?

(a) Yes.
(b) No.

37. How does your mother feel about your smoking cigarettes?

(a) She says it's O.K. to smoke.
(b) She disapproves of my smoking.
(c) She forbids my smoking.
(d) She doesn't care.
(e) I don't know.

38. How does your father feel about your smoking cigarettes?

(a) He says it's O.K. to smoke.
(b) He disapproves of my smoking
(c) He forbids my smoking.
(d) He doesn't care.
(e) I don't know.

39. How has the Surgeon General's Report on Smoking influenced your cigarette smoking?

(a) I smoke more now.
(b) I smoke less now.
(c) My smoking has not changed.
(d) Doesn't apply because I have never heard of it.

40. How has the warning label on cigarette packages influenced your cigarette smoking?

(a) I smoke more now.
(b) I smoke less now.
(c) My smoking has not changed.
(d) Doesn't apply because I have never heard of it.

41. Are you in any way concerned about the possible harmful effects of smoking on your health?

(a) Not at all concerned.
(b) Only slightly concerned.

(c) Fairly concerned.
(d) Very concerned.

42. Select the reason that best describes your feelings toward your cigarette smoking.

(a) I am satisfied and have no wish to quit.
(b) I wish I had never started but don't plan to quit now.
(c) I want to quit, but I am not sure that I can.
(d) I definitely plan to quit.
(e) I plan to cut down on the number of cigarettes but I do not plan to quit.

43. Will you be a cigarette smoker five years from now?

(a) Definitely yes.
(b) Probably yes.
(c) Probably not.
(d) Definitely not.

BOTH SMOKERS AND NONSMOKERS:

PLEASE answer the remaining items. To answer simply mark the letter which best represents your feelings. Begin your answers with number 44 on the answer sheet.

This is the code for your answers:

Strongly Agree	Mildly Agree	Neither Agree Nor Disagree	Mildly Disagree	Strongly Disagree
A	B	C	D	E

44. Smoking is a very relaxing pasttime.

45. Cigarettes are pleasurable.

46. Lots of people smoke, and it doesn't seem to hurt them.

47. Smoking costs more than the pleasure is worth.

48. Doctors should set a good example by not smoking cigarettes.

49. People who smoke are usually more friendly than people who don't.

50. One of the main reasons teenagers smoke is to be part of the group.

51. Smoking is an impossible habit to stop.

52. Teachers should set a good example by not smoking cigarettes.

53. I really don't see how smoking can harm a person.

54. If people stopped to think about what they were doing, they wouldn't smoke.

55. Smoking is something nice to do when you're having fun or enjoying yourself.

56. There is nothing wrong with smoking.

57. One should decide for himself whether or not to smoke.

58. Most cigarette smokers can stop if they want to.

59. Most people would be better off if there were no such things as cigarettes.

60. If parents smoke, they should allow their children to smoke.

61. Cigarettes do more good for a person than harm.

62. If I had my way about it, there would be a law against smoking.

63. To be popular, one has to smoke cigarettes.

64. Cigarette smoking frequently causes death and disease.

65. Quitting smoking helps a person to live longer.

66. Teenagers who don't smoke are more respected by their classmates.

67. There is nothing wrong with smoking as long as a person smokes moderately.

68. When I have children, I hope that they do not smoke.

69. After a person has smoked for a year or two, he wishes that he had never started.

70. If people knew the truth about cigarettes, they wouldn't smoke.

71. Smoking is a dirty habit.

72. Filter cigarettes are safer to smoke than non-filter cigarettes.

73. Cigarette advertisements should be checked by medical authorities before publication.

74. Some teenagers smoke because it shows freedom from their parents and teachers.

75. Cigarette smoking causes chronic bronchitis.

76. Cigarette advertising should be banned from radio and television.

77. Smoking hurts performance in athletics.

78. There is a relationship between lung cancer and cigarette smoking.

79. Teenagers smoke mainly because their close friends smoke.

80. Smoking is related to heart disease.

81. Parents should set a good example by not smoking cigarettes.

82. Cigarette smoking is harmful to health.

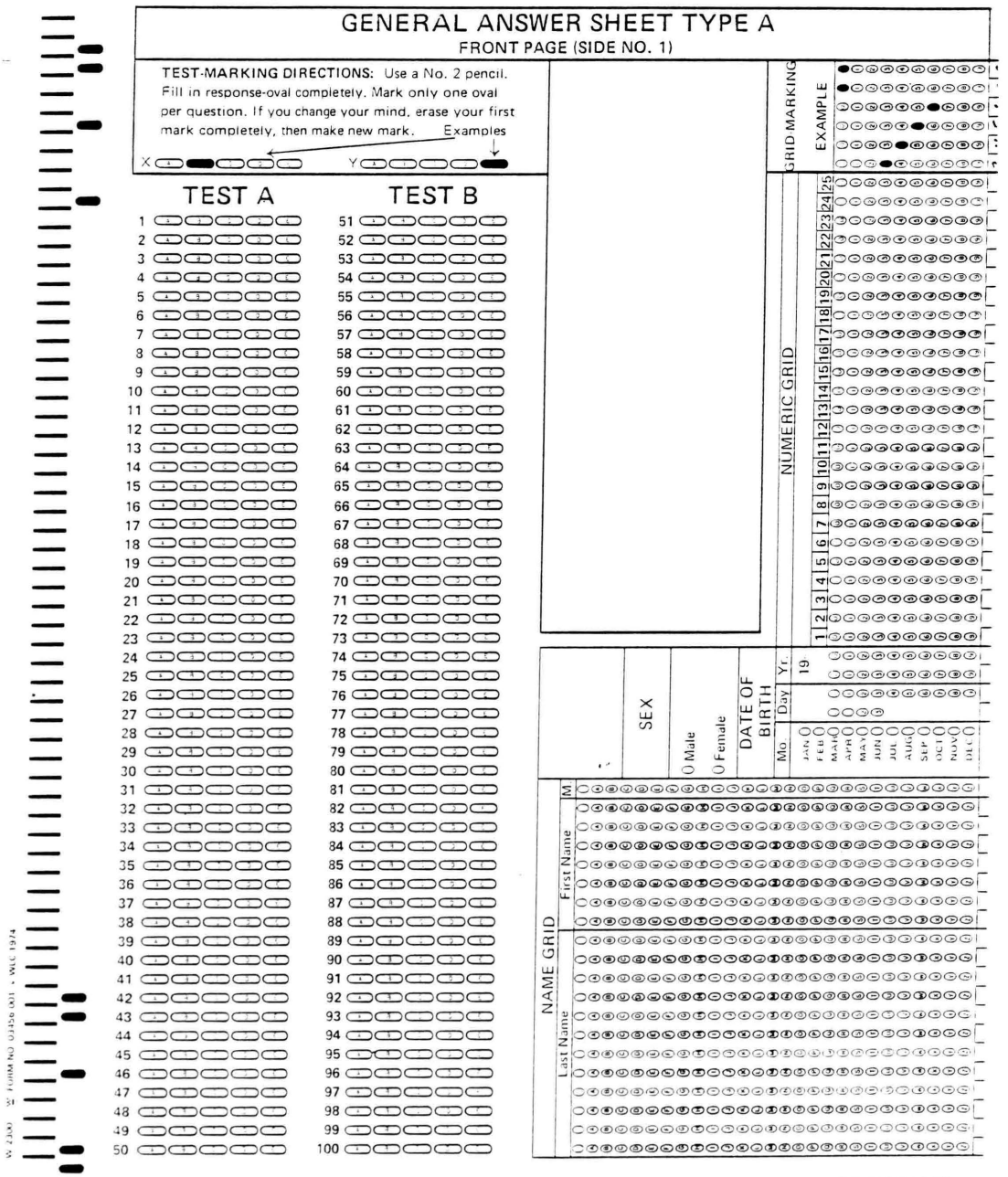
83. Smoking helps people when they feel nervous about something.

84. One of the main reasons teenagers smoke is to be more like adults.

85. If I were a parent, I would not let my teenage children smoke cigarettes.

86. Teenagers smoke mainly because their parents smoke.

87. Cigarette smoking can help to control overweight.


GENERAL ANSWER SHEET TYPE A
FRONT PAGE (SIDE NO. 1)
TEST-MARKING DIRECTIONS: Use a No. 2 pencil. Fill in response-oval completely. Mark only one oval per question. If you change your mind, erase your first mark completely, then make new mark.
Examples
X
Y
TEST A
TEST B
GRID MARKING
EXAMPLE
NUMERIC GRID
NAME GRID
Last Name
First Name
M
SEX
Male
Female
DATE OF BIRTH
Mo.
Day
Yr.
19
JAN
FEB
MAR
APR
MAY
JUN
JUL
AUG
SEP
OCT
NOV
DEC
CODE 01
PRINT NAME

APPENDIX C

PEER EDUCATION PROGRAM:

The basic concept of the Peer Education Program is that young people will listen to other young people when they have something to say. What they share with each other should:

1. be based on truth
2. be something of importance
3. allow the individual to make his/her own decisions.

By using the peer education approach in the classroom, the Allied Youth Program seeks to provide an atmosphere whereby the youth will freely discuss the problems of alcohol, tobacco and drug abuse, and be able to make personal decisions regarding their use. The Allied Youth Program attempts to utilize the strength of the team sponsor, peer instructors and the classroom teacher to provide a program that will help peer instructors:

1. clarify what is important to them
2. learn a decision-making process
3. learn valid information about the use of alcohol, tobacco and drugs; and some meaningful alternatives
4. pass these concepts on to younger people.

The Team Sponsor: The team sponsor (usually a local-building faculty or staff member) is responsible for the following:

1. coordination of all team activities
2. attendance at instructing sessions
3. dissemination of scheduling information to students
4. arrangement of adequate materials, i.e., handouts, and
5. clarification of questions.

The Peer Instruction Team: The peer instruction team consists of four or five high school students. Each team member is a volunteer who has been recommended by both peers and responsible adults. Each member has parental permission to participate.

The peer instruction team conducts two class periods as described later in this guide. The persons to be instructed are middle school students. Each member of the peer instruction team will be responsible for the instructing of approximately 8 to 10 middle school students during the two periods. A team leader will be appointed by the team sponsor or selected by team members and has the additional responsibility of overall team management which includes:

1. making a pre-instruction survey of the middle school facilities to be used
2. making contact with the classroom teacher in advance of the first instructing session
3. making sure that each team member knows his or her instructing duties, and
4. having the team at the instruction site on time.

The Peer Instructor: The peer instructor — you — is the key figure in the success or failure of this program. There is well documented research to back up the statement that peer instructors are very effective in causing learning to occur. There are, however, some conditions which must be met before you become effective as an instructor. First, you must know the material and your credibility as an authority must be established.To this end you will have factual data available in this guide, and you will have participated in special training designed to prepare you for the training task. Second, you must be able to lead a small group in learning situations. The instructor training you undergo will provide the basis for this leadership skill needed in dealing with a small group. Third, you must be a manager of time and follow the

instructional program closely. It has been designed to carry your students through a series of learning activities which will cause them to better understand alcohol, tobacco and drugs and their impact on each individual's life. Finally, in order to assure that the middle school participants get the maximum benefits from the two periods, you must be thoroughly familiar with the training program itself, and discipline yourself to follow it as closely as you can. This means you must study not only facts and decision-making, but you must know when and what the next subject is, how it is to be presented, what handouts are involved, etc. You use this program to accomplish your assigned task, but you do not revise or change its structure enroute. If, **after** you complete the training program, you have suggestions on how to improve the program, inform your team sponsor who will in turn forward them to the program director. The suggestions will receive serious review and consideration.

The Peer Instructor's Guide: This is just what it says; it is a guide for you, the peer instructor, to assist you in leading the students to the program objectives. It has a two-fold purpose. First, it maps out the instructional program for you to follow and makes suggestions on how to keep the program on course. Some of the material, such as small group dynamics, decision-making process and other areas you covered in your instructor training session, is also included for review purposes. Second, it is an immediate reference for facts which will supplement the information you obtained earlier.

YOU AS A GROUP LEADER

As a peer instructor, one of your big tasks is to learn how to lead small group discussions. This involves accepting people as human beings, as well as understanding and using effective group leadership techniques. The following pages help you review how you can become an effective group leader. It is suggested that you take time to read and review this section frequently.

People are human! Leading a small group is largely a matter of human relations; that is, a meeting of **you** and a small group of others who are going to share a part of yourselves with each other on an "understanding" level.

In a meeting of thirty or more people, if a leader were to ask, "Are there any questions or comments?", there would be a very few, if any, who would venture to say anything. Break the group down into small groups of six to eight people, seated in circles, and they all would be able to raise questions and share feelings. The person who does not take part will be the exception rather than the rule.

Small group discussions help people feel they are needed and wanted. In the small group, every person feels what he/she has to say will be heard. One's personal participation is important to him/her and the group. This helps members develop initiative and creativity, and increases their independence in the decision-making process. They feel what they contribute is important and are willing to support what they have helped to decide.

QUALITIES OF EFFECTIVE GROUP LEADERSHIP

One of the basic guidelines for leading a small group is to train yourself to become a **good listener**. This can be done by remembering and following the steps to good listening.

Steps to Good Listening

1. Be patient — let everyone have his/her say.
2. Do not become preoccupied with other things when a person is trying to get through to you.
3. Make a sincere effort to become interested in other people and their ideas.
4. Wait for the person to finish what he/she has to say before judging him/her.
5. Show your willingness to listen by asking for viewpoints and ideas of others.
6. Listen to what a person is saying — find out what he/she means.
7. Pay attention — keep your attention on what the other person is saying.

By improving your own listening skills you will discover the group you are leading will become more involved in the discussion at hand.

There are several additional guidelines you may find helpful. A group leader:

. . . Redirects unpleasant personal encounters by questioning, stating the task, and asking the question, "What is our next item of discussion?"

. . . Is objective, rather than opinionated; patient, rather than anxious; stimulating, rather than dull.

. . . Allows for the "golden silence" — does not feel obligated to speak unless what he/she has to say will contribute to the group's efforts.

. . . Seeks to stay within the time schedule and ends his/her group with a summary of what has happened today and an outline of what will happen the next group meeting.

The small group discussion leader is the most important person in the group, and determines the success of the discussion. If he/she is too eloquent, brilliant and stimulating, he/she will probably

overshadow the other members, and defeat the purpose — cooperative and individual action. Still, the leader must be a control figure, be a part of the discussion, and yet present a low profile. To be successful he/she must have a proper attitude toward the discussion process, realize the principles of leadership, and understand the methods of procedure.

SKILLS NEEDED IN LEADING SMALL GROUPS

There are certain skills you will need to acquire as you lead small groups. These skills are outlined below so you can refer to them often.

1. **Get the discussion started.** Use some method of creating a relaxed, friendly atmosphere among group members. Try to make everyone feel that he/she "belongs" and that he/she is wanted and needed. The leader makes sure that seats, materials, tables, etc., are ready. He/she should try to discourage outside interruptions.
2. **Keep the discussion moving constructively.** This is accomplished in two ways: using the summary, and questioning.

   A. **The use of the summary:**

   (1) By skillful use of the summary you will be able to give the discussion order and direction. When discussion goes astray, the leader can summarize and thus redirect the group.

   (2) The summary is used when the group has been on a single topic too long and it is necessary to move on.

   (3) The summary serves as a transition from one phase of discussion to another.

   (4) The summary is used to delay a hasty decision.

   (5) The summary can be used when the leader does not know what to do next. Usually during the process of summarizing, a new direction will be indicated.

   B. **The use of questioning:**

   (1) Skillful use of the question aids the leader in drawing out members of the group.

   (2) Skillful use of the question helps to obtain information, while keeping the discussion moving.

   (3) Do not ask "yes or no" questions.

   (4) Examples of questions to ask:

   a. What experiences have you had with this problem?

   b. How did you solve it?

   c. What do you think about the matter? Why?

   d. Can you give an example?

   e. What other possibilities can you suggest?

   f. Will you be a little more specific?

3. **The discussion leader is responsible for keeping down strife and dissention.** He/she can do this by keeping the discussion on the subject, discouraging personal conflicts and bickering. He/she might say something like this when there seems to be a personal conflict between two members of the group, "In the interest of the entire group, I feel that we need to move to another phase of our topic."
4. **Provide the opportunity for all to participate** . . . but don't become alarmed if no one is talking. Observe the "golden silence." It can be creative for the group. It may become necessary to ask the group, "What is getting in the way of this group?" "Why are we not levelling with each other?" "Why are we not productive?" A group member does not need to participate in order to learn and should not be "hounded" to speak.
5. **Give support to the timid.** Never use the "What-do-you-think, John?" type of question. It is permissible to say, "John, you were the chairman of a similar study in your school. Can you give us

some of the problems the study pointed out?" This method points up John's importance and gives him an opportunity to talk from experience. If necessary, the leader keeps him talking by asking additional questions. Usually a shy person will continue to participate once he/she has made the initial contribution.

6. **Redirecting the "talker".** Those persons who talk too much and have little to say are a different problem. The leader tries to keep from embarrassing this person because there is a chance that the rest of the group will respond negatively. If Mary, a talker, does not catch the subtle hint from the leader that this is a joint endeavor, then the leader may politely interrupt Mary and suggest that some other member react to what Mary has been saying. After one member finishes, the leader directs the discussion to another without letting it return to Mary. Again, the leader may hear more from Mary; then without commenting on what has been said, the leader introduces a new idea, summarizes or questions, and asks others to give their opinion.
7. **Concluding the discussion.** The leader concludes in such a manner as to keep the topic alive and real. He/she concludes:

   A. when the group stops making progress;

   B. when a solution is found;

   C. when time runs out; or

   D. when the group chooses to conclude.

   The leader should give a brief summary of what has been accomplished during the discussion.

CLASSROOM CONSIDERATIONS

As a classroom instructor, there are several things to consider:

1. You are there because you are concerned about younger students and their use of alcohol, tobacco or drugs. You are interested in helping them find meaningful alternatives. The middle school students will be interested in why you are there and why you are a Peer Instructor, so tell them of your concern and interest in them and their school.
2. The classroom teacher is your friend and ally in this program. Make friends with him/her. Ahead of time, arrange to meet the teacher and help him/her understand the aim of the program. You are not there to take over his/her duties, but to open up communication with the students in the classroom. Work closely with the teacher and remember that by doing this, you and he/she together can do much toward developing positive attitudes which help students make responsible decisions of their own. After you leave, the teacher will be able to reinforce the information you have presented to the students.
3. Compare your classroom visit with a visit to the home of one of your friends. When you go there you generally meet his/her parents. Each home has its own rules and regulations to abide by, and when you visit your friend's home, you abide by these rules (if you want to be invited back!). You may not agree with the rules or family policies, but you still must abide within the rules while visiting there. Each teacher — each school — has rules and regulations to follow. **Follow them!** Your being welcomed back may depend upon how well you do this.
4. You will be quoted! When the middle school students leave the classroom, they will tell their parents what you discussed. Keep a positive attitude. Get your facts straight. If you do not know the answer to a question — **say so**! If you can get it before the next session — **say so**. If you cannot ever get the answer — **say so**. Being truthful with the students gains their confidence and trust and will aid them in opening up during the discussion.

TOBACCO PROGRAM

INSTRUCTIONAL UNIT 1 (Day 1)

I 5 min.	Introduction	The team leader: A. Introduces team members B. Describes purpose of program C. Outlines what is going to happen during the visits
II 20 min.	Current perceptions	Small Groups: A. Warm-up activity B. Group brainstorming C. Summary
III 15 min.	Facts about Smoking	A. Lecturette B. Handout #1 "Smoking: How does it affect the human body?"
IV 15 min.	Optional Activity	A. Handout #2 "Individualized Work Worksheet" B. Information on Marijuana and Inhalants Handout #3 "Marijuana Information" Handout #4 "Information about Inhalants"
V	Take Home Activity	A. Handout #5 "Smoking Crossword Puzzle" B. Handout #6 "Smoking Word Maze"

INSTRUCTIONAL UNIT I (Day 1)

This is your first contact with the students. Three events must occur. First, your credibility must be established. This is done in the introduction. Second, you must allow the students to surface their feelings about tobacco. This is done without input from you and offers them the opportunity to express what is significant to them. Third, you provide them with the basic facts on tobacco.

REMEMBER: The student is the center of the learning experience. Everything should be for the learner's benefit.

I. **INTRODUCTION:**

A. Team leader introduces team members.

B. He/she describes the purpose of the program.

C. He/she outlines what is going to happen during the visits.

II. **CURRENT PERCEPTIONS:**

Break into small groups of approximately 8-10 students. (You may divide the group at this time or have the classroom teacher assign groups ahead of time.)

A. Warm-up activity

Each group member introduces him/herself and tells either one positive thing about him/herself, a special interest or hobby, or one special experience that has happened to him/her in the last year.

B. Group brainstorming

Each student contributes to the development of the group's perception on tobacco use by surfacing his/her current feelings and beliefs about tobacco. The following questions/statements may be used to initiate this activity:

. . . Why do some people smoke?

. . . Why do some people not smoke?

. . . How does tobacco affect people? physically? emotionally? socially?

. . . What is a smoker actually taking into his lungs?

. . . How does smoking affect the respiratory system?

. . . Is smoking dangerous for women?

. . . Is it dangerous to be in a smoke-filled room?

. . . The legal age to purchase cigarettes should be _____, and the age should be decided by _____.

. . . The decision to smoke should be left up to _____.

III. **FACTS ABOUT TOBACCO:**

A. Lecturette

Using the information you received in your training session, handouts and the tobacco information section in this guide, prepare a brief lecture concerning the facts about smoking.

B. Distribute and discuss/explain Handout #1, "Smoking: How Does It Affect The Human Body?"

IV. **OPTIONAL ACTIVITY (15 minutes):**

If you have time, use one or all of the activities listed below:

A. Handout #2, "Individualized Worksheet" can be started in class and completed at home, or used as a take-home assignment. This is about tobacco.

B. Handouts #3 and #4 are about Marijuana and Inhalants. You might open the discussion by focusing on the dangers of breathing foreign substances into the lungs. Then mention that two substances commonly inhaled by young people are Marijuana smoke and inhalants. Ask if the students have any questions about these substances. This can stimulate interest and give you a clue about the information and misinformation the students have received.

V. **TAKE-HOME ACTIVITY:**

A. Handout #5 — "Smoking Crossword Puzzle"

B. Handout #6 — "Smoking Word Maze"

ALLIED YOUTH PEER EDUCATION PROGRAM ON TOBACCO

HANDOUT #1

SMOKING: HOW DOES IT AFFECT THE HUMAN BODY?

WHY MUST YOU BREATHE?

Your body needs OXYGEN (O_2) as fuel for working cells.

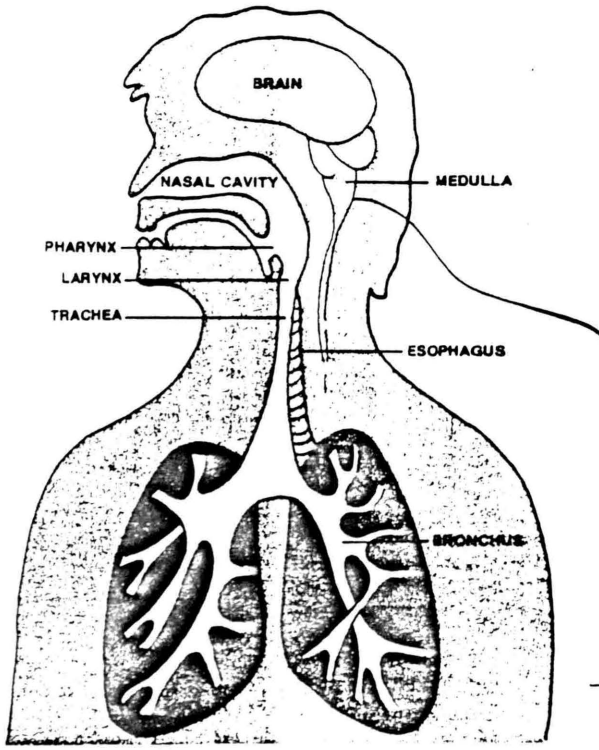
It must get rid of CARBON DIOXIDE (CO_2), the waste product of cells at work.

When you run or dance you need MORE oxygen . . .
And you have MORE carbon dioxide to get rid of.

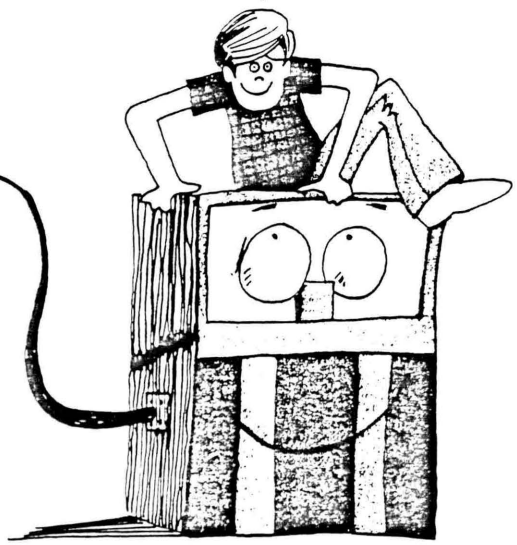
When you rest you need LESS oxygen . . .
And you have LESS carbon dioxide.

The air you breathe in must not be too COLD . . . or too HOT . . . or too DRY.

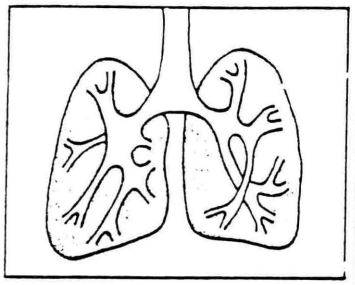
It must be SAFE and CLEAN . . . without dirt and germs.



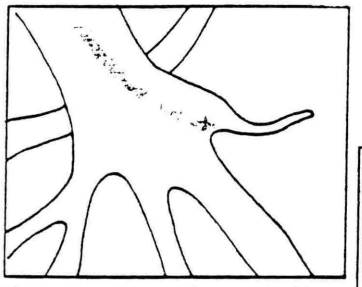
THERE'S A "BREATHING CONTROL CENTER" IN YOUR BRAIN THAT RUNS IT ALL — ALMOST LIKE AN ELECTRONIC COMPUTER.



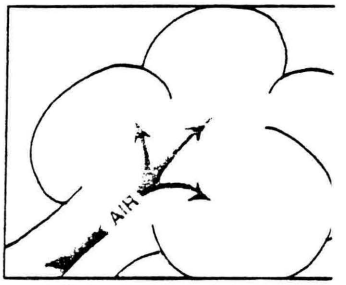
Page 2, Handout #1



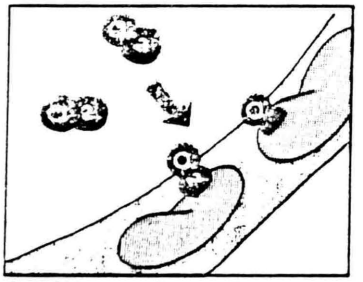
ONE When you breathe in . . . oxygen comes in as part of the air, through the nasal cavity or the mouth: by the pharynx, larynx, and trachea, into the main bronchus.



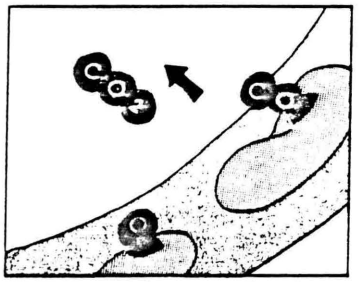
TWO It goes through a maze of lung passages that get smaller and smaller.



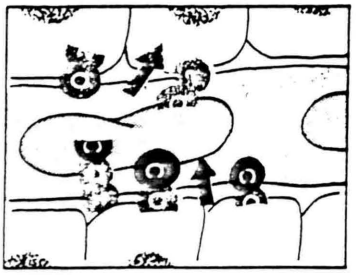
THREE At the end of the smalle ones it reaches the air sacs (alveoli



FOUR It gets through the alveolus wall into a blood vessel. Red blood cells carry the oxygen.



FIVE The red blood cells release carbon dioxide through the wall the other way, and into the alveolus air.



SIX Elsewhere in the body, the cells take the oxygen they need from the blood and give up the carbon dioxide. When you breathe out . . . out comes the stale air, taking the carbon dioxide with it.

Page 3, Handout #1

YOUR BREATHING SYSTEM CAN
CLEAN UP MUCH OF THE DIRT AND GERMS.
How does it work?

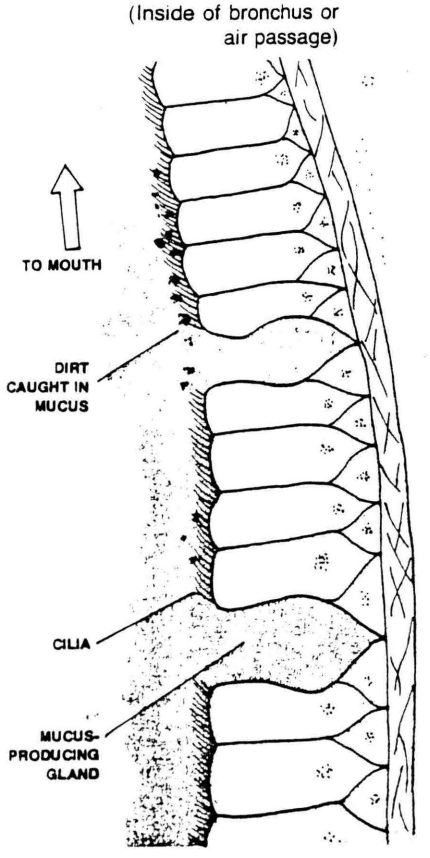
1. WITH A FAST CURVE.
   When moving air goes around a bend, the dirt goes straight ahead and is trapped . . .

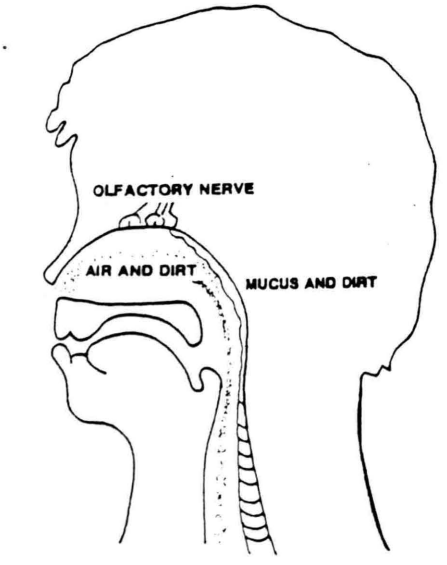
2. WITH A SPECIAL STICKY FLUID.
   Glands in the passage walls give out sticky stuff (mucus) that catches and holds dirt and germs . . .

3. WITH HARDWORKING BROOMS.
   Short hair-like bristles (cilia) keep sweeping up and out, pushing the mucus, dirt and germs away . . .

4. WITH A BLASTING MACHINE.
   If a large piece of dirt or a batch of mucus gets stuck, a sneeze or cough can blast it out.

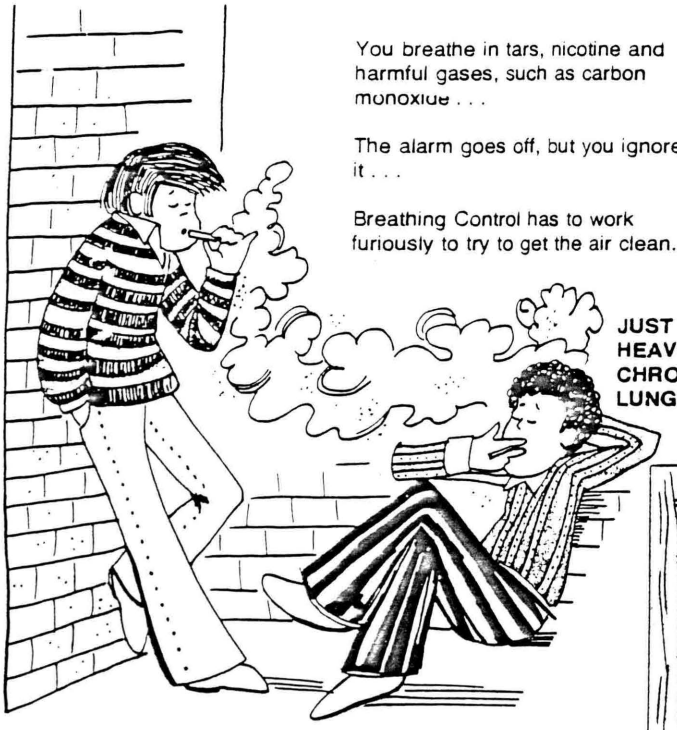
(Inside of bronchus or air passage)





WHAT HAPPENS IF YOU SMOKE ?

Page 4, Handout #1

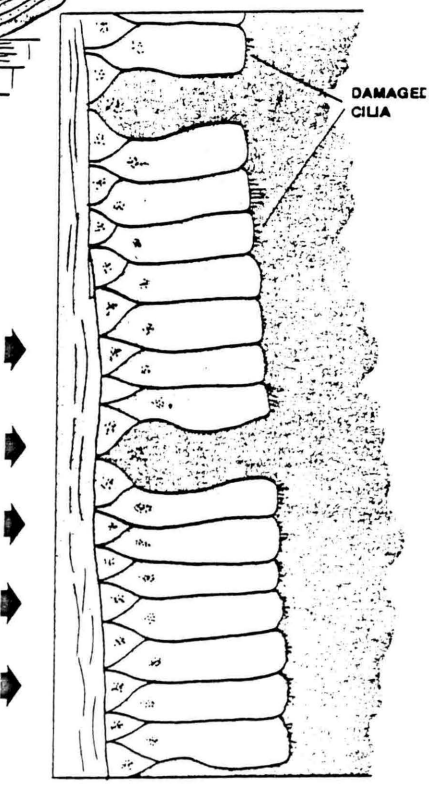


You breathe in tars, nicotine and harmful gases, such as carbon monoxide . . .

The alarm goes off, but you ignore it . . .

Breathing Control has to work furiously to try to get the air clean.

JUST A FEW PUFFS CAN HURT. HEAVY SMOKING CAN CAUSE CHRONIC BRONCHITIS, EMPHYSEMA, LUNG CANCER, HEART ATTACK.



BUT IT'S TOO MUCH!

Even one cigarette slows down the cilia, the hardworking brooms. Heavy smoking destroys them . . .

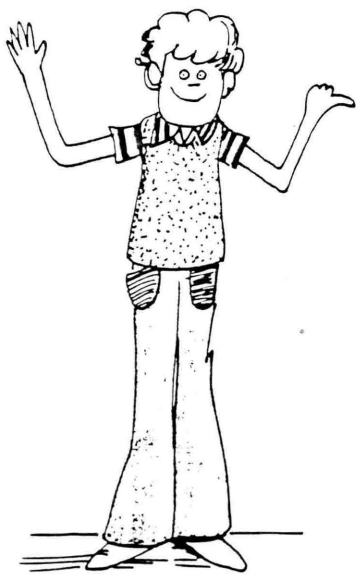
Mucus and dirt pile up. Germs don't get swept out. That's one reason why smokers get sick more often than nonsmokers.

Tar stains the lungs. It can cause cancer.

Nicotine narrows the blood vessels. The heart has to pump faster to get the blood through.

Carbon monoxide in cigarette smoke steals the place of oxygen in the red blood cells. The body gets less oxygen. The heart must beat still faster.

Page 5, Handout #1



it all adds up...

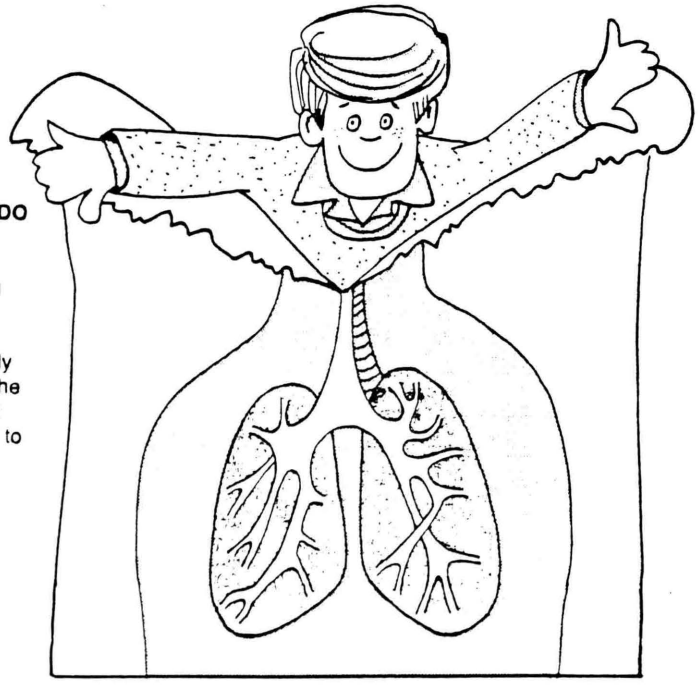
The breathing control center in your brain controls how fast you breathe . . . how much oxygen you take in . . . how much carbon dioxide you get rid of . . .

Temperature and moisture in the air you breathe are adjusted as it passes down through nose and upper throat passages . . .

Most dirt, germs and other dangerous elements in the air are caught on the walls of the passages by mucus and swept out by cilia . . . to be coughed up or swallowed.

but...

The real "breathing control" — YOU



BREATHING CONTROL CAN'T DO IT ALL ALONE . . .

YOU have to help . . . by avoiding germs and taking care of an infection when it happens . . . By taking care of your health generally . . . By avoiding polluted air (and the best way to do that is to help fight air pollution) . . . By deciding NOT to smoke cigarettes.

Materials designed by American Lung Association. Taken from "As You Live . . . You Breathe"

ALLIED YOUTH PEER EDUCATION PROGRAM ON TOBACCO

HANDOUT #2

INDIVIDUALIZED WORKSHEET

This worksheet is for you. It will review some of the materials you covered.

1. The most harmful chemical in cigarettes causes _____.
2. _____ robs the blood of oxygen needed for energy and proper cell growth.
3. The respiratory tract is like an upside down _____.
4. Name the parts of the respiratory tract. A. B. C. D.
5. Smoking destroys _____ which sweep the bronchial tract clean.
6. The mucus of a smoker collects _____.
7. What is emphysema?
8. Explain nicotine. It is a _____.
9. It causes an _____ in the heartbeat.
10. And a _____ in circulation.

ANSWERS TO WORKSHEET

1. Cancer
2. Carbon monoxide
3. Tree
4. A. Bronchial tubes
   B. Air sacs
   C. Mucus
   D. Cilia
5. Cilia
6. Bacteria
7. The lungs lose their elasticity and become inefficient. There are holes in the lung. **There is no cure.**
8. Poison
9. Increase
10. Decrease

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HANDOUT #3

MARIJUANA INFORMATION

Marijuana is the most widely used illegal drug. It is also one of the most controversial. We simply don't know much about the long-term effects of the drug. Until we do, we need to be extremely careful about using it. Other names for Marijuana are:

pot	dope	hay
grass	weed	Mexican Brown
Mary Jane	himp	Panama Red
Oaxacon	skeet	rope
Acapulco Gold		

Marijuana comes from the cannabis plants. Most doctors and scientists believe the drug should not be used for a number of reasons. The most practical reason is that the possession, use, and sale of Marijuana are illegal. And since researchers cannot agree on the good and bad effects of Marijuana — especially the long range effects — it would seem safer to avoid using the drug.

The drug is usually smoked, but can be eaten or sniffed. The user often reacts to Marijuana the same way he/she reacts to alcohol:

— feeling "high"
— false sense of being okay
— problems with thinking clearly and coordination
— lack of interest
— increased hunger

It is generally said that Marijuana does not create an addiction, physically. However, one can become psychologically dependent upon its effects. People who are in favor of smoking Marijuana often say the drug is no more dangerous than alcohol — however, alcohol is the number one drug problem in our country.

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HANDOUT #4

INFORMATION ON INHALANTS

Aside from Marijuana and cigarette smoke other harmful substances are sometimes inhaled. **Inhalants** include a large group of chemicals that produce mind-changing vapors. Most people do not even think of them as drugs because they were never meant to be used that way. They are mainly commercial products used as cleaning agents, glues, or as fuel for motor vehicles. Most contain warnings against inhaling too much of the chemical fumes.

Sniffing inhalants for even a short time can disturb vision, damage nasal and lung tissue, impair judgment, and reduce muscle and reflex control. Repeated sniffing can cause permanent damage to the nervous system, which means greatly reduced physical and mental abilities. Sniffing of certain inhalants can damage the liver, kidneys, blood, and bone marrow. Sniffing highly concentrated amounts of aerosol sprays can cause heart failure and instant death.

The following example may be familiar to you: Buses and cars burn fuel which produces a waste material called carbon monoxide. This is a colorless, odorless fume. If you inhale carbon monoxide fumes you may feel sick to your stomach and/or sleepy. This sometimes happens if you are driving behind a bus or if you are in a traffic tie-up. The engines are producing higher levels of concentrated carbon monoxide. When the traffic tie-up begins to clear, or you are no longer driving behind the bus, you begin to feel better.

Inhaling very large concentrations of carbon monoxide can cause death because, like cigarette smoke, carbon monoxide destroys oxygen in the blood stream.

If you are in doubt about what is harmful to inhale, ask an adult — a parent, teacher, or older friend.

HANDOUT #5

SMOKING CROSSWORD PUZZLE

ACROSS

3. It is usually hard for a person to stop once he has a smoking _____.
6. Smoking is messy, and often leaves _____ on clothes and furniture.
8. Smoking speeds up our pulse and makes our _____ work harder.
9. The law requires a _____ to be printed on each package of cigarettes.
10. _____ may be unpleasant for the people around a smoker.
13. Smoking can stain and yellow the _____ as well as the skin.
14. There are many dangerous substances in _____.
18. _____ is a poison in cigarettes that makes the heart beat faster and makes the blood vessels constrict (get smaller).
20. Although not considered as harmful as cigarettes, cigars and _____ use forms of tobacco and may cause medical problems.
21. It is smart not to even _____ smoking.
22. The government has now taken all cigarette ads off the _____ and television.
23. The _____ a smoker spends on tobacco adds up fast.
24. A smoker runs a great risk of developing _____ cancer.

DOWN

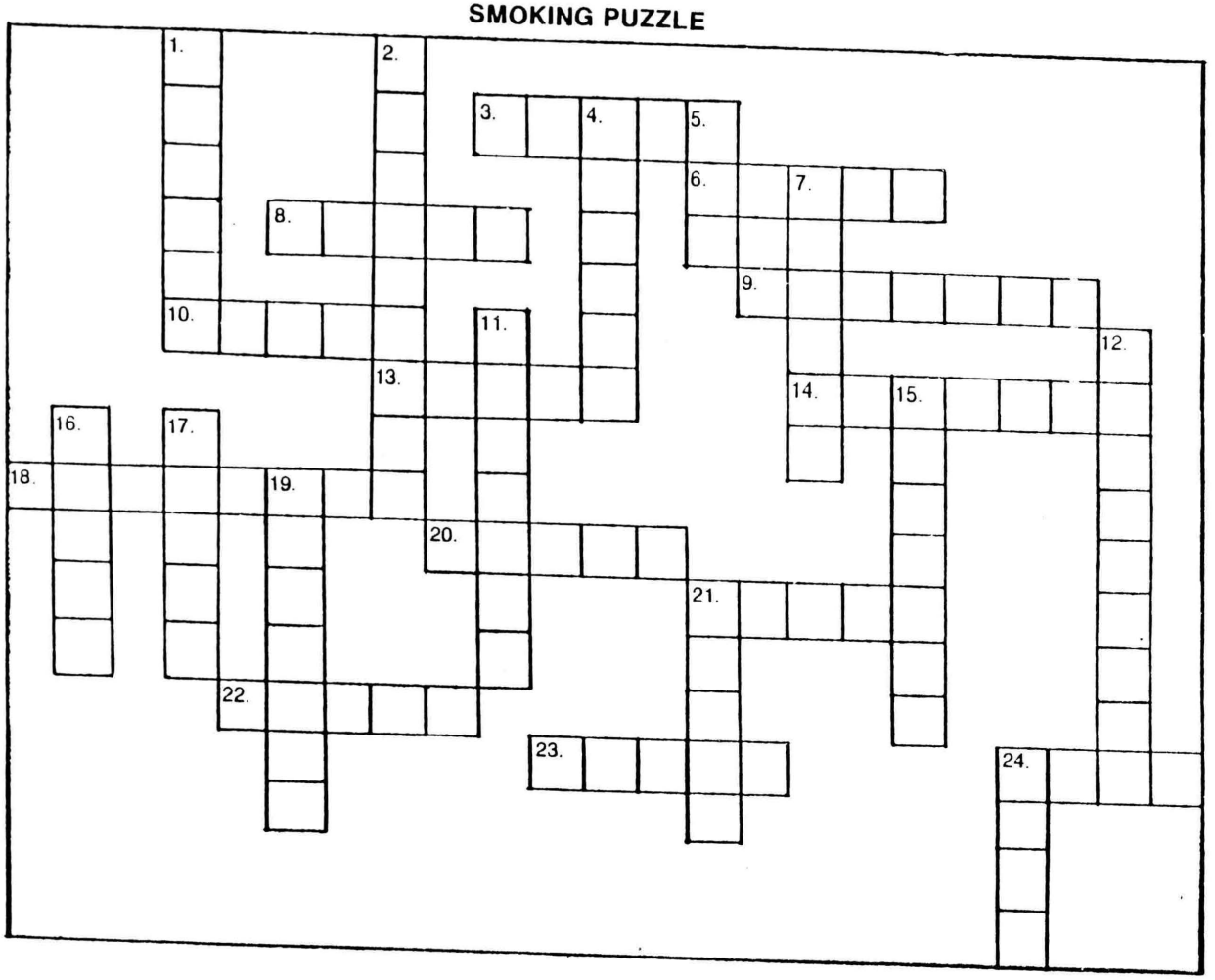
1. Smoking can affect the taste buds so that food _____ different to the smoker.
2. A _____ usually leaves a bad taste in your mouth and smells up your clothes.
4. Smoking may be associated with shortness of _____ (one of the reasons athletes don't smoke).
5. _____ is a mixture of substances in cigarettes that coats the lungs.
7. We must take care of our bodies in order to have good _____.
11. About 50% of the inhaled smoke _____ in the lungs.
12. Cigarettes are a form of body as well as air _____.
15. Emphysema patients find it hard to _____.
16. Many _____ are caused by careless smokers.
17. Many smokers _____ in an effort to clear their lungs.
19. The _____ were probably among the first people to smoke.
21. Cilia act like little brooms to _____ the dirt from the lungs.
24. A cigarette smoker may take as many as 8 years off his _____.

CROSSWORD KEY

Across		**Down**	
3. habit	18. nicotine	1. tastes	15. breathe
6. ashes	20. pipes	2. cigarette	16. fires
8. heart	21. start	4. breath	17. cough
9. warning	22. radio	5. tar	19. Indians
10. smoke	23. money	7. health	21. sweep
13. teeth	24. lung	11. remains	24. life
14. tobacco		12. pollution	

Developed By:
American Lung Association — Dallas Area
3925 Maple Avenue, Dallas, Texas

SMOKING PUZZLE



ALLIED YOUTH PEER EDUCATION
PROGRAM ON TOBACCO

HANDOUT #6

SMOKING WORD MAZE

SMOKING WORD MAZE

Listed below are 27 separate words associated with smoking and disease. They are spelled backwards, vertically, horizontally and at an angle. See how many you can find!

C	Y	L	L	E	M	S	B	Q	S	M	O	K	E	X	C	E
L	S	B	B	P	E	P	T	I	C	U	L	C	E	R	I	S
O	U	L	M	R	Q	S	T	A	I	N	E	D	B	B	G	A
T	C	N	Z	Q	F	I	N	G	E	R	S	Q	X	M	A	E
H	C	T	G	Z	H	X	S	Z	B	U	E	R	G	E	R	S
E	R	X	O	C	B	R	Z	B	D	I	S	E	A	S	E	I
S	T	Z	N	B	A	D	B	R	E	A	T	H	C	L	T	D
S	A	O	Q	G	A	N	S	M	O	K	E	R	S	B	T	T
S	R	M	I	Z	X	C	C	O	U	G	H	X	Z	M	E	R
B	S	C	Z	M	Q	L	C	E	M	P	H	Y	S	E	M	A
N	I	C	O	T	I	N	E	O	R	B	L	Z	A	B	X	E
S	T	A	I	N	E	D	T	E	E	T	H	Z	M	T	Q	H

Distributed By: AMERICAN LUNG ASSOCIATION — DALLAS AREA
3925 Maple Avenue, Dallas, Texas 75219

TOBACCO PROGRAM

INSTRUCTIONAL UNIT II (Day 2)

I 5 min.	Review	You might begin by asking questions from the previous day's material.
II 10 min.	Introduction to Decision-Making	A. Activity B. Decision-making steps
III 30 min.	Tobacco Usage Problems	A. Handout #7 "Steps in Decision-Making" B. Handout #8 — "First Problem in Using Decision-Making Steps" C. Handout #9 — "Second Problem in Using Decision-Making Steps"
IV 5 min.	Presentation of Group Discussions	Groups share Handout #9
V 5 min.	Wrap Up	Summarize and express appreciation to teacher and students

INSTRUCTIONAL UNIT II (Day 2)

This session is broken into three basic parts. Part I reviews facts about tobacco. Part II introduces decision-making. Part III consists of two problems involving tobacco usage. Each problem carries the students through the steps in decision-making. The first problem is solved in a step-by-step process under the close direction of the peer instructor. Problem Two is accomplished with minimum direction from the peer instructor.

I. **REVIEW OF FACTS ABOUT TOBACCO (5 minutes):**

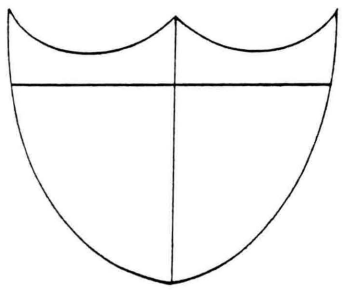
This section should be a fairly free exchange of questions and answers, but contained strictly within the time limit. You might refer to the handouts you sent home with the students. If there are no questions, move quickly into Part II. If there are many questions, do **not** run over. Suggest that those who wish to continue the discussion do so after the period ends.

II. **INTRODUCTION (10 minutes):**

A. In order to determine what is important to us in our lives, we need to consider family, school, peers, and activities such as church, work, social clubs, athletic teams, etc.

B. Activity — Personal Coat of Arms

On a large piece of paper, have the students make a Coat of Arms as illustrated.



Into each section have the students write or draw four important things in their lives.

Have students discuss how these important things in their lives would be affected if they were to use tobacco products.

III. **TOBACCO USAGE PROBLEMS (30 minutes):**

Issue Handout #7, "Steps in Decision-Making." As soon as the handout has been distributed, issue problem number one, which is Handout #8. Give the students about two minutes to read the problem and then carry them through the five steps in decision-making, one step at a time. A suggested approach follows:

First, explain that you will "walk" them through the first problem, using Handout #7. Refer them to that handout and direct their attention to the definition of decision-making which is: when we make a responsible decision, we make the best choice after looking at all the possible choices and the results of each. After they have read the definition, move on.

Identify the problem and the decision to be made. Using the information in the problem, spend about three minutes identifying the problem. You may have to lead strongly in order to get your students involved quickly. As soon as the problem is identified, go on.

Gather information relevant to the problem and to making the decision. This step should take only about three minutes. Someone in the group can jot down information the group feels is important. Since information gathering can go on and on, you should move into the next step after several facts have been identified and you feel the group understands the purpose of this step.

Identify all possible alternatives and the consequences of each. Students tend to identify alternatives and discard them without really considering each thoroughly. This is not the selection stage. Only identification of **possible** alternatives is done here. In simple problems usually the alternatives are "Do it" or "Don't do it." In some instances, there may be several possible "Do its."

The next step, the analysis of the various alternatives and the consequences, leads to the final selection. Again, do not use more than three minutes in developing the simple alternatives.

Application/Consideration of important people and things.

This step requires some explanation by you, the peer instructor. Ask each student to select the decision most appropriate for him/her after identifying the persons or things influencing the decision. This, of course, completes the Decision-Making Process: **Selecting the best alternative.** You do not pick up the handouts. This exercise is designed to let each individual get the "feel" of systematic decision-making.

Refer to the second problem which is Handout #9, and instruct the group to read the problem and proceed to reach a group decision. Have them appoint a leader to watch time and assure participation and a recorder to write down the steps as they solve the problem again using the steps as outlined in Handout #7, "Steps in Decision-Making."

Inform the group that the solution they develop will be shared with the entire class. Be available, but do not influence the group discussion, other than to point out that time is catching up with them or that they are off the steps listed in Handout #7. Let them "wrestle" with this. They will gain much insight in the process.

IV. **PRESENTATION OF GROUP DECISION (5 minutes):**

At the end the peer instructor will ask all groups to listen to the solutions. Each small group will give its solution and defend it if questions are raised from the other groups.

V. **WRAP-UP (5 minutes):**

Upon completion of the group presentations, the peer instructor(s) may answer questions. When only a couple of minutes are left, the peer instructor(s) will summarize the information covered during the two days. Be sure to express appreciation to both students and teacher for their cooperation.

Don't forget that it is your responsibility to leave the classroom in excellent condition. After the students leave, put excess paper in the waste basket, straighten furniture if necessary, etc. You are invited guests. Leave the school administration with a good impression of your own decision-making capabilities.

Treat this task seriously, but enjoy it while you do it.

ALLIED YOUTH PEER EDUCATION PROGRAM ON TOBACCO

HANDOUT #7

STEPS IN DECISION-MAKING

DECISION-MAKING STEPS

Definition: Decision-making is the process of selecting the best course of action out of all possible alternatives

Steps:

I. Identify the problem and the decision to be made.

II. Gather information relevant **only** to the problem and the decision.

III. Identify **all** possible alternatives and the consequences of each.

IV. Apply personal beliefs to each alternative. Rely on what is important to you.

V. Select the best alternative(s).

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HANDOUT #8

FIRST PROBLEM IN USING DECISION-MAKING STEPS

SITUATION: You have been told by your parents to go straight home after school. Two older friends ask you to go to the shopping center with them. What do you do and why?

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HANDOUT #9

SECOND PROBLEM IN USING DECISION-MAKING STEPS

SITUATION: A group of your friends are getting together near a local convenience store. One of your friends offers you a cigarette. This friend has not smoked around you before and you are afraid of losing your popularity if you refuse his/her offer. What do you do?

TOBACCO INFORMATION

HISTORY

Discovery of Tobacco

In the late fifteenth century Columbus sailed westward from Spain hoping to bring back the riches of India. Instead of gold and diamonds, he brought back tobacco. Columbus noted the use of tobacco by natives of the islands he visited. These natives, whom he called Indians, smoked it in pipes for ceremonial purposes and as a symbol of good will.

The name "tobacco" was given this plant because of the Y-shaped pipe, called a **tobaco**, in which it was sometimes smoked — one fork of the pipe being inserted into each nostril. Some pipes were made of baked clay, others of wood, others of soft, colorful rocks, many of which were artistically carved. In some areas Indians smoked tobacco rolled in the husks of corn. The tobacco plant was later given the botanical name **nicotiana** in honor of Jean Nicot, the French Ambassador to Portugal, who is said to have sent seeds to the Queen of France, Catherine de' Medici.

Early Use

The Indians believed that tobacco had medicinal values. It was primarily for this reason that explorers took it back to Europe.

The smoking of tobacco in paper as small cigars or cigarettes orginated in Spain in the seventeenth century. From Spain cigarettes spread eastward to Turkey and Russia and then westward to France and England, where they were introduced by soldiers who had served in Eastern Europe during the Crimean War.

In London men who smoked cigarettes in public were at first ridiculed, but this was such a convenient way of smoking that it soon became popular on both sides of the Atlantic. The use of cigarettes received a great boost as they became better made and increasingly available with the development of improved methods of production.

Gradually the distribution and use of tobacco became worldwide, reaching even remote, undeveloped regions of Asia, Africa, and South America. A recent report by an anthropological research team states that in Columbia, South America, almost all the natives — men, women, and children — even in primitive tribes in remote mountainous areas smoke tobacco. Such widespread distribution and use of a plant, which until the past few centuries was limited to North America, is an amazing phenomenon.

The most widespread and most ancient use of tobacco is for smoking. Columbus, however, noticed that some Indians sniffed powdered tobacco through a tube. This form of tobacco was named snuff by the Dutch, who promoted its use in Europe. Thought to have medicinal value, snuff was prescribed "to stop nose bleeding and to clear the head." Chewing tobacco, which consists of tobacco leaves mixed with molasses, was developed in this country and for years was used extensively. The early American settlers chewed tobacco almost constantly. Pipe smoking gained its peak of popularity around the turn of the century but began to decline as cigarettes were mass-produced and accepted. Crude cigars made of rolled tobacco leaves were smoked by natives of Cuba when this island was first visited by Columbus. Spanish and Portuguese sailors then started the making of cigars in their countries.

Use of Tobacco in Wartime America

Before World War I, few people smoked cigarettes — basically because you couldn't run down to the local 7-11 and pick up a pack of Winstons or Salems. A few brands were marketed, but most smokers "rolled their own." Skill in rolling a good cigarette, particularly with one hand, was considered an art and a proud accomplishment.

Cigarette smoking has increased after each war — World War I, World War II, the Korean War, and the war in Vietnam — because soldiers in war zones are given free cigarettes and soldiers not in war zones, but stationed overseas, can buy cigarettes a lot cheaper than the cost of a pack here at home. If a soldier gets in the habit of smoking two to three packs a day overseas, he has an expensive habit when he gets home.

Women and Smoking

Women rarely smoke pipes or cigars, and cigarette smoking by women did not become popular until the 1920's and 1930's. Until then very few women smoked, and smoking by women in public was almost unknown. An important factor that may account for the increasing number of women smokers may be the tremendously skillful and intensive advertising campaign to make smoking by women socially acceptable and to associate smoking with characteristics that may appeal to women: romance, independence, glamour, and social success. There was the clever advertising slogan "Reach for a Lucky Instead of a Sweet." This was magic because most people, particularly women, have a fear of getting fat and know that candy is fattening. Sales of Lucky Strikes more than tripled within a year. No advertising campaign had ever been so successful.

"We've Come a Long Way, Baby" — and she's right! We **have** come a long way. Today, in the age group 21 and over, 29 percent of women and 39 percent of men in the U.S. smoke cigarettes. In younger age groups the percentage of women smokers is greater than that of men.

Tobacco Industry

The tobacco industry has become a big business operation. Tobacco exports now total about 600 million pounds annually of unmanufactured tobacco products, that is, tobacco leaf. Cigarettes are exported at about 116 billion annually — and this is only 5 percent of the total cigarettes manufactured.

Eighty-five percent of the tobacco produced in this country comes from the "tobacco belt," a region reaching north from Georgia to Kentucky and Virginia. In Virginia, North Carolina, South Carolina and Kentucky, tobacco is the single most valuable crop of the state.

Cost of Smoking

Cigarette smoking is costly in many ways. A person who smokes more than two packs of cigarettes a day can cut up to 8 years and 3 months off of his life, or 14.4 minutes per cigarette.

If a man smokes a pack and a half to two packs of cigarettes a day for 20 years, he will have spent about $6,000.00. If he marries a woman who smokes the same amount, the cost will double to $12,000.00. This figure applies to the cost of cigarettes alone — not to cleaning bills, cost of burned holes in clothing, furniture, or car seats.

Cigarette smoking costs the United States about $17 billion each year. This is the cost of fires and damage from cigarettes and matches, medical care for people who get sick from smoking cigarettes, people being absent from work because they are sick from smoking cigarettes, and accidents caused when people are driving and smoking.

Who Smokes

In America today there are more than 50 million smokers. Although the smoker is now in the minority, 39% of men and 29% of women still smoke. With increased education, today's smoker is aware of the risk of disease and death. This accounts for the many who either have reduced their smoking or have quit. The percent that continues to smoke faces concern from friends and families: hostile attitudes from nonsmokers; and restrictions on smoking in public places.

In 1964, when the first report from the Surgeon General was published, more than: 52% men, 32% women, age 21 and over were smoking. By 1975, 39% men, 29% women, age 21 and over were smoking: the percentages changed significantly. There has been a higher percentage of men than women who quit, and the age group 21-24 encompasses the highest percent.

In 1975 only one-third of the population who were married and living with spouses were smokers. Half the men and women who were divorced or separated were smokers.

There are more nonwhites who smoke than whites — 55% versus 38%. Oriental people smoke at a lower rate than whites. In their populations fewer women smoke than men.

Smokers are much less likely than nonsmokers to report that they know someone, including themselves, whose health has been affected by smoking. It is possible that smokers suppress this knowledge in order to lessen their concern or guilt about their own smoking.

In 1968 only half as many teenage girls as boys were smokers. By 1970 this amount increased to almost two-thirds. And, in 1972 the numbers reached 85%. Now girls aged 12-18 are smoking more often than boys in the same age group.

The reason children wait until about age 12 to develop smoking habits could be because of the strong parental pressure on children during the pre-adolescent years.

It has been found that children from single parent families are more often smokers than children from homes with both parents present. Parents who smoke are more likely to have smoking children by a 2:1 ratio. If there is an older sibling who smokes, the chances are 3 times greater that the younger child will smoke. If older siblings and parents smoke, the odds reach 4:1 that the child will smoke.

It is a not known if a teenager picks friends who smoke, or if he is picked as a friend because he smokes. Nine of ten teenagers who smoke say at least one of their four best friends smokes. The numbers drop greatly for nonsmoking teens. Only one in three claims a smoker from among his four best friends.

Working teenagers are twice as likely to smoke as those who don't work. Ninety-two percent of teens believe that smoking is harmful to one's health. Eighty-five percent say they do not plan to be smoking five years from now.

Cigarette smoking in girls who are teenagers is linked with rebelliousness. There are higher instances among smokers of use of marijuana; drinking to get drunk; and a dislike for school.

It is encouraging to note that many teenagers have a concern for quitting. Thirteen percent report they quit, using willpower rather than substitution, and finding immediate gratification. Almost none reported a weight gain.

(*The Smoking Digest*, U.S. ept. HEW, National Cancer Institute; Bethesda, Maryland, 1977 has supplied the statistics used in this section.)

Sample Questions and Answers

1. How many people smoke?

   Answer: Approximately 40%, less than half of the adult American population over the age of 18 are smokers (39% men and 29% women). Actually 2/3 of the public find it annoying to be near someone smoking and 70%-80% of the current smokers agree that smoking is harmful to their health.

2. Why is it so hard to quit smoking?

   Answer: Smoking can become a very difficult habit to break. People often begin the habit in a comfortable, relaxed situation and then when they become nervous or tense they associate being relaxed and calm with cigarettes and it then becomes very hard to quit. Even though the cigarettes don't help them to be relaxed, the smoker has a cigarette because he hopes it will calm his nerves. Smoking can be also looked at as a habit like nail biting or pencil chewing which many people have a hard time breaking.

3. Why do some people gain weight when they quit smoking?

   Answer: Many people substitute food for their cigarettes and then gain weight. If a smoker substitutes non-fattening foods or doesn't eat any more than he normally does, he won't gain as much weight while quitting.

4. Do smokers' lungs go back to normal after they quit smoking?

   Answer: Yes, or at least, almost back to normal. Once a person quits smoking cigarettes, the cilia will usually grow back and start doing their job of cleansing. However, lung tissue that has been destroyed, as in emphysema, will not heal. How long it will take for this repair to be completed varies and depends on how long you smoked, how deeply you inhaled, etc. However, as a rule of thumb, for the 20-year smoker it will take about ten years for the lungs to get back to approximately normal.

5. Why are cigarettes made and allowed to be sold if they are so harmful?

   Answer: Cigarettes have been used in America for over a hundred years and many people thought it was the accepted thing to do. In the last few years, however, doctors and scientists have found that is is very harmful to smoke. The government could make cigarettes illegal; however, when the government made liquor illegal in the 1920's, they found out that making products illegal after they had been used for years was not effective. People can get them anyway. Also, tobacco farming has become an important part of our economy. The goverment taxes cigarette sales and this money has become necessary to the United States economy. The best way is for you to know the facts and, once you've seen the harmful effects of smoking, make an intelligent decision never to smoke, or to give it up if you are a smoker.

6. How long does the smoker live?

   Answer: The average male smoker who smokes two packs of cigarettes a day and who is 25 years old will lose about 8 years of his life. This is an average — some smokers lose more, some less.

7. Why don't all smokers get lung cancer?

   Answer: Some smokers may be more susceptible to cancer than others, and many smokers develop emphysema, bronchitis or heart disease. We don't know why some people who smoke don't develop these smoking-related diseases. We do know that if you're a smoker, however, your chances of developing these diseases are much greater.

8. Are pipes and cigars as harmful as cigarettes?

   Answer: Pipes and cigars are not nearly so harmful as cigarettes because the pipe and cigar smoker generally does not inhale. The acidic nature of the smoke will cause the smoker to cough when inhaled. Although the pipe and cigar smoker has minimized his risks against lung cancer, there is a significant relationship between cigar and pipe smoking and the incidence of oral cancers (lips, tongue and mouth).

9. Are filtered cigarettes safer?

   Answer: Generally speaking, filtered cigarettes are somewhat safer than non-filtered cigarettes. The filters can reduce the amount of tar in a cigarette but it also impedes the taste. Tobacco companies, therefore, have been using stronger tobacco to compensate for this. Filtered cigarettes can be a means of minimizing a person's risk against some of the smoking diseases, but there is no completely "safe" cigarette.

10. Does smoking harm an unborn child?

    Answer: There is a considerable amount of evidence today which shows that cigarette smoking can affect the unborn child. Among women who smoke during pregnancy, there is a greater incidence of low birth weight and premature babies compared to women who do not smoke. It is best that the mother stops smoking or at least cuts down during pregnancy.

11. If I breathe other people's smoke, will it harm me?

    Answer: Breathing other people's smoke can cause you to get some of the smoking diseases. Standing in a smoke-filled room can be most unpleasant for a nonsmoker. It can make you feel sick to your stomach and may cause your eyes to tear and burn. Those children who have asthma may find their conditions worsened around people who smoke. There have been studies that show that children who live in homes where there is cigarette smoking suffer more frequent and more severe colds and respiratory infections.

12. What if you only smoke five cigarettes a day?

    Answer: The number of cigarettes in this question will vary. Generally, a light smoker smokes one half pack of cigarettes daily. A moderate smoker smokes a pack and, a heavy smoker goes through 2 packs daily. The point one is usually getting at in this question is: "Is there a safe number of cigarettes one can smoke each day and have no health problems." The answer is that even one cigarette a day doubles your chances for heart attack. A person would probably have to smoke five or more cigarettes a day for five years in order to destroy his cilia. But, it is very hard to find smokers (other than young children) who smoke only five a day — they usually smoke a lot more than that. We have learned that the risk of death from all causes is greater among cigarette smokers than non-smokers: 17 times greater from coronary artery disease, 6 times greater from bronchitis and emphysema, and 10 times greater from lung cancer.

13. What if you don't inhale?

    Answer: Smoke collects in the saliva and tar and nicotine are swallowed. This accounts for the high incidence of stomach and bladder cancer among smokers. Also, almost all people who take up the smoking habit eventually begin inhaling.

14. Are metholated cigarettes more or less harmful than regular cigarettes?

    Answer: Mentholated cigarettes contain benzo-a-pyrene, which is a carcinogen (cancer causing agent). There hasn't really been enough research done on people who have smoked only mentholated cigarettes — to the exclusion of all others. In fact, it would probably be very difficult to find anyone who has never smoked anything but mentholated cigarettes. The assumption is, however, that menthol cigarettes are probably more harmful than non-mentholated cigarettes.

15. What other substances are found in cigarettes?

    Answer: There are over forty different noxious vapors released from burning tobacco, including acrolein, hydrogen cyanide, formaldehyde, nitrogen diodide, acetone and ammonia. The medical field has been zeroing in on one gas which is very deadly — carbon monoxide. It is lethal, colorless, and even odorless. When carbon monoxide is inhaled, it takes the place of oxygen in the red blood cells. This creates an oxygen shortage and a stress on the other systems of the body.

16. Isn't the government working on producing a "safe" cigarette?

    Answer: Yes. The government and other agencies are working on what is called a "safe" cigarette. What they are talking about is a cigarette which is lower in tar, nicotine and irritating agents. Most experts feel there can't really be a safe cigarette, just perhaps "less hazardous" ones, because any impurities breathed into the respiratory system are harmful. Also, heat breathed in from the cigarette is a major contributor to lung irritation and changes in cellular structure of the lining of the bronchial tubes and trachea.*

17. Do quitting smoking and gaining weight go together?

    Answer: Not at all. Lots of people have quit smoking and never put on a pound. One way is to eat non-fattening tidbits. When you feel like eating something, nibble on pieces of celery, Melba toast, or sip a low-calorie soft drink. Taking deep breaths also triggers the same mechanism as inhaling and can make for a relaxing feeling. Some ex-smokers do gain weight even when they don't eat more. Usually the gain is temporary. One of the reasons for this is that the body changes the metabolism suddenly and does not consume as much oxygen. This change can cause weight gain in **some** people. But cutting calories and increasing physical exercise after you quit smoking may keep the gain to a minimum or eliminate it altogether.

18. Isn't is just a habit? Can't I stop anytime?

    Answer: A habit is something that is repeated so often that it is done without thinking. Nicotine, a major component in tobacco, is a drug; a strong stimulant of the nervous system. It is highly poisonous and can be found in insect sprays. Each cigarette contains between 1.5 and 3% nicotine. If the nicotine from 2 or 3 cigarettes (or 1 cigar) were extracted and injected directly into the blood stream, the drug would be fatal. The only reason that cigarette smoking does not cause a quicker death is that inhalation is a highly ineffective way of taking the drug. The longer you smoke, the more **addicted** you become.

19. Advertisements make smoking look so appealing. Why do they do this?

    Answer: The tobacco industry is wealthy. With all the brands available, the cigarette manufacturer must constantly expose his products just to maintain sales. They are in the business of selling cigarettes, with little regard for your health. Remember this before you spend your money.

20. I only smoke once in a while. Can it hurt me.?

    Answer: The fact is, you don't feel the negative effects of smoking now because you are active. Over the years, you add up the damages and suddenly, without warning, it is too late to reverse the damages, and you may face cancer and emphysema. It is hard to imagine yourself at 50 years of age. Think of:

    A. A person you know who smokes and is in high school.

    B. A person you know who smokes and is the age of your parents.

    C. A person you know who smokes and is much older than your parents.

    Consider how each one changes because of his smoking. How is their energy level compared to other people who do not smoke? How much more do the smokers cough? Are they as active as their nonsmoking friends? This is why many people 45-65 years and older are quitting. The highest decrease in the smoking population is seen in this age group. **If you never start, you never have to quit.**

*A Teaching-Training Guide for Peer Group Training: A Youth to Youth Smoking Education Program. Kathy Harlin, Lung Association of Orange County, Santa Ana, California.

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American Lung Association;
Department of Health, Education and Welfare;
Kathy Harlin, Lung Association of Orange County.

APPENDIX D

Table 11

Summary of Pretest and Posttest Cognitive Scores of Respondents

Scores	Pretest	Posttest
0	(0) 0.0	(0) 0.0
1	(0) 0.0	(0) 0.0
2	(0) 0.0	(0) 0.0
3	(0) 0.0	(0) 0.0
4	(0) 0.0	(0) 0.0
5	(0) 0.0	(1) 0.9
6	(0) 0.0	(0) 0.0
7	(0) 0.0	(1) 0.9
8	(3) 2.6	(4) 3.4
9	(1) 0.9	(3) 2.6
10	(6) 5.2	(3) 2.6
11	(9) 7.8	(7) 6.0
12	(9) 7.8	(12) 10.3
13	(15) 12.9	(6) 5.2
14	(11) 9.5	(10) 8.6
15	(12) 10.3	(18) 15.5
16	(15) 12.9	(19) 16.4
17	(23) 19.8	(13) 11.2
18	(10) 8.6	(10) 8.6
19	(1) 0.9	(8) 6.9
20	(1) 0.09	(1) 0.09

Table 12

Mean Responses of Pretest and Posttest Cognitive Questions

Questions	Responses									
	Pretest					Posttest				
	A	B	C	D	E	A	B	C	D	E
1	78.4	8.6	6.0	6.9	0	86.2	6.0	5.2	2.6	0
2	14.7	13.8	65.5	6.0	0	14.7	7.8	69.8	7.8	0
3	6.9	75.0	12.9	5.2	0	5.2	75.9	13.8	5.2	0
4	8.6	11.2	12.1	68.1	0	9.5	6.9	12.9	70.7	0
5	95.7	3.4	0.9	0	0	96.6	1.7	1.7	0	0
6	95.7	3.4	0.9	0	0	3.4	90.5	1.7	4.3	0
7	6.9	1.7	90.5	0.9	0	6.0	2.6	87.9	3.4	0
8	85.3	1.7	0.9	12.1	0	81.0	2.6	3.4	12.9	0
9	3.4	0	1.7	94.8	0	3.4	0	1.7	94.8	0
10	0.9	97.4	0	0.9	0.0	0.9	97.4	0.9	0.9	0
11	80.2	3.4	14.7	1.7	0	76.7	4.3	15.5	3.4	0
12	25.0	0.9	71.6	1.7	0.9	31.9	3.4	62.9	0.9	0.9
13	3.4	16.4	3.4	75.9	0.9	2.6	17.2	3.4	76.7	0
14	7.8	22.4	55.2	14.7	0	11.2	19.8	56.9	12.1	0
15	0.9	56.0	27.6	15.5	0	0	51.7	29.3	19.0	0
16	25.0	53.4	1.7	19.8	0	27.6	50.0	6.9	14.7	0.9
17	85.3	3.4	3.4	7.8	0	84.5	3.4	3.4	8.6	0
18	21.6	4.3	56.0	18.1	0	18.1	1.7	62.9	17.2	0
19	23.3	45.7	25.0	6.0	0	30.2	37.9	23.3	8.6	0
20	6.0	44.0	23.3	26.7	0	6.9	50.9	25.0	17.2	0

Table 13

Mean Responses[a] on Pretest and Posttest
For Nonsmokers Only

Questions	Pretest					Posttest				
	A	B	C	D	E	A	B	C	D	E
21	0.9	4.3	66.4	22.4	0.0	3.4	4.3	61.2	24.1	1.7
22	64.7	15.5	4.3	4.3	6.0	68.1	12.9	4.3	5.2	4.3
23	25.9	46.6	2.6	3.4	16.4	22.4	52.6	2.6	2.6	14.7
24	31.9	36.2	0.0	5.2	21.6	31.0	34.5	1.7	3.4	24.1
25	17.2	7.8	1.7	3.4	64.7	18.1	8.6	2.6	0.0	64.7
26	4.3	8.6	5.2	11.2	65.5	4.3	8.6	5.2	11.2	65.5
27	30.2	13.8	37.1	12.1	1.7	37.1	9.5	35.3	10.3	2.6
28	33.6	19.8	37.9	3.4	0.0	41.4	7.8	42.2	2.6	0.0

[a] n = 110

Table 14

Mean Responses[a] on Pretest and Posttest
For Smokers Only

Question	Pretest					Posttest				
	A	B	C	D	E	A	B	C	D	E
29	0.0	0.9	0.9	3.4	0.0	0.0	0.9	1.7	1.7	0.0
30	0.9	0.0	0.9	0.0	3.4	0.9	0.0	0.9	0.0	3.4
31	0.0	3.4	0.0	1.7	0.0	0.0	1.7	0.0	1.7	1.7
32	0.0	0.9	0.0	4.3	0.0	0.0	0.0	0.0	4.3	0.9
33	0.0	0.0	0.0	5.2	0.0	0.0	0.0	0.0	4.3	0.0
34	0.9	0.9	0.0	0.9	2.6	0.9	0.9	0.0	0.9	2.6
35	0.0	1.7	1.7	0.0	1.7	0.0	1.7	1.7	0.9	0.9
36	5.2	0.0	0.0	0.0	0.0	4.3	0.9	0.0	0.0	0.0
37	0.9	2.6	0.0	0.0	1.7	0.0	2.6	0.0	0.9	1.7
38	2.6	1.7	0.0	0.9	0.0	0.9	1.7	0.0	0.0	2.6
39	0.0	1.7	2.6	0.9	0.0	0.0	0.9	3.4	0.9	0.0
40	0.0	1.7	3.4	0.0	0.0	0.0	0.9	3.4	0.0	0.9
41	0.0	2.6	1.7	0.9	0.0	0.0	3.4	0.9	0.9	0.0
42	1.7	0.9	1.7	0.0	0.9	1.7	0.9	0.9	0.9	0.9
43	0.0	4.3	0.9	0.0	0.0	0.0	0.0	4.3	0.9	0.9

[a] $n = 6$

Table 15

Mean Responses on Pretest and Posttest For Participants[a]

Questions	Pretest A	B	C	D	E	Posttest A	B	C	D	E
44	5.2	6.0	25.9	14.7	48.3	6.0	6.9	17.2	15.5	54.3
45	3.4	4.3	18.1	13.8	60.3	3.4	4.3	14.7	14.7	62.9
46	4.3	17.2	11.2	26.7	40.5	6.9	9.5	15.5	20.7	47.4
47	67.2	19.0	5.2	1.7	6.9	61.2	11.2	15.5	6.0	6.9
48	46.6	18.1	22.4	7.8	5.2	45.7	19.0	23.3	5.2	6.9
49	5.2	2.6	40.5	19.0	32.8	5.2	5.2	43.1	13.8	32.8
50	56.9	35.3	5.2	1.7	0.9	52.6	31.9	7.8	2.6	5.2
51	6.0	13.8	9.5	24.1	46.6	6.9	10.3	12.1	28.4	42.2
52	34.5	19.8	34.5	7.8	3.4	37.1	24.1	27.6	8.6	2.6
53	3.4	1.7	4.3	19.8	70.7	6.9	4.3	6.0	21.6	61.2
54	38.8	24.1	23.3	7.8	6.0	35.3	30.2	20.7	8.6	5.2
55	3.4	6.0	11.2	13.8	65.5	1.7	7.8	11.2	18.1	61.2
56	5.2	4.3	12.9	13.8	63.8	4.3	4.3	12.1	17.2	62.1
57	76.7	16.4	3.4	0.9	2.6	63.8	22.4	9.5	1.7	2.6
58	33.6	25.9	15.5	17.2	7.8	39.7	21.6	19.8	12.9	6.0
59	59.5	15.5	14.7	2.6	7.8	61.2	12.9	16.4	3.4	6.0
60	7.8	8.6	34.5	13.8	35.3	9.5	8.6	31.0	14.7	36.2
61	3.4	0.0	2.6	14.7	79.3	7.8	6.0	6.0	12.1	68.1
62	35.3	15.5	27.6	10.3	11.2	31.0	16.4	28.4	8.6	15.5
63	3.4	1.7	5.2	7.8	81.9	8.6	4.3	8.6	10.3	68.1

Table 15 (continued)

Questions	Pretest A	Pretest B	Pretest C	Pretest D	Pretest E	Posttest A	Posttest B	Posttest C	Posttest D	Posttest E
64	53.4	24.1	8.6	9.5	4.3	56.0	21.6	11.2	6.9	4.3
65	40.5	31.0	19.0	6.0	3.4	40.5	21.6	26.7	7.8	3.4
66	26.7	23.3	34.5	8.6	6.9	31.0	19.8	38.8	6.9	3.4
67	0.9	6.0	17.2	33.6	42.2	4.3	7.8	19.0	26.7	42.2
68	78.4	8.6	8.6	0.9	3.4	78.4	12.9	4.3	1.7	2.6
69	22.4	26.7	46.6	2.6	1.7	33.6	23.3	40.5	2.6	0.0
70	31.9	23.3	25.0	8.6	11.2	32.8	22.4	28.4	10.3	6.0
71	43.1	20.7	25.0	5.2	8.0	52.6	21.6	18.1	3.4	4.3
72	16.4	42.2	25.0	6.9	9.5	19.8	42.2	24.1	6.0	7.8
73	40.5	25.9	25.9	4.3	3.4	40.5	31.0	20.7	2.6	5.2
74	27.6	37.1	24.1	4.3	6.9	35.3	37.9	18.1	4.3	4.3
75	42.2	25.9	27.6	2.6	1.7	48.3	22.4	26.7	1.7	0.9
76	35.3	19.0	26.7	10.3	8.6	32.8	23.3	23.3	8.6	12.1
77	70.7	20.7	5.2	1.7	1.7	69.0	24.1	5.2	0.9	0.9
78	69.0	23.3	6.0	0.9	0.9	63.8	25.9	6.0	2.6	1.7
79	30.2	34.5	28.4	3.4	3.4	30.2	40.5	23.3	5.2	0.9
80	44.0	33.6	19.0	3.4	0.0	47.4	36.2	12.1	3.4	0.9
81	59.5	21.6	15.5	1.7	1.7	57.8	19.8	19.0	2.6	0.9
82	76.7	19.8	1.7	1.7	0.0	75.9	15.5	5.2	1.7	1.7
83	12.1	26.7	31.0	6.0	24.1	12.1	25.9	26.7	9.5	25.9

Table 15 (continued)

Questions	Pretest A	Pretest B	Pretest C	Pretest D	Pretest E	Posttest A	Posttest B	Posttest C	Posttest D	Posttest E
84	38.8	37.1	17.2	4.3	2.6	44.8	37.9	12.1	3.4	1.7
85	49.1	14.7	29.3	5.2	1.7	46.6	22.4	24.1	4.3	2.6
86	17.2	24.1	32.8	15.5	10.3	19.0	27.6	32.8	12.9	7.8
87	8.6	12.9	24.1	18.1	36.2	15.5	10.3	31.0	9.5	33.6

[a] n = 116

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