8-1978

A Study of Alcohol Knowledge and Information Sources among Rural High School Students

Timothy Patrick Keenan

Western Michigan University

Follow this and additional works at: http://scholarworks.wmich.edu/dissertations

Part of the Curriculum and Instruction Commons

Recommended Citation


http://scholarworks.wmich.edu/dissertations/2752

This Dissertation-Open Access is brought to you for free and open access by the Graduate College at ScholarWorks at WMU. It has been accepted for inclusion in Dissertations by an authorized administrator of ScholarWorks at WMU. For more information, please contact maira.bundza@wmich.edu.
A STUDY OF ALCOHOL KNOWLEDGE AND INFORMATION SOURCES AMONG RURAL HIGH SCHOOL STUDENTS

by

Timothy Patrick Keenan

A Dissertation
Submitted to the
Faculty of The Graduate College
in partial fulfillment
of the
Degree of Doctor of Education

Western Michigan University
Kalamazoo, Michigan
August 1978
ACKNOWLEDGMENTS

Many people deserve my thanks and appreciation for making this study a reality. I would like to take this opportunity to extend my special thanks to a few of those people.

My gratitude goes to Dr. William Viall, the chairman of the committee, for his wisdom, encouragement, and support. My thanks go to the other committee members, Dr. John Nangle and Dr. Kenneth Simon, for their timely cooperation and guidance, and to Dr. Kenneth Engle for his counsel.

Special thanks is given to Dr. Logan Greene for his invaluable computer assistance.

Special thanks is also accorded Mrs. Clara Thompson for the many hours spent typing and proofreading.

And finally, my sincere gratitude is extended to my wife, Beth, and daughters, Ashley and Leigh, for their consideration, patience, and understanding during the completion of this study.

Timothy Patrick Keenan
INFORMATION TO USERS

This material was produced from a microfilm copy of the original document. While the most advanced technological means to photograph and reproduce this document have been used, the quality is heavily dependent upon the quality of the original submitted.

The following explanation of techniques is provided to help you understand markings or patterns which may appear on this reproduction.

1. The sign or “target” for pages apparently lacking from the document photographed is “Missing Page(s)”. If it was possible to obtain the missing page(s) or section, they are spliced into the film along with adjacent pages. This may have necessitated cutting thru an image and duplicating adjacent pages to insure you complete continuity.

2. When an image on the film is obliterated with a large round black mark, it is an indication that the photographer suspected that the copy may have moved during exposure and thus cause a blurred image. You will find a good image of the page in the adjacent frame.

3. When a map, drawing or chart, etc., was part of the material being photographed the photographer followed a definite method in “sectioning” the material. It is customary to begin photoing at the upper left hand corner of a large sheet and to continue photoing from left to right in equal sections with a small overlap. If necessary, sectioning is continued again — beginning below the first row and continuing on until complete.

4. The majority of users indicate that the textual content is of greatest value, however, a somewhat higher quality reproduction could be made from “photographs” if essential to the understanding of the dissertation. Silver prints of “photographs” may be ordered at additional charge by writing the Order Department, giving the catalog number, title, author and specific pages you wish reproduced.

5. PLEASE NOTE: Some pages may have indistinct print. Filmed as received.

University Microfilms International
300 North Zeeb Road
Ann Arbor, Michigan 48106 USA
St. John's Road, Tyler's Green
High Wycombe, Bucks, England HP10 8HR

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.
KEENAN, TIMOTHY PATRICK
A STUDY OF ALCOHOL KNOWLEDGE AND INFORMATION SOURCES AMONG RURAL HIGH SCHOOL STUDENTS.

WESTERN MICHIGAN UNIVERSITY, ED.D., 1978

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.
# TABLE OF CONTENTS

**LIST OF TABLES** ................................................................................................. v

**CHAPTER**

I  THE PROBLEM .......................................................................................... 1
   Introduction ................................................................................................. 1
   Purpose of the Study .................................................................................. 4
   Overview .................................................................................................... 5

II  REVIEW OF RELATED LITERATURE
    AND RESEARCH .................................................................................. 7
    Introduction ............................................................................................. 7
    Young People's Knowledge of Alcohol ..................................................... 7
    Sources and Credibility of Alcohol Information ........................................ 13

III RESEARCH DESIGN AND PROCEDURE ............................................... 20
    Introduction ............................................................................................. 20
    Development of the Alcohol
        Information Test ................................................................................ 20
    Hypotheses ............................................................................................... 24

IV PRESENTATION AND ANALYSIS OF
    THE DATA ........................................................................................... 32
    Introduction ............................................................................................. 32
    Hypothesis I ............................................................................................ 32
    Hypothesis II .......................................................................................... 33
    Hypothesis III .......................................................................................... 34
Table of Contents--Continued

CHAPTER

Question 1 ................................................................. 38
Question 2 ................................................................. 40
Question 3 ................................................................. 43
Question 4 ................................................................. 45
Question 5 ................................................................. 48
Question 6 ................................................................. 50

V CONCLUSIONS, LIMITATIONS, AND RECOMMENDATIONS ................. 53

Introduction ............................................................. 53
Conclusions ............................................................. 54
Limitations of the Study ............................................ 58
Recommendations for Further Study ......................... 58

REFERENCES .......................................................... 60

APPENDIX: Student Questionnaire ............................... 64
LIST OF TABLES

1. Sources of Alcohol Information ........................................... 18
2. Characteristics of Students Responding to the AIT ...................... 23
3. Weights Applied to Original Dependent Variables to Create New Variables for Questions 1, 2, 4, and 5 ........................................... 26
4. Weights Applied to Original Dependent Variables to Create New Variables for Questions 3 and 6 ........................................... 27
5. Interpretation of Scores for New Variable "Use of Peers" as Generated in Table 3 ........................................... 29
6. Interpretation of Scores for New Variable "Medical Accuracy" as Generated in Table 3 ........................................... 30
7. Interpretation of Scores for New Variable "Use of Television" as Generated in Table 3 ........................................... 31
8. Interpretation of Scores for New Variable "Use of People" as Generated in Table 3 ........................................... 31
9. Analysis of Variance Table for Hypotheses I and II Among Whites ........................................... 33
10. Analysis of Variance Table for Hypotheses I and II Among Blacks ........................................... 34
11. Analysis of Variance Table for Hypothesis III by Race ........................................... 35
12. Mean Scores for AIT ........................................... 35
13. Frequency Distribution for All Scores on the Alcohol Information Test ........................................... 36

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.
List of Tables--Continued

14. Analysis of Covariance Table for Relative Use of Peers as a Source of Alcohol Information for Whites ............................................. 38
15. Analysis of Covariance Table for Relative Use of Peers as a Source of Alcohol Information for Blacks .................................................. 39
16. Analysis of Covariance Table for Relative Use of Peers as a Source of Alcohol Information by Race .................................................. 39
17. Mean Value for Relative Use of Peers as a Source of Information ................................................................................. 40
18. Analysis of Covariance Table for Relative Use of Television as a Source of Alcohol Information for Whites ............................................. 41
19. Analysis of Covariance Table for Relative Use of Television as a Source of Alcohol Information for Blacks ............................................. 41
20. Analysis of Covariance Table for Relative Use of Television as a Source of Alcohol Information by Race .................................................. 42
21. Mean Values for Relative Use of Television as a Source of Information ................................................................................. 42
22. Analysis of Covariance Table for Relative Use of People as a Source of Alcohol Information for Whites ............................................. 43
23. Analysis of Covariance Table for Relative Use of People as a Source of Alcohol Information for Blacks .................................................. 44
24. Analysis of Covariance Table for Relative Use of People as a Source of Alcohol Information by Race .................................................. 44

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.
List of Tables--Continued

25. Mean Values for Relative Use of People as a Source of Alcohol Information ................................... 45

26. Analysis of Covariance Table for Relative Perceived Accuracy of Medical Personnel for Whites .................................................. 46

27. Analysis of Covariance Table for Relative Perceived Accuracy of Medical Personnel for Blacks .................................................. 46

28. Analysis of Covariance Table for Relative Perceived Accuracy of Medical Personnel by Race .................................................. 47

29. Mean Values for Relative Perceived Accuracy of Medical Personnel .................................................. 47

30. Analysis of Covariance Table for Relative Perceived Accuracy of Television for Whites .................................................. 48

31. Analysis of Covariance Table for Relative Perceived Accuracy of Television for Blacks .................................................. 49

32. Analysis of Covariance Table for Relative Perceived Accuracy of Television by Race .................................................. 49

33. Mean Values for Relative Perceived Accuracy of Television .................................................. 50

34. Analysis of Covariance Table for Perceived Accuracy of People as a Source of Alcohol Information for Whites .................................................. 51

35. Analysis of Covariance Table for Perceived Accuracy of People as a Source of Alcohol Information for Blacks .................................................. 51

vii

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.
List of Tables--Continued

36. Analysis of Covariance Table for Perceived Accuracy of People as a Source of Alcohol Information by Race ................................................ 52

37. Mean Values for Perceived Accuracy of People as a Source of Alcohol Information ........................................ 52
CHAPTER I

THE PROBLEM

Introduction

Alcoholism in the United States has reached epidemic proportions. Defining an alcoholic as "one who is unable consistently to choose whether he shall drink or not and who, if he drinks, is unable consistently to choose whether he shall stop or not" (U. S., Bureau of the Census, 1976, p. 92), the U. S. Department of Commerce reports that there are approximately five and one-half million adult alcoholics in the United States.

The magnitude of the problem, however, is not confined to adults. The Surveillance of Student Drug Use Study (San Mateo County Department of Public Health and Welfare, 1973), conducted in San Mateo County, California, indicated that over 34 percent of the high school seniors surveyed reported consuming alcoholic beverages fifty or more times during the past year. The 1974 Alcohol and Health, a publication from the U. S. Department of Health, Education, and Welfare, notes that 42 percent of high school students drink alcoholic beverages once a month or more often. A National Study of Adolescent Drinking Behavior (Research Triangle Institute, 1975), published one year later, places the percentage at 1
57. This study also reports that 28 percent of the 13,122 student sample from grades 7 through 12 had reported being drunk five or more times during the past year and/or experiencing two or more negative consequences of drinking behavior which labeled the student a "problem drinker." The statistics for narcotic abuse are reported by the Bureau of the Census by age level. These figures show that adolescent alcohol abuse for the 20-year period 1953-1973 equaled 27 percent of the total adult figure. If this proportion were extrapolated to the alcoholism figures, the number of alcoholics under 21 years of age would be approximately 1,450,000.

It must be recognized that alcohol abuse affects the lives of many more people in this country than does the use or abuse of illicit drugs (Wechsler & Thum, 1972). Information from the National Institute on Alcohol Abuse and Alcoholism, quoted by the National Commission on Marijuana and Drug Abuse (1972), indicated that:

Alcohol is a factor in half (28,000) of the highway fatalities occurring each year; an economic cost to the nation of $15 billion occurs as a result of alcoholism and alcohol abuse; one-half of the five million arrests in the United States each year are related to the misuse of alcohol, (1-1 1/2 million offenses for public drunkenness alone); and one-half of all homicides and one-fourth of all suicides are alcohol related, accounting for a total of 11,700 deaths annually. (p. 118)

Jessor (1971) cautioned that, in any discussion of alcoholism and its associated problems, youth should not be seen as merely a prologue to adulthood, since youth is itself a period in which
excessive and problem use of alcohol occurs with sufficient frequency and magnitude to constitute a significant societal concern.

Ignorance and confusion regarding the physiological effects of alcohol are unfortunately widespread. This has been found to be the situation regardless of gender, age, or marital status (Harris, 1974). Consequently, the immoderate use of alcohol by youth, whether among older youth with access to automobiles or among younger youth seeking peer acceptance, is occurring in a social environment where there continues to be an extreme lack of awareness among both adults and young people about alcohol and its potential dangers. It follows that there may be a need for systematic, credible instruction for adolescents regarding the consumption and effects of alcohol. Indeed, "teaching about alcohol is, by legal mandate, a prescribed part of the public school curriculum in each of the states" (Globetti & Harrison, 1970, p. 36).

It is reasonable to expect that the implementation of such instruction would be facilitated by knowledge regarding: (a) the actual level of information possessed by the students; (b) the sources of that information; (c) the students' perception of the credibility of these sources; and (d) whether these (information sources and perceived credibility) are affected by developmental changes, including both maturation and education, and by such status factors as gender and race.
Purpose of the Study

Our culture today contains many factors that affect the decision of a person to drink or not to drink. It is particularly significant, however, that "adolescence as a period of social adjustment is a time when teen-agers are making decisions about drinking alcoholic beverages for the first time" (Pollack, 1966, p. 11). As the students enter this period, they have a legitimate expectation that there will be "agencies responsible for educating the young members of our society on the nature and effects of the use of alcoholic beverages" (Minnesota Council on Alcohol Problems, 1966, p. 18). Traditionally, the family, the school, the church, and the community have been the agencies charged with this responsibility (McCarthy, 1963). Due to the variety of these influences, the school is considered the social agent best able to present an unbiased and honest approach. "Youth have a right to expect from education an objective and scientific interpretation of the social, economic, emotional, and physical implications of indulgence in adult practices" (New Jersey, Department of Education, 1960). The major objective of alcohol education should be, therefore, to achieve understanding of these affects—not conclusion or commitment.

Nationally, 80 percent of this country's high school students have consumed alcoholic beverages at least once before graduation.
(Research Triangle Institute, 1975). Forty percent are moderate to heavy drinkers, as defined by the National Institute on Alcohol Abuse and Alcoholism. How much do these young people know about alcohol? How credible is the information that they have? How credible do they believe the information to be?

Exploration of these questions will be necessary for the development of effective alcohol education programs. To determine how they perceive major information sources will assist in deciding about information delivery systems and about means and channels of dissemination. To know more about young people's beliefs concerning alcohol will add systematic insight in pinpointing areas of major salience for developing new messages or new curricular programs.

The purposes of this study are threefold: (a) to compare the level of information that eighth, tenth, and twelfth graders have concerning alcohol and the extent to which that level differs by grade level, gender, and race; (b) to investigate the sources of this information; and (c) to examine the students' perception of the credibility of these sources.

Overview

This dissertation consists of five chapters. Chapter II presents a review of the related literature. Chapter III describes the study design and the procedures used in gathering and analyzing the
data. Chapter IV presents an analysis of the questionnaire responses. Chapter V consists of the conclusions, limitations of the study, and recommendations for further research.
CHAPTER II

REVIEW OF RELATED LITERATURE
AND RESEARCH

Introduction

The literature and research have been examined according to the three areas which were pertinent to this study. However, since the studies of students' perceptions of the credibility of their information were generally discussed in connection with the credibility of information sources, the literature and research will be examined under the two titles: (a) young people's knowledge of alcohol; and (b) sources of alcohol information, including students' perceptions of the credibility of those sources.

Young People's Knowledge of Alcohol

Roe (1943) surveyed the early attempts at alcohol education in the United States. She found the education at that time to be of a factual information type and generally negativistic in nature. The temperance organizations were strongly associated with the alcohol education programs and, as a result, abstinence was the desired goal. However, she notes that the actual effect of these programs was never really evaluated by anyone.
McCarthy (1963), who was a notable alcohol educator, assessed the trend in alcohol education between 1943 and 1957. He found the goals of alcohol education during that period of time to be quite diverse. The effectiveness of these programs was limited to impressions rather than more quantitative data as he found the research to be quite limited.

Maddox (1964) reviewed research relating to alcohol education and basically confirmed McCarthy's findings regarding the diverse goals and the limited amount of evaluative research on the effects of alcohol education on knowledge, attitude, or behavior. In this report, he also considered some comments by Dr. Marjorie Young who saw the goal of the health educator, as well as the alcohol educator, as modifying the behavior and attitude through imparting knowledge.

In a review of alcohol education programs, Freeman and Scott (1966) found these programs lacking in specific objectives at the outset as well as lacking in evidence relative to what actually was accomplished at their completion. It was also found that little effort was being directed toward the development of a more effective approach. As a result of their survey, the authors recommended that all future alcohol educators operate on an established set of values regarding the use of alcohol which would be acceptable to society in general.
Williams, DiCicco, and Uterberger (1968) found state alcohol education programs to be in the infancy stage of development with no clear-cut philosophies being articulated, no objectives being specified, and a complete absence of record as to their effectiveness. Furthermore, they felt the reason for this lack of development was the wide variance in attitudes about drinking that exist in the United States.

Crockett (1968) surveyed 1,698 secondary students in South Dakota. Approximately four out of five young people believed that the amount of time spent on alcohol-related instruction was inadequate. The results of an alcohol information check list indicated little difference in the knowledge level of seventh-eighth, ninth-tenth, and eleventh-twelfth grade groups.

Alcohol education was examined by Hope (1972) among 760 students in grades 8 through 12. Two major areas were investigated. First, the respondents were asked to report their exposure to what they recognized as alcohol education. They were then asked to indicate something of what they had learned about beverage alcohol as well as their opinions regarding teaching about it.

The data indicated that the students were eager to learn about alcohol and felt there was a need for formal instruction regarding it in their schools. Approximately nine in ten replied that they should have an opportunity to learn more about the nature of alcohol and its

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.
use. A similar proportion said that it was a responsibility and a function of the school to establish programs of this type. Further, approximately one-half of the students stated that alcohol-related problems existed in their school and that an alcohol education program could aid in overcoming these problems. Six in ten of these students perceived the problems as being that of excessive and abusive drinking. Only 16 percent felt that a systematic school program would fail to help these students. When asked what they wanted to know about intoxicants, two dominant themes emerged: 33 percent said that young people should be taught to realize the dysfunctional aspects of drinking; 37 percent indicated that teenagers should be presented the objective facts with the purpose of letting them make their own decision about whether or not to drink.

These findings suggest that there is little reason to doubt the adolescent's motivation to learn about alcohol. However, they also point out that young people, like adults, have a variety of interests in the subject of alcohol use. Subsequently, educators should realize that an initial assessment of the students' attitudes toward drinking and their patterns of alcohol intake is an almost mandatory prerequisite to effective instruction.

Despite their desire to learn more about alcohol, Hope (1972) found that the students were actually receiving little formal and organized information regarding it. No person or group was
specifically charged with the responsibility to see that there was a certain amount of systematic teaching or time allotment to the subject. What passed as alcohol education was superficial and incidental. This was reflected by the fact that only 40 percent of the students claimed exposure to what they considered formal alcohol education in the school. Interestingly, most of the school officials felt that the school had little, if any, role to play in this area and that this form of instruction should be a function of the home or the church. However, more than half of the students replied that they never discussed any aspect of drinking with their parents. This suggests that many parents are also reluctant to accept the responsibility of teaching their children about alcohol. Further, the data revealed that only one in five of the respondents reported exposure to formal programs in the church.

On the basis of a simple questionnaire survey, it may be presumptuous to evaluate the quality of the information transmitted to the students by their parents and the church and its long-range influence. However, Hope (1972) indicated that a significant number of the respondents who discussed drinking and alcohol use with their parents said that the information given emphasized the evil nature of alcohol to the neglect of objective and scientific data. This grossly over-simplifies alcohol's complex properties and fails to impart constructive attitudes by which an adolescent can make a wise
decision regarding its use or nonuse. Most alcohol educators stress that programs should not wake fear or employ a strategy of terror in teaching about alcohol. These types of pseudo-educational practices may only implant an admiration for intoxicated behavior, since the adolescent is often intrigued by forbidden pleasure and fascinated by danger with little concern for its consequences. The authoritarian approach to instruction about alcohol has not been effective, as illustrated by the number of adult users who disregard the threat espoused in fear-arousing pronouncements. Young people can quickly detect bias whatever its source or direction. A one-sided approach to a controversial subject engenders a loss of attention in many groups as defenses are quickly raised.

A survey to determine young people's knowledge and attitudes toward alcohol and drugs was conducted by Fejer and Smart (1973). The sample included 4,693 high school students from Toronto, Canada. School districts were randomly selected within each borough of metropolitan Toronto. Classes were then randomly selected in each grade until 120 students had been chosen in each of the selected school districts. A 15-item questionnaire was administered anonymously to students in each class by specially-trained interviewers. Male students were only slightly better informed than females, and these results agreed with the findings reported in Alcohol and Health (U. S., Department of Health, Education, and

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.
Weelfare, 1974), cited earlier, which stated that the level of information about alcohol was not related to sex. The mean score for males was 5.58 and for females 5.10. Knowledge scores also increased with grade level. At the tenth grade, the mean knowledge score was 4.36; this increased to 5.60 at the eleventh grade, and 6.51 for the twelfth grade.

The results of a questionnaire administered to educators and students were reported by Milgram (1974). The purpose of the study was to determine their awareness of alcohol education material, their use of this material, and an overview of alcohol education in their particular school. Sixty-five educators and 35 students participated from 15 different schools. To provide some indication of knowledge of alcohol information, true-false questions were asked. One point was given for each correct answer and the maximum score was seven. Surprisingly, the teachers knew no more about alcohol than the students. In fact, the plotted curves for both groups were virtually the same.

Sources and Credibility of Alcohol Information

Nelson (1968) surveyed 1,950 seniors from nine high schools in Utah and approximately 130 students from grades 9 through 12 confined to the Utah State Industrial School (SIS). Students were asked to rank first, second, and third their sources of information.
on alcohol. The seniors reported health classes, religious teaching, and parents or members of one's family, in that order. The SIS students ranked parents or members of one's family first, actual drinking experience ranked second, and friends and health classes tied for third. Only two SIS students mentioned a religious source. When they were asked how reliable they considered the two best sources of their information to be, 46 percent of the seniors checked "Extremely Reliable," 34 percent "Good Reliability," and 15 percent "Average Reliability." Only 5 percent checked "Below Average Reliability." The SIS students were not nearly as confident of their information. Twenty-four percent gave "Extremely Reliable," 27 percent "Good Reliability," and 49 percent "Average" or "Below."

Globetti and Harrison (1970) studied a group of 440 students enrolled in grades 7 through 12 in a Mississippi community. The most commonly mentioned source of information concerning the topic of alcohol was the students' age peers. Of those questioned, seven in ten said that the use of intoxicating beverages was a major subject of conversation with their friends. Questions also were asked concerning from whom a teenager would seek objective information about alcohol. More than half (56 percent) said they would use reference materials from such agencies as Alcoholics Anonymous and the public library. School as a source was not mentioned and only 2 percent indicated the church. When asked to identify the
person to whom they would most likely turn to secure more information, the students most frequently replied parents. Only 5 percent mentioned a school official or a minister. In addition, the students said they would seek advice from a particular adult concerning drinking only if he were knowledgeable, understanding, and trustworthy.

Sources and credibility of information on alcohol and other drugs were examined by Smart and Fejer (1972). The survey included 2,507 high school students in Haldimand County, Ontario. For 44.5 percent of the students, news media was the source from which they acquired most of their information. Friends were the second most frequently used, accounting for 27 percent of their replies. Church and school followed friends in frequency (17.4 percent). Families and their own experiences were mentioned by only 11.1 percent of the students.

An important aspect of credibility is the trustworthiness of the source. About 44 percent of the students said they trusted the news media over their parents, teachers, and other students who do not use drugs. Students who were users of drugs were also trusted sources: 26.5 percent cited them as the most trusted source. Students who did not use drugs were chosen least often by students. Teachers and parents were the most trusted sources for about 11 percent and 14 percent of the population, respectively. As well as having trust in the communicator, it is believed essential
that the source have expertise in the field of drug use as well. Most students (57.8 percent) clearly felt that doctors and scientists were the more expert. However, drug users were viewed by a surprisingly large percentage of the population (38.3 percent) as being more knowledgeable. Other persons, such as teachers, parents, and newspaper reporters were looked upon as most expert by a total of only 4 percent of the students. When asked whom they felt were least expert, almost 50 percent of the students indicated parents. Newspaper reporters were the only other persons of those suggested about whom a notable proportion (28.0 percent) of the students felt were least expert.

Adler and Lotecka (1973) investigated sources of alcohol information among 1,600 high school students in Pennsylvania. Students who classified themselves as nonusers reported that mass media and parents were their most trusted source of information, while occasional users ranked mass media and friends as their most trusted sources. The small minority (17 percent) of students who identified themselves as habitual alcohol users considered friends and mass media as their most trusted sources of information.

Teachers, counselors, and clergymen had surprisingly little influence with any group.

Milgram (1974) reported the results of a questionnaire given to school administrators, guidance personnel, librarians, health

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.
educators, driver-trainer instructors, teachers, and randomly-selected students to ascertain their awareness of alcohol education material and an overview of alcohol education in their particular schools. Fifteen educator and 15 student questionnaires were distributed to each of the selected schools: 65 (28.8 percent) educators and 135 (60 percent) students responded.

A number of surprising differences were found in response to the question, "If a student had a personal need for information on alcohol, from whom would he seek information?" Two choices were elicited. The results of this study are presented in Table 1. The parent group was not strongly nor significantly chosen by either group. However, there was a significant difference in choice two. That is, 11.2 percent of the students chose parents for information when they had a personal need for alcohol education and only 3.1 percent of the educators felt that students would seek information from parents. Though this difference is significant, the percentages being discussed are still fairly small. It would seem that parents are not strongly considered in the problem-solving role. Neither the librarians nor the clergy were strongly represented by either group in either choice. Although Milgram (1974) notes that the results of the findings regarding the librarians may have been predicted, the findings regarding the clergy as a choice were unexpected and disappointing. He also notes that although the teachers fared
## Table 1

Sources of Alcohol Information

<table>
<thead>
<tr>
<th>Source</th>
<th>Choice One</th>
<th></th>
<th>Choice Two</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Educators</td>
<td>Students</td>
<td>Educators</td>
<td>Students</td>
</tr>
<tr>
<td>Guidance Counselor</td>
<td>33.8%</td>
<td>21.7%</td>
<td>0.0%</td>
<td>0.0%</td>
</tr>
<tr>
<td>School Administrator</td>
<td>0.0%</td>
<td>0.8%</td>
<td>0.0%</td>
<td>0.0%</td>
</tr>
<tr>
<td>Teacher</td>
<td>35.4%</td>
<td>17.5%</td>
<td>9.2%</td>
<td>2.4%</td>
</tr>
<tr>
<td>Librarian</td>
<td>6.2%</td>
<td>2.5%</td>
<td>0.0%</td>
<td>0.4%</td>
</tr>
<tr>
<td>Clergy</td>
<td>6.5%</td>
<td>0.8%</td>
<td>3.1%</td>
<td>0.8%</td>
</tr>
<tr>
<td>Doctor</td>
<td>1.5%</td>
<td>19.2%</td>
<td>0.0%</td>
<td>4.0%</td>
</tr>
<tr>
<td>Local Organization</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(i.e., Hotline)</td>
<td>18.5%</td>
<td>29.2%</td>
<td>6.2%</td>
<td>5.6%</td>
</tr>
<tr>
<td>Parent</td>
<td>3.1%</td>
<td>6.7%</td>
<td>3.1%</td>
<td>11.2%</td>
</tr>
<tr>
<td>Friend</td>
<td>0.0%</td>
<td>3.3%</td>
<td>73.8%</td>
<td>52.0%</td>
</tr>
<tr>
<td>Alcoholics Anonymous</td>
<td>0.0%</td>
<td>2.5%</td>
<td>4.6%</td>
<td>21.6%</td>
</tr>
</tbody>
</table>
better in overall responses, these were also lower than expected. In fact, based on the results for teachers, it appears that educators have more confidence in their rapport and problem-solving ability than students do.

A National Study of Adolescent Drinking Behavior, Attitudes and Correlates (Research Triangle Institute, 1975) was based on a probability sample of all junior and senior high school students in grades 7 through 12 in the contiguous 48 states and the District of Columbia. One of the areas examined concerned sources of alcohol information. Students were asked, "Where did you learn what you know about alcohol?" Television and radio ranked third, parents were ranked second, and the category noted most often was friends.

In all of the above discussion concerning the use and credibility of alcohol information sources, very little attention has been given the possibility that gender may have differential effects by age, and that both may differ by race. If such interactions do exist, they would have important implications for the development of future alcohol education programs.
CHAPTER III

RESEARCH DESIGN AND PROCEDURE

Introduction

The purposes of this study are threefold: (a) to compare the level of information that eighth, tenth, and twelfth graders have concerning alcohol, and the extent to which that level differs by grade level, gender, and race; (b) to investigate the sources of this information; and (c) to examine the students' perception of the credibility of these sources. In order to meet these objectives the Alcohol Information Test (AIT) was developed (see Appendix).

Development of the Alcohol Information Test

Background information about the respondents' grade level, gender, and race was collected along with the AIT. Section I of the AIT asked about the respondents' sources of alcohol information and their perceptions of the credibility of these sources. Section II consisted of 54 "multiple choice" questions providing an index of the respondents' knowledge concerning alcohol. The items were a composite of questions selected from other information scales (Smith, 1967; Weir, 1968; Weisman, 1972) as well as originally

20

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.
designed questions. Areas covered included definition of terms, physical effects, psychological effects, the disease concept of alcoholism, treatment and prevention, socio-economic factors, and safety factors. The score for the scale is the total number of correct answers.

Some examples of the items used in this scale are:

1. Studies on alcohol have proved that it is
   _____ a. a depressant.
   _____ b. a stimulant.
   _____ c. a vitamin.
   _____ d. a poison.
   _____ e. a food.

2. The most immediate effects of alcohol are those upon the
   _____ a. liver.
   _____ b. heart.
   _____ c. brain.
   _____ d. digestive tract.
   _____ e. muscles.

All scores were corrected for guessing (Cronbach, 1960) before analysis. The reliability of the AIT was determined by pretesting it using three sections (78 students) of seventh graders enrolled in the Montgomery County, Kentucky Schools. Space for comments, criticism, and suggestions was made available at the end of the AIT. Pretesting permitted necessary changes to be made in the wording of several items. The results from the pretesting of the AIT were key punched onto I.B.M. cards and analyzed. The analyses focused on two estimates of reliability: (a) calculation of
reliability using the Kuder-Richardson formula #20, and (b) calculation of split-half reliability using the Spearman-Brown formula.

The results of the analyses were as follows:

1. The reliability using the Kuder-Richardson formula #20 was: .764.

2. The split-half reliability using the Spearman-Brown formula was: .769.

The sample for this study consisted of all students in grades 8, 10, and 12 present on the day of testing in the Montgomery County Schools. A total of 692 students completed the questionnaire. Eight of the forms were unusable because of incomplete or illegible responses, making the final sample size 684 students. Table 2 provides information about the respondents' grade level, gender, and race. Montgomery County, Kentucky, is located approximately 30 miles east of Lexington, Kentucky, and had a 1970 population of 21,235.

Every effort was made to standardize the administration of the questionnaire by reading items exactly as they were written and by answering questions in the same way each time. Students were permitted to ask questions if they did not understand an item or if they needed help in recording their responses. They were encouraged to raise their hands and the researcher answered questions individually. The procedure of answering questions individually was
employed to keep students from being embarrassed by having to ask questions aloud, and hopefully reduced the suggestion of answers throughout the room which might bias responses.

Table 2
Characteristics of Students
Responding to the AIT

<table>
<thead>
<tr>
<th>Grade Level</th>
<th>Sex</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Male</td>
<td>Female</td>
<td>White</td>
</tr>
<tr>
<td>Eighth</td>
<td>177</td>
<td>106</td>
<td>251</td>
</tr>
<tr>
<td>Tenth</td>
<td>99</td>
<td>125</td>
<td>184</td>
</tr>
<tr>
<td>Twelfth</td>
<td>101</td>
<td>76</td>
<td>149</td>
</tr>
<tr>
<td>Totals</td>
<td>377</td>
<td>307</td>
<td>584</td>
</tr>
</tbody>
</table>

When administering the questionnaires, the researcher permitted the classroom teacher to either remain in the room or leave, depending on his or her preference. If the teacher remained in the room, however, he/she was encouraged not to make oral comments to the students concerning the questionnaire and not to answer any questions, again to guard against bias. In most cases the teachers were very cooperative on this point. It was found, further, that the presence of a teacher in the room or auditorium during administration of the questionnaire helped keep order and quiet among the students.
students, who were often amused by the subject matter being investigated. Questions that arose concerning what was to be done with this information were answered after all the questionnaires had been collected in a classroom. Students completed the questionnaire in approximately 30 minutes. No open hostility or difficulty was encountered from teachers, parents, or school officials regarding the project.

Hypotheses

The following were the substantive hypotheses:

**Hypothesis I**: The score on the AIT will increase linearly with grade level.

**Hypothesis II**: Males of all grade levels will score higher on the AIT than females.

**Hypothesis III**: White students will score higher on the AIT than blacks.

The following are phrased as questions, rather than hypotheses. They deal with sources of alcohol information and their credibility. The question format was used because there were no a priori grounds upon which to base directional hypotheses regarding these sources and their credibility.

**Question 1**: Is the decision to choose peers as a source of alcohol information over other individuals distributed differentially
by grade level, gender, or race groups?

**Question 2:** Is the decision to choose television as a source of alcohol information over other media distributed differentially by grade level, gender, or race groups?

**Question 3:** Is the decision to choose people as a source of alcohol information over media distributed differentially by grade level, gender, or race groups?

**Question 4:** Is the perceived accuracy of medical personnel as compared to the perceived accuracy of other individuals regarding alcohol information distributed differentially by grade level, gender, or race groups?

**Question 5:** Is the perceived accuracy of television as compared to the perceived accuracy of other media regarding alcohol information distributed differentially by grade level, gender, or race groups?

**Question 6:** Is the perceived accuracy of people as compared to the perceived accuracy of media regarding alcohol information distributed differentially by grade level, gender, or race groups?

The dependent variable in the case of each of the questions is a contrast score derived from the responses to Section I of the AIT. Their computation is represented in Tables 3 and 4. There were seven general categories in Section I of the AIT, five involving persons and two involving media. As depicted in Table 3, the new
<table>
<thead>
<tr>
<th>Question</th>
<th>New Dependent Variable</th>
<th>Medical</th>
<th>Teacher</th>
<th>Peers</th>
<th>Pastoral</th>
<th>Television</th>
<th>Other Media</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Use of Peers for Information</td>
<td>-1</td>
<td>-1</td>
<td>+3</td>
<td>-1</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>2</td>
<td>Use of Television for Information</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>-1</td>
</tr>
<tr>
<td>4</td>
<td>Perceived Medical Accuracy</td>
<td>-1</td>
<td>+4</td>
<td>-1</td>
<td>-1</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>5</td>
<td>Perceived Television Accuracy</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>-1</td>
</tr>
</tbody>
</table>
Table 4
Weights Applied to Original Dependent Variables to Create New Variables for Questions 3 and 6

<table>
<thead>
<tr>
<th>Question</th>
<th>New Dependent Variable</th>
<th>Any Person</th>
<th>Any Media</th>
</tr>
</thead>
<tbody>
<tr>
<td>3</td>
<td>Use of People for Information</td>
<td>1</td>
<td>-1</td>
</tr>
<tr>
<td>6</td>
<td>Perceived People Accuracy</td>
<td>1</td>
<td>-1</td>
</tr>
</tbody>
</table>

dependent variable "Use of Peers for Information," which is used for the analysis of Question 1, is a contrast between peers and other people. Since the respondent was asked to check the three most important sources of information, any choice given to peers was weighted by a factor of three. (Note that in the case of credibility, four choices were permitted. Therefore, to answer Question 4, "Medical" is weighted by a factor of four.) Choices made to other person categories (i.e., family, medical, teacher, and pastoral) were given weights of minus one. Choices made to non-person categories were eliminated (i.e., weighted by zero). Thus, a score of plus three for the dependent variable "Use of Peers" indicates that peers were the only person group chosen, and that the other choices went to media. A score of minus three, of course,
indicates the fact that neither media groups nor peers were chosen as a source of information. Study of Tables 5 through 8 will aid the reader in interpreting these contrast scores.

Hypotheses I and II were tested using two-way analyses of variance, one conducted for each race separately. A three-way (i.e., Grade x Gender x Race) analysis was deemed inappropriate because of the relatively small number of blacks compared to whites in this sample. The dependent variable was the score in Section II of the AIT. A one-way analysis of variance was conducted specifically to test for the race effect.

The questions were examined using an analysis of covariance model. Section II of the AIT (i.e., knowledge) was the covariate. This helped to control for whatever differential effects the varying degrees of accuracy of information had on this assessment of sources used to get that information. The dependent variables consisted of the appropriate contrasts (see Tables 3 and 4). Thus for Question 1 the dependent variable was a function of the frequency with which peers were nominated as a source of information relative to other categories of individuals.

Considering the large number of white respondents (N = 584), a probability level of .01 is more appropriate for avoiding a Type I
Table 5

Interpretation of Scores for New Variable
"Use of Peers" as Generated in Table 3

<table>
<thead>
<tr>
<th>Score</th>
<th>Peers Chosen</th>
<th>Maximum Separate Categories of Other Person Groups Chosen</th>
</tr>
</thead>
<tbody>
<tr>
<td>+3</td>
<td>Yes</td>
<td>0</td>
</tr>
<tr>
<td>+2</td>
<td>Yes</td>
<td>1</td>
</tr>
<tr>
<td>+1</td>
<td>Yes</td>
<td>2</td>
</tr>
<tr>
<td>-1</td>
<td>No</td>
<td>1</td>
</tr>
<tr>
<td>-2</td>
<td>No</td>
<td>2</td>
</tr>
<tr>
<td>-3</td>
<td>No</td>
<td>3</td>
</tr>
</tbody>
</table>

error\(^1\) than would be the more conventional \(p < .05\). Therefore, for whites, and for testing the race effect, a result will not be considered significant unless it is associated with a \(p < .01\). For blacks (\(N = 100\)), the conventional \(p < .05\) level will be used.

\(^1\)A discussion of this problem can be found in R. Chandler, "The Statistical Concepts of Confidence and Significance," *Psychological Bulletin*, LIV (1962), 429-430.
Table 6

Interpretation of Scores for New Variable "Medical Accuracy" as Generated in Table 3

<table>
<thead>
<tr>
<th>Score</th>
<th>Medical Personnel Chosen as Accurate</th>
<th>Maximum Separate Categories of Other Persons Chosen as Accurate</th>
</tr>
</thead>
<tbody>
<tr>
<td>+4</td>
<td>Yes</td>
<td>0</td>
</tr>
<tr>
<td>+3</td>
<td>Yes</td>
<td>1</td>
</tr>
<tr>
<td>+2</td>
<td>Yes</td>
<td>2</td>
</tr>
<tr>
<td>+1</td>
<td>Yes</td>
<td>3</td>
</tr>
<tr>
<td>0</td>
<td>Yes/No</td>
<td>4</td>
</tr>
<tr>
<td>-1</td>
<td>No</td>
<td>1</td>
</tr>
<tr>
<td>-2</td>
<td>No</td>
<td>2</td>
</tr>
<tr>
<td>-3</td>
<td>No</td>
<td>3</td>
</tr>
<tr>
<td>-4</td>
<td>No</td>
<td>4</td>
</tr>
</tbody>
</table>
### Table 7

**Interpretation of Scores for New Variable**  
"Use of Television" as Generated in  
**Table 3**

<table>
<thead>
<tr>
<th>Score</th>
<th>Television Chosen</th>
<th>Interpretation</th>
</tr>
</thead>
<tbody>
<tr>
<td>+1</td>
<td>Yes</td>
<td>Television only media chosen.</td>
</tr>
<tr>
<td>0</td>
<td>Yes/No</td>
<td>Television chosen and either two other media chosen, or one other media plus one person group chosen, or choices given only to person groups. In any of these cases television is not a primary choice.</td>
</tr>
<tr>
<td>-1</td>
<td>No</td>
<td>Television not chosen and either two other media chosen or one other media plus one person group chosen.</td>
</tr>
</tbody>
</table>

### Table 8

**Interpretation of Scores for New Variable**  
"Use of People" as Generated in  
**Table 3**

<table>
<thead>
<tr>
<th>Score</th>
<th>People Chosen</th>
<th>Interpretation</th>
</tr>
</thead>
<tbody>
<tr>
<td>+1</td>
<td>Yes</td>
<td>No media chosen. All choices given to person categories.</td>
</tr>
<tr>
<td>0</td>
<td>Yes/No</td>
<td>People and media chosen about equally.</td>
</tr>
<tr>
<td>-1</td>
<td>No</td>
<td>No people categories chosen. All choices given to media categories.</td>
</tr>
</tbody>
</table>
CHAPTER IV

PRESENTATION AND ANALYSIS
OF THE DATA

Introduction

The three hypotheses (I-III) investigated the relation between the independent variables; grade level, gender, and race of the respondent, and the dependent variable, respondents' knowledge of alcohol as measured by the Alcohol Information Test (AIT).

Hypothesis I: The score on the AIT will increase linearly with grade level.

Hypothesis II: Males of all grade levels will score higher on the AIT than females.

Hypothesis III: White students will score higher on the AIT than blacks.

Hypothesis I

The significant quadratic trend ($F = 14.84, p < .001$) associated with the ANOVA of Table 9 indicated that an increase in accurate information occurred between the eighth and tenth grades for white respondents.

Black respondents also experienced a significant ($F = 6.40$, 32
p < .013, quadratic trend) increase in accurate information between
the eighth and tenth grades. No increase was noted between the
ten th and twelfth grades for either race group.

Table 9
Analysis of Variance Table for
Hypotheses I and II
Among Whites

<table>
<thead>
<tr>
<th>Source of Variance</th>
<th>df</th>
<th>MS</th>
<th>F</th>
<th>P</th>
</tr>
</thead>
<tbody>
<tr>
<td>Grade</td>
<td>2</td>
<td>3752.64</td>
<td>54.44</td>
<td>.0001</td>
</tr>
<tr>
<td>Gender</td>
<td>1</td>
<td>178.82</td>
<td>2.59</td>
<td>N.S.</td>
</tr>
<tr>
<td>Gender by Grade</td>
<td>2</td>
<td>52.71</td>
<td>.76</td>
<td>N.S.</td>
</tr>
<tr>
<td>Error</td>
<td>578</td>
<td>68.92</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>583</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Hypothesis II

The mean scores on the Alcohol Information Test for white
males and females were 14.05 and 15.18, respectively. This dif-
ference was not significant.

The data for black males and females is displayed in Table 10.
Mean scores for black males (11.27) and females (14.45) were sig-
nificant (F = 19.56, p < .001).
Table 10

Analysis of Variance Table for Hypotheses I and II Among Blacks

<table>
<thead>
<tr>
<th>Source of Variance</th>
<th>df</th>
<th>MS</th>
<th>F</th>
<th>P</th>
</tr>
</thead>
<tbody>
<tr>
<td>Grade</td>
<td>2</td>
<td>906.74</td>
<td>19.56</td>
<td>.0001</td>
</tr>
<tr>
<td>Gender</td>
<td>1</td>
<td>237.20</td>
<td>5.12</td>
<td>.026</td>
</tr>
<tr>
<td>Gender by Grade</td>
<td>2</td>
<td>2.39</td>
<td>.05</td>
<td>N.S.</td>
</tr>
<tr>
<td>Error</td>
<td>94</td>
<td>46.26</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>99</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Hypothesis III

As indicated by Table 11, white respondents show a tendency ($F = 3.06, p < .08$) to possess more information than blacks concerning alcohol. The overall means for white and black respondents were 14.55 and 12.86, respectively, which is not statistically significant using the alpha level adopted for this study.

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.
### Table 11

**Analysis of Variance Table for Hypothesis III by Race**

<table>
<thead>
<tr>
<th>Source of Variance</th>
<th>df</th>
<th>MS</th>
<th>F</th>
<th>P</th>
</tr>
</thead>
<tbody>
<tr>
<td>Race</td>
<td>1</td>
<td>244.25</td>
<td>3.06</td>
<td>.08</td>
</tr>
<tr>
<td>Error</td>
<td>682</td>
<td>79.95</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>683</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Table 12

**Mean Scores for AIT**

<table>
<thead>
<tr>
<th></th>
<th>Whites</th>
<th>Blacks</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Grade</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>8</td>
<td>10.43</td>
<td>6.80</td>
</tr>
<tr>
<td>10</td>
<td>17.12</td>
<td>14.72</td>
</tr>
<tr>
<td>12</td>
<td>18.32</td>
<td>17.13</td>
</tr>
<tr>
<td><strong>Gender</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td>14.05</td>
<td>11.27</td>
</tr>
<tr>
<td>Female</td>
<td>15.18</td>
<td>14.45</td>
</tr>
<tr>
<td><strong>Overall Mean</strong></td>
<td>14.55</td>
<td>12.86</td>
</tr>
<tr>
<td><strong>Std. Dev.</strong></td>
<td>9.07</td>
<td>8.12</td>
</tr>
<tr>
<td><strong>N.</strong></td>
<td>584</td>
<td>100</td>
</tr>
</tbody>
</table>

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.
Table 13

Frequency Distribution for All Scores on the Alcohol Information Test

<table>
<thead>
<tr>
<th>Score</th>
<th>Frequency</th>
<th>Score</th>
<th>Frequency</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>39</td>
<td>19</td>
<td>30</td>
</tr>
<tr>
<td>2</td>
<td>14</td>
<td>20</td>
<td>21</td>
</tr>
<tr>
<td>3</td>
<td>20</td>
<td>21</td>
<td>1</td>
</tr>
<tr>
<td>4</td>
<td>25</td>
<td>22</td>
<td>22</td>
</tr>
<tr>
<td>5</td>
<td>36</td>
<td>23</td>
<td>23</td>
</tr>
<tr>
<td>6</td>
<td>1</td>
<td>24</td>
<td>31</td>
</tr>
<tr>
<td>7</td>
<td>32</td>
<td>25</td>
<td>16</td>
</tr>
<tr>
<td>8</td>
<td>31</td>
<td>27</td>
<td>16</td>
</tr>
<tr>
<td>9</td>
<td>35</td>
<td>28</td>
<td>14</td>
</tr>
<tr>
<td>10</td>
<td>33</td>
<td>29</td>
<td>12</td>
</tr>
<tr>
<td>11</td>
<td>2</td>
<td>30</td>
<td>10</td>
</tr>
<tr>
<td>12</td>
<td>34</td>
<td>32</td>
<td>3</td>
</tr>
<tr>
<td>13</td>
<td>42</td>
<td>33</td>
<td>6</td>
</tr>
<tr>
<td>14</td>
<td>39</td>
<td>34</td>
<td>4</td>
</tr>
<tr>
<td>15</td>
<td>32</td>
<td>35</td>
<td>2</td>
</tr>
<tr>
<td>17</td>
<td>28</td>
<td>37</td>
<td>1</td>
</tr>
<tr>
<td>18</td>
<td>27</td>
<td>38</td>
<td>2</td>
</tr>
</tbody>
</table>

\( M = 14.298 \) \hspace{1cm} \( \text{Mdn} = 13.476 \) \hspace{1cm} \( \text{Std. Dev.} = 8.948 \)

Kuder-Richardson #20 = .7804
Spearman-Brown odd-even reliability = .7778

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.
Questions 1 through 3 investigated the decision to choose a source of alcohol information relative to other sources within the context of the respondents' grade level, gender, and race group. The final three questions (4 through 6) investigated the perceived accuracy of a source of alcohol information relative to other sources within the context of the respondents' grade level, gender, and race group.

Question 1: Is the decision to choose peers as a source of alcohol information over other individuals distributed differentially by grade level, gender, or race groups?

Question 2: Is the decision to choose television as a source of alcohol information over other media distributed differentially by grade level, gender, or race groups?

Question 3: Is the decision to choose people as a source of alcohol information over media distributed differentially by grade level, gender, or race groups?

Question 4: Is the perceived accuracy of medical personnel as compared to the perceived accuracy of other individuals regarding alcohol information distributed differentially by grade level, gender, or race groups?

Question 5: Is the perceived accuracy of television as compared to the perceived accuracy of other media regarding alcohol information distributed differentially by grade level, gender, or
race groups?

**Question 6:** Is the perceived accuracy of people as compared to the perceived accuracy of media regarding alcohol information distributed differentially by grade level, gender, or race groups?

**Question 1**

The significant quadratic trend ($F = 10.87$, $p < .001$) associated with the ANCOVA of Table 14 indicated that a relative increase in the use of peers as a source of alcohol information occurred between the eighth and tenth grades. The mean values for the eighth, tenth, and twelfth grades were -.35, .56, and .53, respectively.

Table 15 displays the data for blacks. No grade level or gender effects were noted.

**Table 14**

Analysis of Covariance Table for Relative Use of Peers as a Source of Alcohol Information for Whites

<table>
<thead>
<tr>
<th>Source of Variance</th>
<th>df</th>
<th>MS</th>
<th>$F$</th>
<th>$P$</th>
</tr>
</thead>
<tbody>
<tr>
<td>Grade</td>
<td>2</td>
<td>48.16</td>
<td>16.23</td>
<td>.0001</td>
</tr>
<tr>
<td>Gender</td>
<td>1</td>
<td>.93</td>
<td>.31</td>
<td>N.S.</td>
</tr>
<tr>
<td>Gender by Grade</td>
<td>2</td>
<td>6.13</td>
<td>2.06</td>
<td>N.S.</td>
</tr>
<tr>
<td>Error</td>
<td>577</td>
<td>2.96</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>582</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.
Table 15

Analysis of Covariance Table for Relative Use of Peers as a Source of Alcohol Information for Blacks

<table>
<thead>
<tr>
<th>Source of Variance</th>
<th>df</th>
<th>MS</th>
<th>F</th>
<th>P</th>
</tr>
</thead>
<tbody>
<tr>
<td>Grade</td>
<td>2</td>
<td>6.10</td>
<td>2.11</td>
<td>N.S.</td>
</tr>
<tr>
<td>Gender</td>
<td>1</td>
<td>.18</td>
<td>.06</td>
<td>N.S.</td>
</tr>
<tr>
<td>Gender by Grade</td>
<td>2</td>
<td>6.45</td>
<td>2.23</td>
<td>N.S.</td>
</tr>
<tr>
<td>Error</td>
<td>93</td>
<td>2.88</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>98</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Table 16

Analysis of Covariance Table for Relative Use of Peers as a Source of Alcohol Information by Race

<table>
<thead>
<tr>
<th>Source of Variance</th>
<th>df</th>
<th>MS</th>
<th>F</th>
<th>P</th>
</tr>
</thead>
<tbody>
<tr>
<td>Race</td>
<td>1</td>
<td>8.06</td>
<td>2.59</td>
<td>N.S.</td>
</tr>
<tr>
<td>Error</td>
<td>681</td>
<td>3.10</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>682</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Table 17
Mean Value for Relative Use of Peers
as a Source of Information

<table>
<thead>
<tr>
<th></th>
<th>Whites</th>
<th>Blacks</th>
</tr>
</thead>
<tbody>
<tr>
<td>Grade</td>
<td></td>
<td></td>
</tr>
<tr>
<td>8</td>
<td>-.35</td>
<td>-.19</td>
</tr>
<tr>
<td>10</td>
<td>.56</td>
<td>-.22</td>
</tr>
<tr>
<td>12</td>
<td>.53</td>
<td>-.21</td>
</tr>
<tr>
<td>Gender</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td>.20</td>
<td>-.25</td>
</tr>
<tr>
<td>Female</td>
<td>.11</td>
<td>-.15</td>
</tr>
<tr>
<td>Overall Mean</td>
<td>.16</td>
<td>-.20</td>
</tr>
<tr>
<td>Std. Dev.</td>
<td>1.79</td>
<td>1.72</td>
</tr>
<tr>
<td>N.</td>
<td>584</td>
<td>100</td>
</tr>
</tbody>
</table>

Question 2

According to Table 18, no grade level or gender effects were demonstrated for white respondents.

The significant quadratic trend ($F = 18.98, p < .0001$) associated with the ANCOVA of Table 19 indicated that television was used relatively more by twelfth graders as a source of alcohol information than by tenth graders. Black males indicated significantly more relative use of television as a source of information than did females ($F = 5.64, p < .020$).
## Table 18
Analysis of Covariance Table for Relative Use of Television as a Source of Alcohol Information for Whites

<table>
<thead>
<tr>
<th>Source of Variance</th>
<th>df</th>
<th>MS</th>
<th>F</th>
<th>P</th>
</tr>
</thead>
<tbody>
<tr>
<td>Grade</td>
<td>2</td>
<td>.31</td>
<td>.63</td>
<td>N.S.</td>
</tr>
<tr>
<td>Gender</td>
<td>1</td>
<td>.22</td>
<td>.46</td>
<td>N.S.</td>
</tr>
<tr>
<td>Gender by Grade</td>
<td>2</td>
<td>1.36</td>
<td>2.77</td>
<td>N.S.</td>
</tr>
<tr>
<td>Error</td>
<td>577</td>
<td>.49</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>582</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

## Table 19
Analysis of Covariance Table for Relative Use of Television as a Source of Alcohol Information for Blacks

<table>
<thead>
<tr>
<th>Source of Variance</th>
<th>df</th>
<th>MS</th>
<th>F</th>
<th>P</th>
</tr>
</thead>
<tbody>
<tr>
<td>Grade</td>
<td>2</td>
<td>3.42</td>
<td>7.94</td>
<td>.001</td>
</tr>
<tr>
<td>Gender</td>
<td>1</td>
<td>2.42</td>
<td>5.64</td>
<td>.020</td>
</tr>
<tr>
<td>Gender by Grade</td>
<td>2</td>
<td>.36</td>
<td>.84</td>
<td>N.S.</td>
</tr>
<tr>
<td>Error</td>
<td>93</td>
<td>.43</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>98</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.
Table 20

Analysis of Covariance Table for Relative Use of Television as a Source of Alcohol Information by Race

<table>
<thead>
<tr>
<th>Source of Variance</th>
<th>df</th>
<th>MS</th>
<th>F</th>
<th>P</th>
</tr>
</thead>
<tbody>
<tr>
<td>Race</td>
<td>1</td>
<td>.02</td>
<td>.05</td>
<td>N.S.</td>
</tr>
<tr>
<td>Error</td>
<td>681</td>
<td>.50</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>682</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Table 21

Mean Values for Relative Use of Television as a Source of Information

<table>
<thead>
<tr>
<th></th>
<th>Whites</th>
<th>Blacks</th>
</tr>
</thead>
<tbody>
<tr>
<td>Grade</td>
<td></td>
<td></td>
</tr>
<tr>
<td>8</td>
<td>-.01</td>
<td>.02</td>
</tr>
<tr>
<td>10</td>
<td>-.03</td>
<td>-.23</td>
</tr>
<tr>
<td>12</td>
<td>.05</td>
<td>.44</td>
</tr>
<tr>
<td>Gender</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td>.02</td>
<td>.21</td>
</tr>
<tr>
<td>Female</td>
<td>-.02</td>
<td>-.13</td>
</tr>
<tr>
<td>Overall Mean</td>
<td>.00</td>
<td>.04</td>
</tr>
<tr>
<td>Std. Dev.</td>
<td>.71</td>
<td>.75</td>
</tr>
<tr>
<td>N.</td>
<td>584</td>
<td>100</td>
</tr>
</tbody>
</table>
Question 3

As indicated by Tables 22, 23, and 24, no grade level, gender, or race effects were noted for the relative use of people as a source of alcohol information.

Table 22

Analysis of Covariance Table for Relative Use of People as a Source of Alcohol Information for Whites

<table>
<thead>
<tr>
<th>Source of Variance</th>
<th>df</th>
<th>MS</th>
<th>F</th>
<th>P</th>
</tr>
</thead>
<tbody>
<tr>
<td>Grade</td>
<td>2</td>
<td>.23</td>
<td>.95</td>
<td>N.S.</td>
</tr>
<tr>
<td>Gender</td>
<td>1</td>
<td>.15</td>
<td>.62</td>
<td>N.S.</td>
</tr>
<tr>
<td>Gender by Grade</td>
<td>2</td>
<td>.49</td>
<td>1.99</td>
<td>N.S.</td>
</tr>
<tr>
<td>Error</td>
<td>577</td>
<td>.24</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>582</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.
Table 23
Analysis of Covariance Table for Relative Use of People as a Source of Alcohol Information for Blacks

<table>
<thead>
<tr>
<th>Source of Variance</th>
<th>df</th>
<th>MS</th>
<th>F</th>
<th>P</th>
</tr>
</thead>
<tbody>
<tr>
<td>Grade</td>
<td>2</td>
<td>.23</td>
<td>.93</td>
<td>N.S.</td>
</tr>
<tr>
<td>Gender</td>
<td>1</td>
<td>.85</td>
<td>3.45</td>
<td>N.S.</td>
</tr>
<tr>
<td>Gender by Grade</td>
<td>2</td>
<td>.12</td>
<td>.51</td>
<td>N.S.</td>
</tr>
<tr>
<td>Error</td>
<td>93</td>
<td>.24</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>98</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Table 24
Analysis of Covariance Table for Relative Use of People as a Source of Alcohol Information by Race

<table>
<thead>
<tr>
<th>Source of Variance</th>
<th>df</th>
<th>MS</th>
<th>F</th>
<th>P</th>
</tr>
</thead>
<tbody>
<tr>
<td>Race</td>
<td>1</td>
<td>.61</td>
<td>2.50</td>
<td>N.S.</td>
</tr>
<tr>
<td>Error</td>
<td>681</td>
<td>.24</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>682</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Table 25
Mean Values for Relative Use of People as a Source of Alcohol Information

<table>
<thead>
<tr>
<th></th>
<th>Whites</th>
<th>Blacks</th>
</tr>
</thead>
<tbody>
<tr>
<td>Grade</td>
<td></td>
<td></td>
</tr>
<tr>
<td>8</td>
<td>.22</td>
<td>.13</td>
</tr>
<tr>
<td>10</td>
<td>.23</td>
<td>.12</td>
</tr>
<tr>
<td>12</td>
<td>.29</td>
<td>.18</td>
</tr>
<tr>
<td>Gender</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td>.25</td>
<td>.14</td>
</tr>
<tr>
<td>Female</td>
<td>.22</td>
<td>.17</td>
</tr>
<tr>
<td>Overall Mean</td>
<td>.24</td>
<td>.15</td>
</tr>
<tr>
<td>Std. Dev.</td>
<td>.49</td>
<td>.47</td>
</tr>
<tr>
<td>N</td>
<td>584</td>
<td>100</td>
</tr>
</tbody>
</table>

Question 4

The significant quadratic trend \((F = 16.04, p < .0001)\) associated with the ANCOVA of Table 26 indicated that twelfth graders have more confidence in the relative accuracy of information received from medical personnel than did tenth graders. Table 27 displays the data for blacks. Females have significantly more confidence than males in the relative accuracy of information from medical personnel \((F = 4.38, p < .039)\).

Blacks tend to view medical personnel as somewhat more accurate concerning alcohol information than do whites \((F = 5.14, p < .02)\).
Table 26
Analysis of Covariance Table for Relative
Perceived Accuracy of Medical Personnel for Whites

<table>
<thead>
<tr>
<th>Source of Variance</th>
<th>df</th>
<th>MS</th>
<th>F</th>
<th>P</th>
</tr>
</thead>
<tbody>
<tr>
<td>Grade</td>
<td>2</td>
<td>17.63</td>
<td>8.52</td>
<td>.0001</td>
</tr>
<tr>
<td>Gender</td>
<td>1</td>
<td>5.82</td>
<td>2.81</td>
<td>N.S.</td>
</tr>
<tr>
<td>Gender by Grade</td>
<td>2</td>
<td>.78</td>
<td>.38</td>
<td>N.S.</td>
</tr>
<tr>
<td>Error</td>
<td>577</td>
<td>2.06</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>582</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Table 27
Analysis of Covariance Table for Relative
Perceived Accuracy of Medical Personnel for Blacks

<table>
<thead>
<tr>
<th>Source of Variance</th>
<th>df</th>
<th>MS</th>
<th>F</th>
<th>P</th>
</tr>
</thead>
<tbody>
<tr>
<td>Grade</td>
<td>2</td>
<td>1.80</td>
<td>.69</td>
<td>N.S.</td>
</tr>
<tr>
<td>Gender</td>
<td>1</td>
<td>11.39</td>
<td>4.39</td>
<td>.039</td>
</tr>
<tr>
<td>Gender by Grade</td>
<td>2</td>
<td>6.54</td>
<td>2.52</td>
<td>N.S.</td>
</tr>
<tr>
<td>Error</td>
<td>93</td>
<td>2.60</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>98</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Table 28
Analysis of Covariance Table for Relative Perceived Accuracy of Medical Personnel by Race

<table>
<thead>
<tr>
<th>Source of Variance</th>
<th>df</th>
<th>MS</th>
<th>F</th>
<th>P</th>
</tr>
</thead>
<tbody>
<tr>
<td>Race</td>
<td>1</td>
<td>11.39</td>
<td>5.14</td>
<td>.024</td>
</tr>
<tr>
<td>Error</td>
<td>681</td>
<td>2.21</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>682</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Table 29
Mean Values for Relative Perceived Accuracy of Medical Personnel

<table>
<thead>
<tr>
<th></th>
<th>Whites</th>
<th>Blacks</th>
</tr>
</thead>
<tbody>
<tr>
<td>Grade</td>
<td></td>
<td></td>
</tr>
<tr>
<td>8</td>
<td>-.90</td>
<td>-.93</td>
</tr>
<tr>
<td>10</td>
<td>-1.29</td>
<td>-.45</td>
</tr>
<tr>
<td>12</td>
<td>-.65</td>
<td>-.43</td>
</tr>
<tr>
<td>Gender</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td>-.86</td>
<td>-.96</td>
</tr>
<tr>
<td>Female</td>
<td>-1.07</td>
<td>-.24</td>
</tr>
<tr>
<td>Overall Mean</td>
<td>-.96</td>
<td>-.60</td>
</tr>
<tr>
<td>Std. Dev.</td>
<td>1.45</td>
<td>1.34</td>
</tr>
<tr>
<td>N.</td>
<td>584</td>
<td>100</td>
</tr>
</tbody>
</table>

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.
Question 5

The mean values for relative perceived accuracy of television for white males and females were -.14 and -.16, respectively. Table 30 shows that this difference was not significant.

Table 31 indicated there was no grade level or gender effects for blacks. Table 32 shows that there were no race effects.

Table 30

Analysis of Covariance Table for Relative Perceived Accuracy of Television for Whites

<table>
<thead>
<tr>
<th>Source of Variance</th>
<th>df</th>
<th>MS</th>
<th>F</th>
<th>P</th>
</tr>
</thead>
<tbody>
<tr>
<td>Grade</td>
<td>2</td>
<td>.09</td>
<td>.35</td>
<td>N.S.</td>
</tr>
<tr>
<td>Gender</td>
<td>1</td>
<td>.09</td>
<td>.33</td>
<td>N.S.</td>
</tr>
<tr>
<td>Gender by Grade</td>
<td>2</td>
<td>.07</td>
<td>.29</td>
<td>N.S.</td>
</tr>
<tr>
<td>Error</td>
<td>577</td>
<td>.27</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>582</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.
Table 31
Analysis of Covariance Table for Relative Perceived Accuracy of Television for Blacks

<table>
<thead>
<tr>
<th>Source of Variance</th>
<th>df</th>
<th>MS</th>
<th>F</th>
<th>P</th>
</tr>
</thead>
<tbody>
<tr>
<td>Grade</td>
<td>2</td>
<td>.46</td>
<td>2.90</td>
<td>N.S.</td>
</tr>
<tr>
<td>Gender</td>
<td>1</td>
<td>.86</td>
<td>5.44</td>
<td>.022</td>
</tr>
<tr>
<td>Gender by Grade</td>
<td>2</td>
<td>.24</td>
<td>1.53</td>
<td>N.S.</td>
</tr>
<tr>
<td>Error</td>
<td>93</td>
<td>.15</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>98</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Table 32
Analysis of Covariance Table for Relative Perceived Accuracy of Television by Race

<table>
<thead>
<tr>
<th>Source of Variance</th>
<th>df</th>
<th>MS</th>
<th>F</th>
<th>P</th>
</tr>
</thead>
<tbody>
<tr>
<td>Race</td>
<td>1</td>
<td>.06</td>
<td>2.23</td>
<td>N.S.</td>
</tr>
<tr>
<td>Error</td>
<td>681</td>
<td></td>
<td>.25</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>682</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.
### Table 33

Mean Values for Relative Perceived Accuracy of Television

<table>
<thead>
<tr>
<th></th>
<th>Whites</th>
<th>Blacks</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Grade</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>8</td>
<td>-.15</td>
<td>-.07</td>
</tr>
<tr>
<td>10</td>
<td>-.13</td>
<td>-.06</td>
</tr>
<tr>
<td>12</td>
<td>-.18</td>
<td>-.19</td>
</tr>
<tr>
<td><strong>Gender</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td>-.14</td>
<td>-.03</td>
</tr>
<tr>
<td>Female</td>
<td>-.16</td>
<td>-.13</td>
</tr>
<tr>
<td><strong>Overall Mean</strong></td>
<td>-.15</td>
<td>-.13</td>
</tr>
<tr>
<td><strong>Std. Dev.</strong></td>
<td>.52</td>
<td>.41</td>
</tr>
<tr>
<td><strong>N.</strong></td>
<td>584</td>
<td>100</td>
</tr>
</tbody>
</table>

**Question 6**

Table 34 and 35 indicated no grade level or gender effects for this question.

According to Table 36, whites had more confidence in the relative accuracy of alcohol information from people than did blacks ($F = 6.20, p < .013$).
### Table 34

Analysis of Covariance Table for Perceived Accuracy of People as a Source of Alcohol Information for Whites

<table>
<thead>
<tr>
<th>Source of Variance</th>
<th>df</th>
<th>MS</th>
<th>F</th>
<th>P</th>
</tr>
</thead>
<tbody>
<tr>
<td>Grade</td>
<td>2</td>
<td>.56</td>
<td>3.27</td>
<td>N.S.</td>
</tr>
<tr>
<td>Gender</td>
<td>1</td>
<td>.54</td>
<td>3.16</td>
<td>N.S.</td>
</tr>
<tr>
<td>Gender by Grade</td>
<td>2</td>
<td>.10</td>
<td>.59</td>
<td>N.S.</td>
</tr>
<tr>
<td>Error</td>
<td>577</td>
<td>.17</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>582</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Table 35

Analysis of Covariance Table for Perceived Accuracy of People as a Source of Alcohol Information for Blacks

<table>
<thead>
<tr>
<th>Source of Variance</th>
<th>df</th>
<th>MS</th>
<th>F</th>
<th>P</th>
</tr>
</thead>
<tbody>
<tr>
<td>Grade</td>
<td>2</td>
<td>.01</td>
<td>.27</td>
<td>N.S.</td>
</tr>
<tr>
<td>Gender</td>
<td>1</td>
<td>.05</td>
<td>.95</td>
<td>N.S.</td>
</tr>
<tr>
<td>Gender by Grade</td>
<td>2</td>
<td>.05</td>
<td>.91</td>
<td>N.S.</td>
</tr>
<tr>
<td>Error</td>
<td>93</td>
<td>.06</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>98</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.
Table 36
Analysis of Covariance Table for Perceived Accuracy of People as a Source of Alcohol Information by Race

<table>
<thead>
<tr>
<th>Source of Variance</th>
<th>df</th>
<th>MS</th>
<th>F</th>
<th>P</th>
</tr>
</thead>
<tbody>
<tr>
<td>Race</td>
<td>1</td>
<td>.98</td>
<td>6.20</td>
<td>.013</td>
</tr>
<tr>
<td>Error</td>
<td>681</td>
<td>.15</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>682</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Table 37
Mean Values for Perceived Accuracy of People as a Source of Alcohol Information

<table>
<thead>
<tr>
<th></th>
<th>Whites</th>
<th>Blacks</th>
</tr>
</thead>
<tbody>
<tr>
<td>Grade</td>
<td></td>
<td></td>
</tr>
<tr>
<td>8</td>
<td>.19</td>
<td>.09</td>
</tr>
<tr>
<td>10</td>
<td>.09</td>
<td>.05</td>
</tr>
<tr>
<td>12</td>
<td>.20</td>
<td>.05</td>
</tr>
<tr>
<td>Gender</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td>.19</td>
<td>.03</td>
</tr>
<tr>
<td>Female</td>
<td>.13</td>
<td>.09</td>
</tr>
<tr>
<td>Overall Mean</td>
<td>.16</td>
<td>.06</td>
</tr>
<tr>
<td>Std. Dev.</td>
<td>.42</td>
<td>.23</td>
</tr>
<tr>
<td>N.</td>
<td>584</td>
<td>100</td>
</tr>
</tbody>
</table>

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.
CHAPTER V

CONCLUSIONS, LIMITATIONS, AND RECOMMENDATIONS

Introduction

The illicit use of alcohol among adolescents has become the focus of growing social concern. Many agencies and schools are now designing and implementing alcohol education programs, but few studies show what methods or media would be most effective for this purpose. The drinking behavior of most young people is best understood in a developmental framework. In this society, most children are abstinent, while most adults drink at least occasionally. This means that, during the adolescent years, a majority of young people make a transition from the normative abstinence of childhood to the normative patterns of drinking characteristic of adulthood (Maddox, 1966). Subsequently, only the rare adolescent does not experiment with alcohol in the process of reaching maturity. In this experimentation he is often exposed to some very dangerous uses of alcohol which proper education might prevent. There are, therefore, many good reasons why adolescents should understand the complexities of alcohol intake before they leave high school. A child's or an adolescent's relation to use of intoxicating beverages should not be
left to chance alone (Globetti & Harrison, 1970).

Unfortunately, there has been a lack of systematic research concerning the amount and source of alcohol information reaching young people. The purposes of this study were threefold: (a) to compare the level of information that eighth, tenth, and twelfth graders have concerning alcohol, and the extent to which that level differs by grade level, gender, and race; (b) to investigate the sources of this information; and (c) to examine the students' perception to the credibility of these sources.

Conclusions

The score on the AIT did not increase linearly with grade level. The eighth, tenth, and twelfth grades scored an average of 9.93, 17.09, and 17.43 respectively. Across all grade groups in the sample the average score was 14.29. This is an accuracy level fluctuating between 18 and 32 percent. This would seem to clearly indicate that little is known about the substantive aspects of alcohol by students in these three grades. The significant increase for both race groups on the AIT between the eighth and tenth grades might be attributed to the fact that tenth graders are routinely exposed to information concerning alcohol during driver education classes.

Differences within and between race groups were indicated on
the AIT. Among whites, mean scores for males and females did
not vary significantly. Black females, however, outscored their
male counterparts by a substantial margin. Overall, whites demonstrat
ed a slight nonsignificant tendency to possess more information
than blacks concerning alcohol. A possible explanation for the dif-
fferences may be the fact that in rural Kentucky, white and black
youth represent two distinguishable subgroups and that particular
patterns of behavior and values can be identified for each. Cultural
differentiation has been treated as an important variable in a number
of theories regarding beverage alcohol (Pittman, 1967). The major
assumption underlying these theories, normally designated as the
socio-cultural approach, is that within the cultural system of a
group of people there is a general ethos or sense of decorum con-
cerning the role of alcohol which, in turn, determines the type of
response members make toward it. Put in another way, the common
fabric of values, symbols, and meanings shared by a group governs
the attitudes, beliefs, and knowledge about a given phenomenon.

Research dealing with the effects of various types of informa-
tion sources (Garrison, 1965) suggests that an intricate network of
interpersonal and mass media communication channels exists to pro-
vide contact with information about social and personal behaviors
such as alcohol use. At various stages in experience with alcohol,
one or both types of communication channels might be effective in
supplying information or reinforcement.

Questions one through six (1-6) investigated the use and credibility of alcohol information sources within the context of the respondents' grade level, gender, and race group. Concerning white respondents, the following trends were indicated: (a) A relative increase in the use of peers as a source of alcohol information occurred between the eighth and tenth grade, (b) twelfth graders demonstrated more confidence in the relative accuracy of information received from medical personnel than did tenth graders, and (c) as a group, whites had more confidence in the relative accuracy of people than did blacks. Differences within this race group appear for the most part to be related to grade level, with no significant gender effects. In addition to these findings, the stability of the mean values (Tables 21 and 33) for both use and perceived accuracy of television should be noted. The stability of these values would seem to indicate that the role of television is relatively constant for this race group throughout the adolescent years.

Within the black race group the following trends were identified: (a) a relative increase in the use of television as a source of information between the tenth and twelfth grades, (b) males indicated more relative use of television as a source of information than did females, (c) females demonstrated more confidence than males in the relative accuracy of information from medical personnel, and
(d) blacks tended to view medical personnel as more accurate concerning alcohol information than did whites. Within this race group both grade level and gender effects were noted. The reasons for these specific trends are unclear. The differences between race groups might be attributed to the cultural differentiation factors discussed in earlier paragraphs.

Use and credibility of alcohol information sources were explored within the framework of the respondents' grade level, gender, and race. No consistent patterns or trends were identified for interpersonal or mass media sources within the context of these variables. A possible explanation for this may be that the use and credibility of alcohol information sources is a highly individual and personal decision. As such, this decision-making process cannot be predicted on the basis of gross background variables. An additional class of variables to be considered are those which are sociocultural in nature. Examples of these would be socio-economic status, cultural values, and reference norms. Previous studies (Bruun, 1965; Pittman, 1967) have been done showing ethnic and cultural differences in the patterns and institutionalization of alcohol use, but these have not adequately differentiated specific socialization agents. Such differentiation could help to make clear whether the variance in the present study is due to particular cultural factors or to interactions between them. Ultimately, the analysis of the use
and credibility of alcohol information sources will have to be multi-variate and deal with processes of learning and change over time.

Limitations of the Study

Two general limitations should again be recalled to the reader's mind regarding this study. First, the ability to generalize from this study to all young people in the United States is restricted by the size of the sample and the area from which it was drawn. A single rural county in Kentucky was chosen for the study area, limiting the representativeness of the study.

Secondly, survey research methodology itself should perhaps be noted as a limitation of this study. Without having to resort to the question of whether or not deliberate misinformation is given by respondents, one can question the accuracy of data gathered in surveys. Subjects may simply be unable to respond in the manner the researcher would expect. Observation of both verbal and nonverbal behaviors in their "natural" setting might prove to be more fruitful a method of exploring the research questions posed for the study.

Recommendations for Further Study

Answers to items on the AIT showed evidence of lack of scientific knowledge, and belief in common misconceptions. For example, 43 percent of the students believed that alcohol is a stimulant.
Thirty-six percent believed alcohol would be useful for the treatment of snake bites. Twenty-nine percent believed alcohol contained in whisky and other distilled beverages is "denatured" alcohol. This would indicate that these young people would believe that denatured alcohol was potable.

These kinds of responses demonstrate the need for further investigation. It is recommended that the AIT be applied to wider and more diverse high school populations to determine points of common misconception, or areas that lack scientific knowledge. Percentile norms should be determined for high school students so that individual scores or school instructional programs may be compared with such established levels of performance.

Finally, it is important to view the present study within the context of the general absence of previous research in this area. Carefully designed studies investigating the effects of grade level, gender, and race on use and credibility of alcohol information sources have not been conducted. Viewed from this perspective the present study is an initial attempt to bring methodological rigor, with careful attention to the complex interaction of variables to this area of alcohol education. Its findings assume importance in that their interpretation raises many questions that may be phrased in testable terms. It is to be hoped that this heuristic function will find expression in future research.
REFERENCES


Harris, L., & Associate, Inc. Public awareness of the National Institute on Alcohol Abuse and Alcoholism advertising campaign and public attitudes towards drinking and alcohol abuse. Report prepared for the National Institute on Alcohol Abuse and Alcoholism, 1974.


Dear Student:

It is important for you to participate in this study. The answers you and other students provide will help us understand what young people think about alcohol. Your answers will be strictly confidential and will not be a part of your school record. You are not asked to sign your name. This is not a test and you are not timed on any section or group of questions. However, you should not skip around. Instead, start with question one and go through the entire questionnaire. You may skip any question that you or your parents might consider objectionable. We think you will enjoy completing this questionnaire. If you have any questions about how to complete an item, please raise your hand and the counselor will help you.
PLACE A CHECKMARK BY YOUR ANSWER TO EACH OF THE FOLLOWING QUESTIONS.

1. What is your sex? Male ___ Female ___

2. What grade are you in? 8 th ___ 10 th ___ 12 th ___

3. What is your race? Spanish American ___ White or Caucasian ___ Black or Afro-American ___ American Indian ___ Oriental or Asian American ___ Other ___

4. PLACE A CHECKMARK BY THREE OF THE PEOPLE OR MEDIA IN THE LIST BELOW WHICH HAVE PROVIDED YOU WITH THE MOST INFORMATION CONCERNING ALCOHOL.

   Mother or father ___
   Brothers or sisters ___
   Other relatives ___
   Doctors and nurses ___
   Teachers in school ___
   Clergy (minister, priest, rabbi) ___
   School counselor ___
4. --Continued

Friends

Television programs

Radio

Movies

Magazines

Books

Other sources (write in) _______________________

5. CHECK THE ONE PHRASE IN EACH OF THE FOLLOWING WHICH YOU FEEL BEST INDICATES THE ACCURACY OF THE INFORMATION YOU HAVE RECEIVED FROM THESE SOURCES CONCERNING ALCOHOL.

<table>
<thead>
<tr>
<th>Mother or father</th>
<th>Friends</th>
<th>Television programs</th>
<th>Radio</th>
</tr>
</thead>
<tbody>
<tr>
<td>Always right</td>
<td>______</td>
<td>______</td>
<td>______</td>
</tr>
<tr>
<td>Usually right</td>
<td>______</td>
<td>______</td>
<td>______</td>
</tr>
<tr>
<td>Undecided</td>
<td>______</td>
<td>______</td>
<td>______</td>
</tr>
<tr>
<td>Usually wrong</td>
<td>______</td>
<td>______</td>
<td>______</td>
</tr>
<tr>
<td>Always wrong</td>
<td>______</td>
<td>______</td>
<td>______</td>
</tr>
<tr>
<td>Does not apply</td>
<td>______</td>
<td>______</td>
<td>______</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Mother or father</th>
<th>Friends</th>
<th>Television programs</th>
<th>Radio</th>
</tr>
</thead>
<tbody>
<tr>
<td>Always right</td>
<td>______</td>
<td>______</td>
<td>______</td>
</tr>
<tr>
<td>Usually right</td>
<td>______</td>
<td>______</td>
<td>______</td>
</tr>
<tr>
<td>Undecided</td>
<td>______</td>
<td>______</td>
<td>______</td>
</tr>
<tr>
<td>Usually wrong</td>
<td>______</td>
<td>______</td>
<td>______</td>
</tr>
<tr>
<td>Always wrong</td>
<td>______</td>
<td>______</td>
<td>______</td>
</tr>
<tr>
<td>Does not apply</td>
<td>______</td>
<td>______</td>
<td>______</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Other relatives</th>
<th>Television programs</th>
<th>Radio</th>
</tr>
</thead>
<tbody>
<tr>
<td>Always right</td>
<td>______</td>
<td>______</td>
</tr>
<tr>
<td>Usually right</td>
<td>______</td>
<td>______</td>
</tr>
<tr>
<td>Undecided</td>
<td>______</td>
<td>______</td>
</tr>
<tr>
<td>Usually wrong</td>
<td>______</td>
<td>______</td>
</tr>
<tr>
<td>Always wrong</td>
<td>______</td>
<td>______</td>
</tr>
<tr>
<td>Does not apply</td>
<td>______</td>
<td>______</td>
</tr>
</tbody>
</table>

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.
5. --Continued

<table>
<thead>
<tr>
<th>Professionals</th>
<th>Always right</th>
<th>Usually right</th>
<th>Undecided</th>
<th>Usually wrong</th>
<th>Always wrong</th>
<th>Does not apply</th>
</tr>
</thead>
<tbody>
<tr>
<td>Doctors and nurses</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Teachers in school</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Clergy (minister, priest, rabbi)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>School counselor</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Movies</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Magazines</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Books</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Other sources</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

6. Considering everything, how do you personally feel about young people your own age consuming alcoholic beverages?

<table>
<thead>
<tr>
<th>Opinion</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>I strongly approve.</td>
<td></td>
</tr>
<tr>
<td>I approve.</td>
<td></td>
</tr>
<tr>
<td>I am undecided.</td>
<td></td>
</tr>
<tr>
<td>I disapprove.</td>
<td></td>
</tr>
<tr>
<td>I strongly disapprove.</td>
<td></td>
</tr>
</tbody>
</table>
7. PLEASE INDICATE YOUR OWN HABITS WITH RESPECT TO
THE CONSUMPTION OF ALCOHOLIC BEVERAGES.

I have never drank. _____
I drink several times a year. _____
I drink several times a month. _____
I drink several times a week. _____
I did drink, but I stopped. _____

MULTIPLE CHOICE - PLACE A CHECKMARK BY THE CORRECT
ANSWER IN EACH OF THE FOLLOWING QUESTIONS. IT IS
IMPORTANT FOR YOU TO REMEMBER THAT THE TERM
"ALCOHOLISM" REFERS TO AN ILLNESS RESULTING IN
UNCONTROLLED DRINKING OF ALCOHOLIC BEVERAGES.

8. According to some authorities, the proportion of young people
in the United States who will become alcoholics is one out of

_____ a. fifteen.
_____ b. eighteen.
_____ c. twenty.
_____ d. twenty-five.
_____ e. thirty.

9. In some countries, alcoholic beverages have been used for
centuries as part of the diet. Of the following, in which country
has this custom been most common?

_____ a. England
_____ b. Norway
_____ c. Italy
_____ d. Denmark
_____ e. Canada

10. What percentage of alcohol must be found in the blood before a
person can legally be declared to be under the influence of alcohol?

_____ a. 0.15
_____ b. 0.12
_____ c. 0.10
_____ d. 0.08
_____ e. 0.05
11. The most immediate effects of alcohol are those upon the

_____ a. liver,
_____ b. heart,
_____ c. brain,
_____ d. digestive tract.
_____ e. muscles.

12. Individuals who have accidents while driving when drunk have

_____ a. only erred in judgment.
_____ b. committed a criminal act according to law.
_____ c. not committed a criminal act according to law.
_____ d. committed a grossly irresponsible act which is not punishable by law.
_____ e. only erred against society.

13. Life insurance companies consider alcoholics bad risks because they

_____ a. lack of respect for others.
_____ b. often do not keep up their payments.
_____ c. lack of family responsibilities.
_____ d. will not carry big policies.
_____ e. have a shorter life span.

14. Alcohol taken in small amounts often creates a false sense of well-being. This would

_____ a. increase one's chances of having an accident.
_____ b. decrease one's chances of having an accident.
_____ c. have no effect on one's driving.
_____ d. improve one's driving efficiency.
_____ e. encourage carefulness.

15. Taking a drink of water the morning after considerable beer has been consumed, will produce intoxication

_____ a. never.
_____ b. rarely.
_____ c. sometimes.
_____ d. frequently.
_____ e. always.
16. For the average individual weighing 150 pounds, 3 ounces of pure alcohol taken within a one-hour period will

_____ a. not affect driving ability.
_____ b. make one a more cautious driver.
_____ c. render an individual unfit to drive.
_____ d. increase one's driving skills.
_____ e. make the driver more alert.

17. For the average person, one ounce of alcohol taken on an empty stomach will

_____ a. interfere with reflexes and with coordination.
_____ b. not affect muscle coordination.
_____ c. increase muscle coordination.
_____ d. make one more alert.
_____ e. slow heart action.

18. Loss of judgment and loss of capacity for self-criticism usually occur before there are obvious symptoms of

_____ a. intoxication.
_____ b. delirium.
_____ c. loss of physical control.
_____ d. blurred vision.
_____ e. dizziness.

19. The causes of alcoholism are

_____ a. physical, psychological, and social.
_____ b. heredity and poor environment.
_____ c. nutritional deficiencies.
_____ d. economic depression and poor health.
_____ e. poor social environment and nutritional deficiencies.

20. Alcoholic beverages taken in cold weather will

_____ a. increase the body temperature.
_____ b. lower the body temperature.
_____ c. keep the person from freezing.
_____ d. increase the body's resistance to cold.
_____ e. constrict the blood vessels.
21. Prohibition was ill-received by the American people because of

____ a. economic reasons.
____ b. customs and social reasons.
____ c. lack of public interest.
____ d. lack of enforcement officials.
____ e. lack of publicity.

22. Intoxication is caused by the effect of alcohol on the

____ a. brain.
____ b. lungs.
____ c. liver.
____ d. kidneys.
____ e. muscles.

23. Which of the following statements about alcoholism is false?

____ a. It is a curable illness.
____ b. It is a treatable illness.
____ c. It is a health problem.
____ d. It is due to bad morals.
____ e. It is a social problem.

24. Which of the following procedures would be the best in treating an injured person who is suffering from shock?

____ a. Give the patient a large glass of whiskey.
____ b. Wrap the patient in a warm blanket and give him a glass of brandy.
____ c. Do not give the patient any alcoholic beverages.
____ d. Send for medical aid; then give the patient a big drink of whiskey.
____ e. Elevate feet, loosen clothes and give patient a glass of brandy.

25. Alcohol is useful for

____ a. frostbite.
____ b. shock.
____ c. nose bleeds.
____ d. snake bites.
____ e. industrial purposes.
26. Alcohol is a chemical which acts on the central nervous system to

___ a. depress its functions.
___ b. increase its functions.
___ c. cause nerve irritation.
___ d. poison the central nervous system.
___ e. cause muscle spasms.

27. The same amount of alcohol affects

___ a. everybody in the same way.
___ b. larger persons more quickly than smaller ones.
___ c. smaller persons more quickly than larger ones.
___ d. adults more than teenagers.
___ e. teenagers more than adults.

28. There are several kinds of alcohol, but the one found in alcoholic beverages is

___ a. methyl alcohol.
___ b. ethyl alcohol.
___ c. amyl alcohol.
___ d. wood alcohol.
___ e. denatured alcohol.

29. In the United States, the most commonly used alcoholic beverages are

___ a. the brewed ones--beer and ale.
___ b. brandy, gin, and ale.
___ c. whiskey, gin, and vodka.
___ d. wine and brandy.
___ e. whiskey and wine.

30. The use of alcoholic beverages by young people

___ a. makes boys more manly.
___ b. makes them better dancers.
___ c. makes girls more popular.
___ d. contributes nothing positive to social living.
___ e. cures feelings of inferiority.
31. An organization to help alcoholics rehabilitate themselves is
   _____ a. the Council on Alcoholism.
   _____ b. the Council of Churches.
   _____ c. Al-alon.
   _____ d. Alcoholics Anonymous.
   _____ e. Alateen.

32. Which of the following statements regarding the treatment of frostbite is recommended?
   _____ a. Give the victim whiskey.
   _____ b. Treat victim by rubbing the area with alcohol.
   _____ c. Place victim in hot water and give him a drink of whiskey.
   _____ d. Alcohol neither helps nor harms the victim.
   _____ e. Alcohol can be more dangerous than helpful to the victim.

33. The early treatment of alcoholics is
   _____ a. hardly worth the effort; they all go back to the bottle.
   _____ b. economically sound for the average community.
   _____ c. too costly in comparison to the good it would do.
   _____ d. too costly for the average community.
   _____ e. an impossible task.

34. Aspirin taken with Coca-Cola will
   _____ a. produce intoxication similar to alcohol intoxication.
   _____ b. not produce any type of intoxication.
   _____ c. act as a depressant.
   _____ d. have no effect.
   _____ e. make one less mentally alert.

35. One of societies best methods for the control of alcoholism is
   _____ a. education.
   _____ b. prohibition.
   _____ c. law enforcement.
   _____ d. treatment.
   _____ e. detection.
36. In the United States, the two chief causes of arrest by law enforcement agencies are

   ____ a. assault and intoxication.
   ____ b. robbery and intoxication.
   ____ c. traffic violations and intoxication.
   ____ d. car theft and intoxication.
   ____ e. gambling and intoxication.

37. In the United States, authorities generally claim that alcoholism is the

   ____ a. primary major health problem in this country.
   ____ b. 2nd most important health problem in this country.
   ____ c. 3rd most important health problem in this country.
   ____ d. 4th most important health problem in this country.
   ____ e. 5th most important health problem in this country.

38. The chief characteristic of an alcoholic is his

   ____ a. lack of responsibility.
   ____ b. lack of ambition.
   ____ c. inability to get along with people.
   ____ d. uncontrollable drinking.
   ____ e. lack of education.

39. Alcoholics are

   ____ a. public nuisances.
   ____ b. worthless drunks.
   ____ c. people who need help.
   ____ d. public enemies.
   ____ e. drunken bums.

40. What is meant by intoxication?

   ____ a. Alcohol has had a severely depressing effect on the nervous system.
   ____ b. The individual is highly stimulated.
   ____ c. The individual is physically aggressive toward others.
   ____ d. The body has been poisoned.
   ____ e. The individual has lost self-control.
41. The first step in alcohol breakdown occurs in the
   _____ a. stomach.
   _____ b. body tissue.
   _____ c. liver.
   _____ d. large intestine.
   _____ e. small intestine.

42. Alcoholics have
   _____ a. fewer emotional problems.
   _____ b. fewer delirium tremens.
   _____ c. greater susceptibility to infections.
   _____ d. better diets.
   _____ e. longer lives.

43. The ailments most frequently found in alcoholics are
   _____ a. heart and kidney ailments.
   _____ b. liver and heart ailments.
   _____ c. nutritional ailments.
   _____ d. liver and kidney ailments.
   _____ e. high blood pressure ailments.

44. In controlling compulsive drinking, one must first recognize it as a problem
   _____ a. that he cannot solve alone.
   _____ b. for which he must have help.
   _____ c. for which he must join Alcoholics Anonymous.
   _____ d. that is not his fault.
   _____ e. that is due to his environment.

45. Of the following, which statement is correct?
   _____ a. Some people can be certain before they start drinking that they will not become alcoholics.
   _____ b. Anyone who drinks over a long period of time will become an alcoholic.
   _____ c. A driver can take "one for the road" safely.
   _____ d. The only known cure for an alcoholic is for him to give up drinking.
   _____ e. Alcoholics can drink socially after they are cured.
46. The rate at which alcohol is burned up in the body is
   _____ a. retarded by sleep.
   _____ b. increased by exercise.
   _____ c. decreased by exercise.
   _____ d. an unchanging rate.
   _____ e. increased by drinking coffee.

47. The process of fermentation of grain and fruits for producing alcohol was discovered by
   _____ a. primitive man.
   _____ b. the Egyptians.
   _____ c. the Babylonians.
   _____ d. the Romans.
   _____ e. the Hebrews.

48. A person's life is in danger if the percent of alcohol in his blood reaches a concentration of
   _____ a. 0.10
   _____ b. 0.20
   _____ c. 0.30
   _____ d. 0.50
   _____ e. 0.60

49. Over 90% of the alcohol taken into the body is disposed of through
   _____ a. the kidneys.
   _____ b. the digestive tract.
   _____ c. oxidation (burned up).
   _____ d. the lungs.
   _____ e. muscular activities.

50. Studies on alcohol have proved that it is
   _____ a. a depressant.
   _____ b. a stimulant.
   _____ c. a vitamin.
   _____ d. a poison.
   _____ e. a food.
51. Research studies confirm that for highly skilled work the use of alcohol

____ a. increases total efficiency.
____ b. decreases total efficiency.
____ c. has no effect on work.
____ d. follows no general pattern.
____ e. only affects coordination.

52. The energy produced in the body by the burning of alcohol is

____ a. used up in muscular activity.
____ b. stored in the body.
____ c. used to stimulate circulation.
____ d. used to stimulate the mental processes.
____ e. used to stimulate the central nervous system.

53. In the United States, it is estimated that there are approximately

____ a. five million alcoholics.
____ b. seven million alcoholics.
____ c. nine million alcoholics.
____ d. eleven million alcoholics.
____ e. thirteen million alcoholics.

54. Which of the following statements best describes alcoholism according to physicians?

____ a. It is a mental disorder.
____ b. It is a physical disorder.
____ c. It is a physical and mental disorder.
____ d. It is a criminal problem.
____ e. It is a temporary problem.

55. One of the most effective ways to cut down on automobile accidents due to drinking is believed to be

____ a. heavier fines.
____ b. education.
____ c. jail sentences.
____ d. suspended licenses.
____ e. larger police forces.
56. A moderate drinker may be described as one who drinks

- a. on weekends.
- b. only on or during special occasions.
- c. but does not become intoxicated.
- d. just to relieve tension.
- e. to be sociable.

57. According to the National Safety Council, the largest percentages of all arrests in the nation is for

- a. drunkenness.
- b. theft.
- c. speeding.
- d. gambling.
- e. robbery.

58. The alcolholometer is a scientific device used for measuring the amount of alcohol in

- a. different types of beverages.
- b. drugs produced in laboratories.
- c. solutions used for industry.
- d. the human body.
- e. solutions used in cars.

59. The prevention, treatment, and rehabilitation of alcoholics are the responsibility of the

- a. medical profession.
- b. church.
- c. law and legal profession.
- d. community.
- e. family.

60. Alcoholic beverages are classified according to

- a. type—beer, whiskey, etc.
- b. method of production.
- c. alcohol content.
- d. size of container.
- e. brand name.
61. Knowing the facts concerning alcohol would help young people in

   _____ a. deciding to drink only on rare occasions.
   _____ b. making an intelligent decision about drinking.
   _____ c. being more deceptive with their consumption of alcoholic beverages.
   _____ d. minimizing the hazards of drinking.
   _____ e. their being relieved of any concern about alcoholism.