

STUDENT BEHAVIOR, ATTITUDES AND KNOWLEDGE OF
ALCOHOL AT OKLAHOMA STATE UNIVERSITY

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CHAPTER I

INTRODUCTION

Across the nation there is a growing awareness that alcoholism and problem drinking are major national health problems which make no distinction on the basis of economic status, age, educational level, sex, and sociological indicators. In the past, alcoholism has been viewed as a "moral outrage or a despicable weakness" (1). Therefore, it has been repressed as a topic of discussion, much like sex in the Victorian Age. But now that it is considered "an affliction which, when properly treated can be checked," (2) a new openness about it is surfacing and federal health officials as well as public health personnel, counselors, clergymen, and others are seeking ways to assist individuals and families in prevention and intervention with alcoholism and problem drinking. These efforts have spread to university and college campuses, as is evident from the various studies reported throughout the country since the early 1970s (3).

The primary indicator of this movement on the campuses of higher educational institutions in this country has been the "University 50 + 12" project which involves educational seminars at one college or university in each of the fifty states, plus twelve minority or private institutions of higher learning. These seminars have aimed at gathering information about 1) drinking practices and attitudes on the various campuses, 2) existing programs and needs in the area of the institution,

- 3) dissemination of information about the use and abuse of alcohol, and
- 4) encouragement of the university community to focus on the issue of alcohol use and abuse in order to stimulate new education and communication efforts.

These seminars have identified the following information: that only about fifteen percent of the colleges and universities visited have done anything about problems associated with student drinking (2). Some of them have expressed little concern about drinking on campus, and others felt that there has been a problem but did not know how to take action to minimize or prevent the problem. So, it is evident that where alcohol abuse exists it remains, for a variety of reasons, an untreated problem.

It is a fact that antisocial behavior, if committed by a sober person, is not usually tolerated. However, it is often readily accepted if the person is drunk. But, perhaps the greatest obstacle to action on any campus is the fact that drunkenness has often been viewed as normal and thus it has tended to be an accepted state of affairs. Large numbers of students feel that drinking and drunkenness are acceptable or even "second nature" behavior for college students.

The following quotations are included in The Whole Catalogue of College Drinking (3) as reflections of the attitudes that prevail on campuses throughout the United States:

Drinking is O.K., but getting smashed and kicking in the wall is not okay. Social norms say it is not only okay to get smashed; you're supposed to. That's not intelligent or sensible.

I see a number of kids drinking until they black out at night and then start drinking again in the morning. We're so used to it being a normal part of life that we don't recognize the alcoholic.

Everybody is driving me to 'come on drink, drink.' But you also do it because you want to get drunk, and at the particular moment it is socially acceptable to be plastered out of your mind.

Getting drunk here isn't just socially acceptable--it's encouraged (p. 238).

The above mentioned Catalogue asserts that these quotations have been gleaned from various campus publications. What they indicate is that today's drinking population probably understands alcohol and its effects no better than did people 2,000 years ago. This underscores the need for positive and low-keyed programs to curb abusive use of alcohol.

When Fr. Theodore Hesburgh, president of Notre Dame University, addressed a group of students from around the nation in November, 1975, at Notre Dame University--a group that was present in the name of the "University 50 + 12" project--he spoke of alcohol abuse as one of the enormous problems of our times (3). He was concerned with drinking in the university community and the fact that so much advertising presents drinking as the key to success and happiness as if it were a "problem solver rather than a problem maker." He was well aware that the college/university environment tended to tolerate and, in some cases, to encourage excessive drinking. Dr. David Lewis, director of the alcohol and drug abuse program at Brown University's Program in Medicine and medical director of the Washingtonian Center for Addictions in Boston said carefully, "My main concern is that the social atmosphere of a college allows heavy drinking, and even covers for it. It legitimizes getting drunk" (1). In the light of this statement, and what Fr. Hesburgh had to say, one needs simply to call to mind some of the time-honored songs which inferred that drinking is the thing to

to when one is in college to realize that this is a situation of long standing.

It is worthwhile for a moment to return to a statement of Fr. Hesburgh. He has spoken of alcohol abuse as one of the enormous problems of the times. In the light of this statement, some of the statistics which are available from the Department of Health, Education and Welfare and excerpts from the testimony of Vernon Wilson, M. D., before the Senate Subcommittee on Alcoholism and Narcotics, March 18, 1971, are significant. What was stated indicates where prolonged ignorance and neglect of alcohol problems have gotten us as a society.

Persons with alcohol problems now number more than nine million.

More than half of those who die in highway accidents have alcohol in their blood at the time of the accident.

More than half of the nonhighway accident deaths involve the abuse of alcohol.

Forty percent of nontraffic arrests are for public drunkenness (2,000,000 arrests a year).

One-half of all homicides and one-third of all suicides are alcohol-related.

Alcoholism is the most frequent diagnosis for first admissions to state mental hospitals in over half the states and 25 percent of admissions to general hospitals are alcohol-related.

Americans spend more than \$21 billion annually on alcoholic beverages (3, p. 3).

Along with the above facts and statistics, one more must be added, namely, that the misuse of alcohol and alcoholism costs American society an estimated \$25 billion annually in lost production, health and medical costs, property damage, welfare, and criminal justice system costs (4). All of these statistics speak for themselves. They indicate clearly enough the seriousness of the problem and the way it has affected so

many of today's human and social concerns. They indicate that when Fr. Hesburgh speaks of alcoholism as "one of the enormous problems of our times," he knows whereof he speaks.

During the summer of 1977, the Medical Foundation Inc. of Boston completed a survey for which it randomly selected 291 Brown University undergraduates to complete an anonymous questionnaire on their drinking habits. The results were as follows: 5 percent abstained totally from alcohol; 94 percent indulged infrequently in light or moderate drinking; 2.2 percent of the males and 0.7 percent of the females were heavy drinkers, and 25 percent of the males and 12 percent of the females used alcohol three to four times a week or more (1).

The findings were consistent with other college campus surveys which indicated that 71 to 96 percent of college students drank to some degree (3). Gonzalez (5), director of the Student Alcohol Information Center at the University of Florida, has conducted a survey in conjunction with the Student Health Center. He received responses from 738 students. The results of this survey were as follows:

91.0% males	- said they drank
89.5% females	
4.5% males	- drank less than once a week
12.4% females	
40.0% males	- drank at least once a week
52.0% females	
11.0% males	- drank four or more times a week
2.5% females	
11.0%	- said they sought escape in alcohol

A conclusion from this study indicates that peer pressure is a major factor in the incidence of drinking.

The Whole College Catalogue of Drinking (3) states that many of

the individuals whom they interviewed substantiated the thesis that there has been a switch from other drugs to the drug alcohol over the last few years (1974) and that there has been an increase in alcohol use and abuse. This has been graphically demonstrated by the results of a survey printed in the Maine Campus at the University of Maine in May, 1974. The following results were reported:

Question: "Do you drink alcoholic beverages?"

	<u>1968</u>	<u>1969</u>	<u>1970</u>	<u>1971</u>	<u>1972</u>	<u>1973</u>	<u>1974</u>
Yes	76.1%	81.9%	82.7%	88.3%	83.5%	88.5%	92.2%
No	18.6%	18.6%	17.3%	11.4%	16.5%	10.5%	7.1%

This rise in the number of college students drinking was not surprising since the number of drinkers in the United States has increased notably since 1940. The Second Report to the U. S. Congress on Alcohol and Health from the Secretary of Health, Education and Welfare reveals that a substantial number of teenagers drink. It also indicates that greater proportions of drinkers are consistently found in the younger age group, 21 to 24 years of age (3). Hanson (6) reports from his study that fourteen percent of the students who have ever drunk had taken their first drink before the age of thirteen or fourteen, 32 percent at the age of fifteen or sixteen, 28 percent at age seventeen or eighteen, and seven percent above the age of eighteen. In a majority of these cases, neither parent knew of the first drink.

The inference here was not that the college population was composed of many alcoholic persons or problem drinkers. Rather, it implies that there may very well have been a substantial number of young people drinking who probably gave very little thought to what their use of alcohol could mean in terms of alcohol-related disruptions

and costs. Research in this area is still very limited (7). But the previous quotations refer to people on campuses whose use of alcohol, whether continuous or periodic, results in behavior that disrupts the individual's relationship with school, family or society and often causes serious trouble. However, when this abuse is manifested, it has its impact on all of society.

Statement of the Problem

It has been established that there is a problem in the general population of the United States with the use of alcohol. Statistics indicate that a large amount of drinking takes place and is prevalent among the young. Just how representative these statistics are of the young people at Oklahoma State University in Stillwater, Oklahoma, is not known. There may be problems with drinking among students at Oklahoma State University. Such problems may involve only a lack of valid information about alcohol and its effects, and subsequent results; or it may be a more complex problem. Whatever the nature of any problem, if one does exist, there is information that could be made available to students to help alleviate the problem situation. For this reason, the researcher chose to identify the extent of alcohol consumption among students at Oklahoma State University and to analyze selected variables which may be pertinent to making suggestions and recommendations for prevention, intervention, and remediation of any problem drinking among the students.

Purpose of the Study

The purpose of this study was to determine the use of alcohol among

Oklahoma State University students and identify the relationship of this use to attitudes toward a) alcohol, b) knowledge about alcohol and selected background characteristics such as age, sex, classification of students, c) age at the time of the first drink, and d) perceived outcomes and social setting of drinking at Oklahoma State University campus among undergraduate and graduate students. The findings from this study were used to make suggestions and recommendations for programs of prevention, intervention, and remediation at Oklahoma State University.

Objectives of the Study

The following objectives guided the study:

- 1) to assess the relationship between the respondents' knowledge of the effects of alcohol and the pattern of its consumption;
- 2) to assess the relationship between the respondents' attitudes toward alcohol consumption and their consumption of it;
- 3) to assess the relationship between the knowledge of the effects of alcohol and attitudes toward its consumption;
- 4) to assess the relationship between consumption patterns and the perceived outcomes of drinking;
- 5) to assess the impact of the social setting of drinking and the pattern of consumption.

Hypotheses

In the development of this study, the following null hypotheses were tested:

- H_1 - There is no significant relationship between the respondents'

knowledge of the effects of alcohol and the pattern of its consumption.

H₂ - There is no significant relationship between the respondents' attitude toward alcohol consumption and their own consumption of it.

H₃ - There is no significant relationship between the knowledge of the effects of alcohol and attitudes toward its consumption.

H₄ - There is no significant relationship between the consumption patterns and the perceived outcome of drinking.

H₅ - There is no significant difference between the social setting of drinking and the pattern of consumption.

Limitations

The following limitations were acknowledged by the researcher:

1) The responses to the questionnaire were limited to graduate and undergraduate students at Oklahoma State University, Stillwater, Oklahoma, during the fall semester, 1978.

2) The responses of the sample were limited to those who were willing to participate in the study.

3) The results were limited to responses identified on an objective questionnaire.

4) The responses to the questionnaire were limited to the adapted and pre-tested instrument developed by the researcher.

Assumptions

Basically, this study assumed that:

1) Subjects in the study reported their attitudes and behavior accurately.

2) Subjects in the study were willing to participate and did so

freely.

Definition of Terms

Definitions of terms that are important to this study are as follows:

1) Alcohol: ethyl alcohol (ethanol, $\text{CH}_3 \text{CH}_2 \text{OH}$) when the type is not specifically given is a colorless, volatile, slightly aromatic, flammable liquid, one of the products of fermentation. Distinguished from alcoholic beverages, of which it is the characteristic and essential ingredient, and from other alcohols such as isoprl, methyl, etc. (8) (9).

2) Alcoholic: one addicted to excessive use of alcoholic liquids (8). The terms is synonymous with "alcoholic-dependent person," i.e., one who uses alcoholic beverages to such an extent that it impairs health, family life, occupation, or compromises the health and safety of the community (9).

3) Alcoholism: a diseased condition caused by excessive use of alcohol (8); the wrong or improper use of alcohol (10).

4) Alcohol remediation: providing or recommending a source of treatment for alcoholic-dependent individuals.

5) Attitude toward drinking: the perception or position of the individual vis-a-vis consumption. It is reflected in the feelings and actions of the individual toward alcohol consumption by others.

6) University 50 + 12 project: a project initiated by the National Institute on Alcohol Abuse and Alcoholism during the 1974-1975 school year. It involved visits to colleges and universities in each of the fifty states and twelve minority and private institutions. The purpose

of the project was to gather information on alcohol use and abuse on campuses to disseminate information (3).

7) Intoxicated person: a person whose mental or physical functioning is impaired as the direct result of the consumption of alcohol (9). The term could be used interchangeably with alcohol abuse.

8) Knowledge of alcohol: cognitive information possessed by the individual pertaining to the effects of alcohol, the nature of alcohol, and the result of drinking.

9) Patterns of alcohol consumption: use of alcohol as reflected in the frequency of drinking, extent of use, age of first drink, where drinking takes place, with whom, time of day and/or week, and reasons for drinking.

10) Social setting: where the individual chooses to drink and with whom.

11) Problem drinking: refers to a category or class of socially defined actions which depart sufficiently from relevant and regulatory norms to result in or evoke or imply some sort of social control response, even minimal social censure (10).

CHAPTER II

REVIEW OF THE LITERATURE

Introduction

In recent years, psychological, educational, and sociological journals have been publishing research findings on alcohol use and misuse, dealing with almost every level and every conceivable categorization of citizens in the United States. Misuse of alcohol, especially, has recently become a matter of great concern to industry, schools, parents, clergymen, and society in general, so that even mass media time has been purchased to alert all Americans to the reality of the problem of the misuse of alcohol. This chapter reviews the history of alcohol in the United States and some of the studies which have been done with regard to the population in general, Oklahomans, and college students in particular.

History of Drinking Customs and Attitudes in the United States

Knowledge about drinking habits and attitudes in the United States over the past centuries was limited to information which can be obtained from laws, recipe books, tax records, religious and government reports, travelers' comments, diaries, or the work of writers and artists. No single source can be relied upon for an overall picture. However, the

major facts and trends were fairly clear. From these, one can identify the trends in the pattern of consumption of alcoholic beverages and certain significant social response to these customs (11).

The colonists who came here from England brought with them a constellation of habits and attitudes involving the religion, medical, dietary, recreational, and commercial significance of alcohol, mainly beer and wine. Distilled spirits were generally not yet available until after the 1500s. This was, however, to change in the 18th and early 19th centuries, at which time the distilling industry gained an important place in the economy of the colonies and contributed to the pattern of greater drinking of distilled spirits in place of the consumption of beer. Straus and Bacon (11) reported that recorded imports of spirits in the 1790s approximated a gallon per year for every man, woman, and child. In 1807, it was recorded that Boston had forty distilleries, one for every 625 persons, but only two breweries. Economics of the period favored the growth of the distilleries, not breweries. As for wine, there was not much of domestic industry; only expensive imported wine was available.

The use of distilled spirits increased greatly from early colonial times. During the first half of the 19th century, about ninety percent of the alcohol consumed in this country was in the form of distilled spirits; about six percent was beer and four percent wine. Then, in 1840, a sharp reversal of the trend began, and by 1890, the amount of alcohol consumed in distilled spirits had fallen below that consumed in beer. This trend continued and, in 1950, distilled spirits contributed only forty percent of the total alcohol consumption, beer forty-nine percent, and wine eleven percent. Per capita consumption of

spirits (for those fifteen years old and older) dropped from 4.17 gallons in 1850 to 1.72 gallons in 1950, while for beer, it rose from 2.70 gallons to 23.21 gallons; for wine, from 0.46 to 1.27 (11). This dramatic shift, mainly in the north (the south continued to use distilled spirits as before) in types of alcoholic beverages consumed was significant in terms of effect on behavior. It would have taken twenty-five quarts of beer to equal the alcoholic content of one quart of whiskey. The former, unlike the latter, is not in the range of human consumption.

Along with this shift in the type of beverages consumed, there were other shifts--such as the number of people drinking and the amount consumed. In the United States today, more people consume alcohol than did 100 years ago, but the average consumption is much less. In 1850, for example, the per capita consumption of absolute alcohol for everyone fifteen years old and older was 2.07 gallons; in 1950, it was 2.04 gallons.

Along with the shift in the type of beverage consumed between 1600 and the present, there has been a change in the place of drinking and the kind of users. Before 1700, drinking took place mainly in the home with both men and women using beer and wine, the predominant beverages. Then distilled spirits replaced beer and wine and, with it the tavern, especially in business sections of the city, came to be the place for drinking for men, and no longer the center of community life as had previously been the case. In the 20th century, due to the marked decline in the consumption of distilled spirits and the ten-fold increase in the consumption of beer (except in the south, where whiskey held its own), there has been a decrease in importance of the commercial drinking

establishment and an increase in drinking at home.

The frontier drinking of the 19th century with its boisterous--at times brutal and violent behavior--was rejected as immoral by the families of settlers who moved in behind these frontiersmen to establish communities with churches and schools and neighborhood life. Excessive drinking and the place where it occurred became the symbol of the forces opposed to civilization, progress, and the solidarity of the home. For these people, the word "drinking" meant the brutish swilling of whiskey and its companions: gambling, fighting, and immorality (11).

The "Wet" - "Dry" Struggle

During the colonial period, moderate use of alcohol in the form of ales, beer, and wines, was expected and fully approved, but drunkenness was seen as a moral defect indicative of weak self-control and so frowned upon and even punished. Then, during the Revolution and post-revolutionary period, increased drinking was due to the introduction of high alcohol-content beverages such as rum and whiskey (12). At this same time, however, there was an underscoring of belief in self-reliance and individual achievement to which drunkenness was a definite threat. The result was an ambivalent attitude in which alcohol was seen, on the one hand, as a temporary desirable release from relentless society and, on the other hand, as a major cause of deviation from moral codes and respectable behavior.

A major source of this ambiguity lay in the historical clash which began in the 1830s between those who pressed for complete prohibition of alcohol manufacture and sale--the "Drys," and those who wished to drink freely--the "Wets." At first, the temperance forces relied on

persuasion and propaganda forms of education to put across their message, but in the 1840s, they became more militant. They turned to using legislative action in place of moral persuasion in order to ensure sobriety (11).

The temperance or prohibitionist movement appealed to basic American values such as achievement and self-control, and because they faced little organized resistance, the Eighteenth Amendment was passed and ratified in 1917. Despite this amendment and because the law enacted to enforce it--the Volstead Act--represented a deep inconsistency since only the manufacture, sale, and transportation of liquor was prohibited --not buying, drinking, and making it at home--the value and use of alcohol as a way to enhance the pleasures of social life remained strong. The opponents of prohibition, therefore, were able to organize with ample argument to fight for and to achieve complete repeal of the Eighteenth Amendment in 1933, almost fourteen years after its ratification (13).

Even though America was now legally and politically back where it began, it was not really the same. Wounds were left that still needed to be healed. There were crippling effects of the prohibition era. Chief among these effects was the engulfing of any effort to study alcohol objectively in a maze of half-truths and investives. Neither side had any genuine scientists, but both had prominent apologists who generated spurious statistics.

This struggle served to embed deeper into American minds the belief that alcohol problems develop because of a drinker's moral weakness or lack of will power. Rules and procedures for drinking became more irregular and fractured than before this amendment was passed. The

confusion that resulted in isolated drinking from the social control of such basic institutions as home and church. The excessive drinker came to experience isolation from normal drinkers because "he had lost control of himself."

The battle of the moralist did great damage to the objective study and treatment of alcoholism. The chief damage was to crystallize a stereotype of the alcoholic as a skid-row bum.

By 1920, frontier life was little more than an exciting memory; nevertheless, frontier drinking and its counterpart in the urban centers of the 19th century influenced the pattern of drinking and attitudes about drinking in the mid-20th century. The stigma associated with them was generalized to all drinking. The attitudes stemming from this 19th century experience continued to influence programs of action and belief about drinking and the problem of alcohol (11).

Why Drinking Persists in America

The social costs of alcohol were well published by those who hold the moralistic tradition about alcohol. Its relationship to highway accidents, absenteeism in industry, its role in broken families, its threat to the spiritual life, its relationship to health problems--all of these were well publicized. Yet, drinking alcohol persists, and it does so for a variety of reasons.

First among the reasons that Americans drink is the fact that alcohol stimulates sociability. In fact, many people think of alcohol as a social beverage rather than as a drug. Pfautz (14) reported from a study he made that American best-selling novels have increasingly described drinking as a support for social interaction--as a means of

creating new social groups as well as a help in sustaining hospitality and good fellowship. Alcohol acts to reduce barriers and to promote friendliness among those who are highly individualistic or who lack basic social skills in relating to others in a genuine way. Bruun (15) suggested that alcohol may release exuberance and a free flood of conversation, making it easier for persons to get along. It helps fill the need, felt by many, for a satisfactory primary-group relationship in a society where impersonal, competitive living prevails (16).

Sociability as a reason for drinking has had implications across the whole gamut of life: in young marriages, once the social anesthesia of romance has worn off, it can facilitate coming to know one another better; in the work world, alcohol facilitates such modern values as establishing rapport with other people--being a part of informal cliques; it offers release from the seriousness and routine of daily life and from the pressures in the working situation to achieve success. In other words, it offers release from a less publicized American addiction, "work addiction," also referred to as "getting ahead in the world" (17).

The second major reason Americans drink is that alcohol is quite effective as a tranquilizer. Greenberg (18) confirmed this by studies he conducted. There are few if any organized occasions in American society where release of accumulated tensions can take place. Many drinking situations and drinking groups aid in releasing such tension through increased talking, singing, and dancing. Freud (19), for example, believed that moderate use of alcohol helped many harrassed persons who could not otherwise be compensated. Because of the extreme problem focus, few attempts, if any, have been made to test the notion

that the use of alcohol may aid mental health for many Americans. These positive reasons for drinking are enforced by certain features of American life: individualism, difference in social and cultural backgrounds, and the lack of organized occasions for release of tension.

Alcohol Consumption in the United States

The extent of problem drinking and alcoholism in the United States in this latter part of the 20th century has been the subject of study in recent years. The various methods used in these studies have ranged from the rate-under-treatment method to the community survey method, interspersed with the social indicator and the key informant approaches (20). Using various methods, researchers have come forth with information on the status of consumption in the United States. Cahalan and Cisin (21) found that thirty-two percent of the adult population abstained, while sixty-eight percent were drinkers. It was further indicated that of that sixty-eight percent, fifteen percent were infrequent drinkers, forty-one percent moderate drinkers, and twelve percent heavy drinkers. This latter figure increased to eighteen percent when all drinkers were included, i.e., non-adult drinkers.

This study (Calahan and Cisin, 21) provides a breakdown of these total figures for the adult population in the United States. Among the men, twenty-three percent were abstainers and seventy-seven percent were drinkers; among the women, forty-percent were found to be abstainers and the rest drinkers. Using age as a function of drinking, the statistics indicated that for those between twenty-one and twenty-nine years of age, twenty-two percent abstained and seventy-eight percent drank; for those between thirty and thirty-nine years of age,

twenty-two percent abstained and seventy-eight percent drank; and for those between forty and forty-nine years of age, twenty-nine percent abstained and seventy-one percent drank. As age increased, the abstainers increased in number. Efron, Keller and Gurioli (22) also supplied statistics on drinking in the United States in terms of race. The study indicated that a higher percentage of whites than blacks drank, but a larger percentage of those blacks who did drink were heavy drinkers when compared to white drinkers.

In summary, the United States' population over fifteen years of age included about sixty-eight percent who drank, with eighteen percent of those classified as heavy drinkers (21). Consumption for drinkers averaged 2.7 gallons of absolute alcohol per year (1973), with the heaviest drinkers consuming a higher percentage of the alcohol produced. And historical trends have indicated a continual rise in consumption with decreasing and relatively modest (three percent) expenditure rates for alcohol prevention (22).

Haglund and Schuckit (23) reported the following estimated number of alcoholics for specified years using the Jellinek formula to arrive at the figures. (The Jellinek formula specifies a relationship between liver cirrhosis mortality and alcoholism among heavy drinkers. The prevalence of alcoholism is determined by a special formula.) In 1940, it was estimated that there were 2,632,000 alcoholics over the age of twenty from a total population of nine million problem drinkers (23). (Diagnostic criteria defined the boundary between problem and alcoholic drinking for these figures.) The ratio of men to women ranged from 3:5.1 to 5:1 (24), the lesser figure being estimated from an urban area and the latter figure from the entire country. From these

estimates, it seems that alcoholism has increased sharply since 1945.

Studies of treatment groups in general medical and psychiatric facilities have provided an understanding of the nature and the extent of alcohol-related disorders in treatment settings. Primary and secondary alcohol problems appear in up to fifty percent of hospital admissions. For various reasons, e.g., the influence of local legislation or administrative policy, the finding cannot too easily be generalized beyond the treatment groups.

The distribution of heavy drinkers in a normal (non-treatment population or among sub-groups, e.g., blue collar workers) was obtained, typically, by sample survey methods (25). However, a summary of these survey findings was complicated by diversity in method and study samples in the published literature (25). One of the most stable elements in these studies was the sex ratio. Haglund and Schuckit (23) found that certain sub-groups showed a much higher problem level, viz., college and military groups. These researchers also pointed out changes in the pattern and volume of beverage alcohol use, with an increasing number of women among the heavy drinkers. Certain occupational groups seemed to have had much higher rates of problem drinking as did specified ethnic and racial populations.

Comparison With Other Societies

In the United States there is no uniform drinking custom. Rather, drinking remains many things for many people. The meaning that drinking has is affected by variances in age, sex, social class, ethnic and religious groups, and rural versus urban living. Each of these variables makes for differences in quantity, frequency, and social meaning.

Nor are social sanctions uniform. Unlike Italy, for example, where clear traditions control drinking behavior, the United States has a high incidence of alcohol problems.

France, on the other hand, has a very consistent and widely accepted drinking custom but it also has had a high incidence of alcohol pathologies. According to Jellinek (26), alcohol in near-intoxicating amounts is regularly in the bloodstreams of many French workers most of the day and evening. And though not obviously drunk, the continuous presence of alcohol in their system leads to high tissue tolerance which, in turn, leads to high drinking. Jellinek classified this type of alcoholism as "Delta" alcoholism. Physiological symptoms such as increased tissue tolerance and withdrawal symptoms do occur, but the intense psychological misery and social rejection do not take place as they do in the "Gamma" type of alcoholism predominant in America. And the reason for this is that for French people, intoxication is not an intermittent behavior but a daily, regular matter in no way laden with guilt as it probably would be for Americans. The French accept heavy wine drinking as not only desirable and healthy, but as socially necessary. The Italian attitude toward the abstainer is one of indifference, but in France the nondrinker meets with ridicule and contempt (26).

In pre-literate cultures such as that of Camba of eastern Bolivia, one finds a clear contrast to drinking behaviors in America. Heath (27) reported that social activities are almost nonexistent in this culture except for fiesta. At this time, the people congregate in village streets or houses in small groups to drink a distilled cane-liquor of high alcoholic content. The fiesta lasts for two and three days, and groups of drinkers imbibe steadily during the entire period. No drinker

is rejected because of his behavior. And while children are excluded from the drinking, they do perform chores such as carrying away empty bottles and going to the sellers for new ones. The Camba appears never to drink except during these fiesta periods, and solitary drinking is unthinkable. Heath says that alcoholism as one knows it in America, does not exist. The Camba has no fear of the results of drinking alcohol, no guilt, and experiences no harmful effects on his work.

The social values of the Camba provide a base for acceptance rather than rejection of drinking and drunkenness. This is in obvious contrast to the situation in American society. If a Camba drinker should be rejected--which would not occur--he would not find another group with whom to drink. In the United States, however, after rejection by one drinking group, a drinker has many opportunities to find tolerant companions.

Devereux (28) studied other pre-literate culture--that of Mohave Indians who inhabited the Northwest in North America, and the Andean Indians. He reported that with even minor ambivalence toward drinking alcohol, no types of alcoholism existed. These Indians recognized the value of alcohol as a way to lessen inner strain and to promote integration and strong bonds within the tribe. Though they showed some mild concern about the results of heavy drinking, getting drunk was not reprehensible, and no guilt feelings resulted.

What can be said About American society with both literate and simple societies as a background? The long-standing confusion and lack of uniform values concerning alcohol have already been noted. Though this ambivalence is not enough of itself to foster alcoholism, it does

set the stage for the isolation of the excessive drinker and it weakens social controls. The excessive drinker becomes socially isolated because he is unable to drink without becoming too intoxicated and the social value of will power is esteemed, and he should be able to do so. When he repeatedly cannot, his peers become disgusted and he is slowly assigned the role of pariah, is exiled, and thus further encouraged to become an alcoholic. Along this path there is a peculiar intermingling of rewards and punishment, but no clear negative sanctions that regulate and define how to drink.

Alcohol consumption and alcoholism rates in the United States as compared to selected foreign countries indicate that France stands out with very high consumption; Norway and Finland with very low consumption levels, and the United States is near the middle (see Table I):

TABLE I
ALCOHOL CONSUMPTION AND ALCOHOLISM RATES AMONG
SELECTED NATIONS

Nations	Consumption*	Alcoholism Rates**
France	25.9	9.4%
Italy	20.0	5.9%
United States	12.0	2.2%
England and Wales	10.9	1.9%
Ireland	10.9	1.9%
Norway	5.9	0.95%
Finland	5.9	0.95%

*liters of alcohol/drinker
**liters of alcohol/drinker
age 15 or over (22)

Consumption of Alcohol in Oklahoma

The Oklahoma State Department of Mental Health (29) indicates that "alcohol abuse continues to be one of the most serious social and medical problems affecting Oklahoma communities." Figures show the extent of alcohol abuse in the state based on three procedures for estimating the prevalence of alcohol abuse, viz., the Jellinek (30), the Popham (31), and the Schmidt (32). The results of the study indicate that the number of estimated alcoholics in Oklahoma, based on a moving average for 1972, 1973, and 1974, ranged from 62,337 to 71,766. Using the 1975 mortality rate for Oklahoma, the formulas of Jellinek, Popham, and Schmidt yielded, respectively, 68,585, 68,388, and 83,131 estimated alcoholics. For 1976, these formulas produced 91,643, 91,379, and 73,648, respectively.

Mardin (33) developed a method for determining the number of problem drinkers according to selected socio-demographic variables. According to this method, the estimated number of problem drinkers in Oklahoma during 1970 was 151,797, or 9.32 percent of the state population age twenty or over. These particular data do not contain information for teen-age problem drinkers. However, it must be noted that Cahalan, Cisin and Crissley (34) indicated that approximately five percent of the nineteen and younger age group have problems associated with their personal use of alcohol. When these additional 17,143 teenagers were added to the number of adult problem drinkers in Oklahoma, i.e., 8.6 percent of the state's 1970 population were age thirteen and over.

Alcohol consumption within the state is another indicator of possible alcohol problems. There has been a sizeable growth of such consumption since 1970 (34). This is estimated by the increase in the

gallonage of alcoholic beverages sold, especially the sale of beer (see Table II).

TABLE II
ALCOHOLIC BEVERAGE SALES IN OKLAHOMA EXPRESSED IN
MILLIONS OF GALLONS*

Type of Alcoholic Beverage	1971	1972	1973	1974	1975	1976
Distilled spirits	3.6	3.5	3.6	3.8	3.9	3.8
Wine	2.1	2.2	2.2	2.0	2.2	2.2
Strong beer	1.8	1.9	2.3	3.3	3.7	4.0
Weak beer	32.3	34.7	36.7	39.6	41.4	43.8

* Source: Oklahoma Alcoholic Beverage Control Board (35)

The increase in tax revenue generated by the sale of these beverages is another indicator (see Table III).

Still another indicator of alcohol-related problems is alcohol-related deaths, which have risen from forty-two in 1956 to 276 in 1976 (22). While some of this increase can be attributed to increased efficiency in reporting and increase in population, it is felt that there has been a substantial increase in occurrence of alcohol-related deaths. During 1976, there were 226 alcohol-related accidents involving fatalities in Oklahoma.

Drinking and driving continue to be a serious side effect of problem drinking. During 1976, there were 21,877 arrests for DUI. In

1982, there was a total of 7,116 alcohol-related collisions in Oklahoma. In 1976, the number of alcohol-related collisions rose to 8,967; in the previous year it was 13,105.

TABLE III

STATE ALCOHOLIC BEVERAGE AND BEER TAX REVENUE IN OKLAHOMA*

Fiscal Year	3.2% Beer Tax	Alcoholic Beverage Tax
1970-71	\$10,299,673.79	\$ 9,837,643.53
1971-72	11,256,536.55	18,165,341.37
1972-73	12,331,298.81	17,781,604.60
1974-75	12,769,137.05	16,659,217.04
1975-76	13,628,192.52	18,962,687.35

* Source: Oklahoma Tax Commission (Federal taxes are not included)(36).

These figures serve to demonstrate the rise in problem drinking and alcoholism in Oklahoma. They have kept pace with the nation.

College Students and the Consumption of Alcohol

The classic study on colleges and drinking was done by Straus and Bacon (11) a quarter of a century ago. It was the ground-breaker in such studies. The findings of this study have become a reference point for all other studies on college students and drinking patterns.

The Straus and Bacon study was initiated in 1947. Actual data were collected by the survey method during 1949-1951. The study

involved twenty-seven colleges selected to represent different types: public, private, and sectarian institutions; coeducational, mens' and womens'; white and black; urban and rural; with large and small enrollments, and in different regions of the country. Within each of these institutions a sample was obtained for the survey by selecting class groups which approximated the total student body with respect to sex, college year, and major field of study. And while the students represented the total enrollment of the twenty-seven particular colleges, they were not necessarily representative of all segments of American college youth. They included intentionally a somewhat disproportionately large number of Mormon and Jewish students--a fact which appeared to be a weakness of the study because of their unique sanctions with respect to drinking.

The technique employed in the study was a survey questionnaire, supplemented by discussions with students, faculty members and administrators, and by general observations made at each college by members of the survey staff. Questionnaires were administered to 17,000 students. Seven hundred of these participated in a series of pre-tests, which aided in eliminating ambiguous or irrelevant questions. Of the 16,300 students who filled out the final version of the questionnaire, the responses of 15,747, or 96.6 percent, were used in the analysis.

Students had such diverse backgrounds and represented so many different social groups that it was dangerous to generalize about their behavior. Of the students who participated in the drinking survey, three-fourths (74 percent) reported having used alcoholic beverages to some extent, while a quarter (26 percent) reported having always been abstainers. There were twice as many women among the abstainers (39

percent) as among the men (20 percent) who took part in the study (11).

The findings indicated that the incidence of drinking increased with each college year. The study showed that for men, there was an increase in drinking from sixty-nine percent among the freshmen to eighty-seven percent among seniors. Each advancing year increased the probability that experimentation in the adult custom of drinking would be tried. The study also found that a majority of the college students who drank, started doing so before entering college. Four out of five of the men and two-thirds of the women who had ever used alcoholic beverages, had their first drink before coming to college.

The Straus and Bacon (11) study underscored the fact that the use of alcoholic beverages is a social phenomenon--a custom--and therefore the statistics generated by the study were affected in any given college by the balance or change of that balance of students from a particular social environment. College men and women do not select their parents, their sex, or their ethnic affiliation; few determine their religious affiliation or the incomes or drinking patterns of their parents. Yet, these few factors, especially when combined, may be seen to be of considerable importance in determining what behavior is likely to be adopted.

Research concerning alcohol usage among today's college students is somewhat limited. An Eric search during the summer of 1978 revealed that the subject of alcohol usage on campuses is often considered of secondary importance to the non-medical usage of illicit drugs. This seeming indifference to alcohol usage which involves abuse may very well derive from the very common use of alcohol within the general population, as described in the previous sections. This is reflected in

the attitude of many parents who reported to be relieved to discover that their son or daughter was turning from "pot and pills" to alcohol (3). Recently, popular and scientific literature seems to indicate an increase in alcohol consumption among pre-college and college age students during the past decade. In 1973, Newsweek magazine published some findings in an article entitled "The Latest Teen Drug: Alcohol" (37). The bearing of the article was that the current trend is toward excessive consumption of alcohol among the nation's young. The article stated that one teenager out of every twenty in southern California has a "drinking problem." Along with these claims by the Newsweek article, Globetti (38) claimed that three-fourths of America's youth will decide to use alcohol before they are legally entitled to do so, while approximately five to ten percent will eventually become adult problem drinkers. That is, of course, if some effort is not made through preventive and interventive methods based on research to stem the rising tide of problem drinking among youth.

Some important studies have begun to appear on consumption of alcohol among college students. Among these is the study of Hanson (39). He examined the drinking attitudes and behaviors of 3,969 college students during years 1970-71 in thirty-seven colleges and universities in the United States. Prior to this time, little attention had been focused upon drinking among college students since the classic, ground-breaking study by Straus and Bacon (11), Drinking in College (1953).

Of the 3,696 respondents in Hanson's study (39), forty-seven percent were male and fifty-three percent were female. The majority (57 percent) were either eighteen or nineteen years of age, while

twenty-seven percent were either twenty or twenty-one years of age. Most students were freshmen (38 percent), followed by sophomores (34 percent), juniors (17 percent), and senior year status (9 percent). Catholics constituted twenty-two percent of the sample; Jews comprised two percent; Protestants were fifty-seven percent; Mormons constituted eleven percent, and nine percent reported none or another religious affiliation.

Fifteen percent (554) reported never really having had a drink, while twenty-three percent (850) considered themselves nondrinkers. Eleven percent of the sample (406) reported that they took a drink only on special occasions like New Year's Eve and weddings; forty-four percent (1626) reported that they drank at parties and other special occasions, and twenty-two percent (813) revealed drinking either often or regularly (39).

Beer and liquor were both popular beverages. Beer was reported having been drunk "about once or twice a month" or more often by 69.3 percent (2576) of the drinkers, with 69.3 percent (2561) reporting a comparable consumption frequency for liquor. Wine was drunk as often by only forty-six percent (1700) of the drinkers. Moderation was the model pattern of consumption (39).

Of the responses, thirty-two percent (1182.7) reported that they drink alone. Thirty-one percent (1145.7) reported usually doing most of their drinking at parties and dances, and an overwhelming majority (75 percent) usually drank most often with friends--few (8 percent) usually drank most often with parents, siblings, or other relatives (39).

Another of the important studies to appear recently was that done

by Fillmore (40). He conducted a twenty-year followup study on data collected earlier by Straus and Bacon (11) in 1949-51 from 17,000 students. The data Fillmore collected in 1971-72 for this followup study incorporated a stratified sample of 206 of these persons, and dealt with the quantity of drinking per occasion, the frequency and signs of problem drinking, and their association over the two periods of time. The study provided exploratory data regarding early drinking experiences as related to later drinking, with an emphasis on early problem drinking as a "predictor" of problem drinking twenty-years later. The findings suggested that early problem drinking was significantly related to later problem drinking over a twenty-year period--that there was a real shift with age toward moderation in regard to quantity of drinking and problem drinking. Another idea included in the study related to the point in time when long-term problem drinking commences. At least fifty percent of the drinkers at both measurement points who were problem drinkers in their late 30s and early 40s showed signs of problem drinking early in life.

Another concept supported by Fillmore's research was that quantity and frequency of drinking were more highly related in middle-age to problem drinking than in the late teens and early twenties. In fact, the findings suggested that simple counts of numbers of time or numbers of bottles, glasses, etc., do not provide a great deal of insight into human behavior over time--not even into drinking behavior. Quantity and frequency of drinking seemed to be on a different level of questioning than was the problem-drinking measure. Although all three variables "count" and quantify behavior, a problem-drinking set of questions was more intimately tied to human experience. It got into

the reasons and inner context of the act although from a back-door, negative approach, and so was more productive. Still another finding from this study was that frequency of drinking played an extremely minor role, whereas quantity of drinking as a predictor, especially for men, was valuable.

A final concept that came forth from the Fillmore study was that there were differences between men and women in their drinking patterns. The findings supported the well-documented fact that the proportion of problem drinkers among women was lower than among men and that women on the whole drank less frequently and less in terms of quantity than did men. However, it was not necessarily a common half-notion that early quantity of drinking was significantly related to later quantity of drinking among men whereas there was no such relationship among women. It is well to mention here that Fillmore (40) found that men tended to establish their drinking pattern early in life in the context of all-male drinking groups--usually after marriage. But among women, early alcohol problems were more serious in terms of the future than among men. One other conclusion that Fillmore arrived at was that pre-alcoholics and pre-problem drinkers could be isolated if more researchers would engage in longitudinal studies, and so prevention could become more of a concrete reality.

Rogers (41) suggested special, complicating factors from the campus which determine drinking patterns. He studied the influence of reference groups, and concluded that variables such as fraternity membership seemed to affect drinking behavior.

The sensitive findings . . . suggest the need for further research on the influence of reference groups on drinking, both among college students and in other segments of the

population (p.248).

A very early study of college drinking by Fry (42) in 1945 noted this: "Drinking is a common index of a college student's emotional reactions to a complex variety of situations and problems in life . . . his novel environment." Fry searched for possible motives for college drinking in the need for good fellowship and employment of drinking as a status symbol in describing the difficult period of adjustment which many students experience. He developed with great poignancy a more diffuse, yet more telling motivation for problem drinking:

There are many hangers-on, students on the fringe, who turn to the inns and the drinking spots for their social life. They belong to no group or clique. They may be quite solitary, isolated in the college community. For them drinking is more than just a need for companionship and acceptance . . . Their life situations are usually consciously intolerable (p. 244).

This description characterizes rather well the intensely pressured social setting of many college campuses. Feelings like these coupled with the mere novelty of the campus setting and the recurring demands for adjustment may well be more apt motives for drinking than the specific, detailed items sometimes suggested.

Jessor, Carman and Grossman (43) sought to confirm the hypothesis that "alcohol may serve an alternate behavior for attainment of goals otherwise unattainable for coping with failure to attain valued goals." In studying perceived needs for affection and achievement, the analysis revealed that the lower the expectation of needs satisfaction, the greater the recourse to alcohol and alcohol-related consequences. In this study, the researchers claimed a start in the direction of relating personality factors to variations in the use of alcohol among youth of college age.

Reasons for Drinking

Straus and Bacon (11) supplied their subjects with a thirteen-item checklist to indicate their reasons for drinking. The results indicated that the leading motivation for drinking was "enjoyment of taste." Seventy-one percent of the men and sixty-nine percent of the women gave this as their reason for drinking. The researchers found this difficult to explain, even after seeking significant differences for types of beverages. They finally did so by appealing to the concept of the "rational man." The rational man seeks a sensible, logical explanation for all behavior and phenomena.

The Straus and Bacon study found that reasons having primarily social connotations, e.g., "to comply with custom," "to be gay," "to get along better on dates," were generally considered of greater importance than those suggesting primarily a psychological motivation, e.g., "an aid to meeting crises," "for the sense of well-being," and "in order not to be shy." They also found that there was a high degree of agreement between men and women as to the relative importance which they assign to each reason for drinking. In only two instances did the ratio of women ascribing importance to item exceed that of men by even as much as five percent--women to a greater extent than men--thought they drank in order to get along better on dates and in order to relieve illness or physical discomfort.

Another finding of the Straus and Bacon study of interest was that the greatest discrepancy between the sexes was in items associated with the effect from drinking--such as to "get high"--which was noted as of importance by forty-seven percent of the men and only seventeen percent

of the women, and "to get drunk" was important for sixteen percent of the men and only one percent of the women. Only twelve percent of the women as compared to twenty-six percent of the men noted drinking "as an aid in forgetting disappointments."

One final note of interest was the response to the "to relieve fatigue or tension" item. Fifty-four percent of the men and forty-three percent of the women indicated this as a motivation for their use of alcoholic beverages.

The Hanson study (39) is the second classic study on alcohol and college. Overall results from this study have been indicated above. However, part of the study dealt with reasons for drinking. He compared the motives for drinking habits of 3,696 students at thirty-seven colleges and universities with the motives found in the Straus and Bacon study of some twenty years previous. Hanson found that drinking to develop happiness and to comply with customs has increased markedly during the past two decades, whereas drinking to reduce fatigue has decreased somewhat.

Another finding of Hanson in reference to the motives for drinking was that twenty-five percent of all drinkers say they drink "when things get me down;" sixteen percent drink "because it helps me to forget my worries," and nine percent drink "because it relieves me and makes me ready to face things." Similarly, fifty-three percent of the drinkers agreed with the statement that "alcohol makes me feel more confident in myself;" sixteen percent replied affirmatively to the assertion that "alcohol helps me feel more satisfied with myself;" and nine percent asserted that "alcohol helps me forget I am not the kind of person I really want to be."

In a study which Penn (7) did with 1449 students at Oregon University, he found results similar to those of Hanson (39) in answer to the question: "How much value do you feel alcoholic beverages can have as a means of tension relief and relaxation?" Thirty-seven percent felt that it had value as a means of relieving tension; three percent of these thought it had great value for this purpose. Thirty-one percent were uncertain as to its value in this regard, and thirty-two percent felt it had no value in reference to tension reduction. In this study, an observable difference showed up between the responses of sorority women and students in other types of living groups. The sorority women, relatively speaking, stood out as seeing "great value" in alcohol use as a means of tension relief. Overall, however, students living in cooperative, more than any other group, believed that alcoholic beverages were of little or no value as a means of relaxation.

Kalin, McClellan and Kahn (44) reported a very interesting and positive conclusion from a study they did among college students, viz., that alcohol frees one to consider more easily those ideas and concepts which in psychoanalytic assumptions are pleasurable to consider. In other words, the researcher suggested a positive reason for drinking as opposed to the relief of tension as a reason for social drinking.

In 1973, the Indiana University Drug Commission reported that eighty-seven percent of over 4,000 students responding to a questionnaire indicated past and present use of alcohol. Many indicated that the primary purpose of their drinking was to get high (35). When getting high, lost, or loaded was the primary purpose of drinking, the results could be loss of usual inhibitions, resulting in behavior that could be hostile, aggressive, destructive, and harmful to others.

Drinking has served a variety of social and psychological functions. It has been reported to "solve" personal problems and to cope with frustrations, failure, and the anticipation of failure. Jessor, Carman and Grossman (43) conducted a study on this particular function of drinking in the adaptation of college students to the demands and opportunities of the college environment. They conducted their study within the context of a social learning theory of personality. Among the many needs or motivations involved in the goals toward which students strive, the researchers isolated two which seem to be of pervasive importance: the goal of academic achievement or recognition, and the goal of social affection or interpersonal liking. Failure to attain these goals should have major consequences for the student; it should lower his or her expectations of future attainment in these areas and result, theoretically, in recourse to other activities learned in the past to be ways of achieving the same or similar goals. Among these other learned activities available to college students for dealing with low expectation of attaining valued goals is the drinking of alcoholic beverages. The researchers theorized that, given the sharp competition in the academic and social spheres of campus life, low expectations of attaining academic success and peer affection were inevitable among some students. Given also the general availability of alcohol to persons of college age, some degree of relationship should exist between expectations of goal attainment or need satisfaction and patterns of drinking.

This general hypothesis of the Jessor, Carman and Grossman (43) study was tested in two phases. In the first, the relationship between expectations of need satisfaction and certain aspects of the pattern of

drinking behavior was tested. The assumption was that students with low expectations of need satisfactions and certain aspects of the pattern of drinking behavior were tested. The assumption was that students with low expectations of need satisfaction would show greater recourse to alcohol; they would drink more, be drunk more often, and have more drinking-related social expectations. This led to the second phase of the study, investigating the relationship between expectations of need satisfaction and the functions of alcohol which the subject describes as applying to his own use. The assumption here was that subjects with low expectations of need satisfaction would more frequently describe or define alcohol as providing them with alternatives for goal attainment or with a way of coping with frustration and failure. The data obtained from the study provided initial evidence for the inference that drinking behavior may function, at least in part, as an alternative mode of coping with the lack of their attainment. There were important implications from this study for a campus program of alcohol awareness and for counselor involvement with students, for this was a start in the direction of relating personality factors to variations in use of alcohol among youth of college age.

Reasons for not Drinking

Straus and Bacon (11) found that sanctions against drinking which originated in the church or with religious leaders did not appear to be associated directly with abstention by college youth, but they did play a major role in the decision to abstain. They provided all non-drinkers and former drinkers with a checklist of possible reasons for abstention and asked them to check the most important reasons for

abstention. Factors of religion were listed as most important by thirty-four percent of the male abstainers and as second most important by an additional eighteen percent; as most important by thirty-seven percent of the female abstainers and as second most important by an additional twenty percent of the females. So, of the students who abstained, over half listed factors of religion as major reasons for not drinking. In contrast to this, just a third of the students listed disapproval by parents or friends as reasons for not drinking. The researchers did not consider these findings consistent with the incidence of drinking and the source of advice to abstain.

The Straus and Bacon study found that the majority of students who abstained did so because they either did not like the taste; it made them ill; or they thought it detrimental to health. A full thirty-five percent of the men and an equal percentage of the women indicated their reasons for abstaining. The question of sports as a reason for abstaining received very little response. However, another part of the study indicated that athletes did "go on the wagon" from time to time for reasons of sports.

Knowledge of Alcohol

Few studies in recent years have reported investigating the knowledge of the effects of alcohol and drinking of college students. What studies have appeared, reported on drinking behavior, for the most part.

The few studies that researched knowledge on the effects of alcohol reported a general lack of knowledge about mood modifiers including alcohol. Only one study was found which indicated that students had an adequate knowledge of alcohol and drugs. This study was the School

Health Education Study, by Sliepcsevitch (45). This 1963 study examined the health knowledge and practices of students in public schools. The study found that about eighty-two percent of high school students correctly answered questions concerning alcohol and drugs.

Rankin et al. (46) reported on a study they did with 720 males and 317 high school seniors in 1969. They found that only ten percent of the total group had adequate knowledge about alcohol and its effects. Pollock (47), studying 465 college students' drug and alcohol knowledge in California, found that out of sixty-two questions, there was a mean of about thirty-five, or less than fifty percent answered correctly by the total group. In 1975, Evans et al. (48), with a sample of 635 students on the West Coast, reported that the mean or correct response concerning questions about alcohol was about forty-one percent. Campbell and Early (49) in 1968, using the Kilander Health Knowledge Test with forty-nine Texas College students, found that females had a significantly higher level of knowledge of alcohol and drugs than did males.

Engs (50), however, using this same instrument in 1973 with 100 volunteers for crisis intervention centers, composed primarily of students in the southern states, found that males had significantly higher scores than did females. Engs (51) also surveyed students at institutions involved with the "50 plus 12 Project" to determine their knowledge about alcohol so as to provide information for college health educators as an aid in program development and to determine the relationship of knowledge about alcohol to selected demographic factors. Of thirty-six possible correct answers, the total group obtained a score of 20.08, which represented fifty-six percent or a little over

half of the questions being answered correctly. Many respondents adhered to common myths about alcohol. Approximately thirty-two percent subscribed to the myth that alcohol is a stimulant; forty-eight percent thought that drinking coffee or taking a cold shower was an effective way of sobering up.

There were many misconceptions concerning the action of alcohol on the body or facts about beverages. About eighty-one percent of the students failed to know that the legal definition for intoxication in most states regarding driving was 0.1 percent Blood Alcohol Concentration (BAC). Sixty-two percent failed to know that proof on a liquor bottle represents twice the percentage of alcohol in the product, and about sixty percent failed to know that drinking milk or eating before consuming an alcoholic beverage could slow down the absorption of alcohol.

These results appear to confirm the opinion of faculty and student health and counseling personnel that there is, indeed, among college students, a lack of knowledge about alcohol and its effects. It also appears to indicate that past efforts of alcohol education have been fairly fruitless.

Summary

The history of the use of alcohol in this country was reviewed. It was seen that economics dictated the types of alcoholic beverages that were popular at a given stage in the history of the United States. It was further seen that as the country became more settled, the traditional rejection of drunkenness as evil received a new dimension with the presence of distilled spirits. More and more emphasis was placed

on avoiding excessive drinking as a sign of moral weakness--a fact which became the basic rationale for the temperance movement.

The question of the consumption of alcoholic beverages in the United States both past and present was investigated, and statistics given. The same was done for the State of Oklahoma.

Finally, the subject of college students and drinking was investigated. Some of the studies which dealt with college campuses both past and present were reported on, and research findings of a more specific nature were given.

In general, studies on colleges and drinking are still very limited. And those that have been done have limited value for a given campus because of regional differences and student body composition. But they are valuable in many respects because they indicate changes that have occurred in time; they serve as a point of reference for comparisons; and they suggest relationships between certain variables and demographic information.

CHAPTER III

METHODOLOGY AND RESEARCH DESIGN

The purpose of this chapter is to describe the research methodology employed in the present investigation. Included will be a statement on the type of research involved, a description of the subjects, the instrumentation, data collection, and statistical analysis of the data. The discussion will be summarized at the end of the chapter.

Type of Research

This is basically exploratory and descriptive research in view of generating hypotheses to be tested. Therefore, the survey method has been used in order to provide information useful for the generation of hypotheses. Nevertheless, five hypotheses have been formulated and tested as a part of the study.

Subjects: Population and Sample

The subjects for this study were selected randomly from the total population of undergraduate and graduate students, and were stratified across the six colleges plus Vet Medicine. All subjects were enrolled at Oklahoma State University, Stillwater, Oklahoma for the Fall Semester, 1978.

The sample of 914 undergraduate and 161 graduate students was selected by the Oklahoma State University Computer Center under the

direction of the office of Administrative Systems Development. The population (22,276) was stratified on a five percent basis by college and sex to ensure that the selected population was representative of the total student population. The Colleges included in the stratified sample were the College of Agriculture, the College of Arts and Sciences, the College of Business, the College of Education, the College of Engineering, the Graduate College, the College of Home Economics, and the College of Vet Medicine. Graduate students were officially listed in the Graduate College, but for purposes of this study they were judged to be affiliated with the college in which they were pursuing a degree.

Background Information of the Respondents

The data in Table IV reports by number and percentage the age of the 590 students who participated in the study. One hundred and fourteen (19.4 percent) were 18 years old and under; 270 (46 percent) were between 19 and 21 years of age; 102 (17 percent) were between 22 and 24 years of age; 77 (13.1 percent) were between 25 and 34 years of age; and 24 (4 percent) were 35 years of age and over.

The data in Table are reported by number and percentage on the distribution by sex. During the Fall Semester of 1978 at Oklahoma State University, of the total population of 22,276 students, males represented 59 percent (13,143) of the student population, and females 41 percent (9,133). The respondents in this study were also about equally distributed according to sex. Three hundred and six (52 percent) were male and 281 (47.9 percent) were female.

TABLE IV
AGE AND RESPONDENTS BY NUMBER AND PERCENTAGE (N = 587)

Age	Number	Percentage
18 and under	114	19.4
19-21	270	45.9
22-24	102	17.3
25-34	77	13.1
35 and over	24	4.0
Totals	587	100.0

TABLE V
SEX OF RESPONDENTS BY NUMBER AND PERCENTAGE (N = 587)

Marital Status	Number	Percentage
single	466	80.1
married	103	17.7
divorced	13	2.2
Totals	582	100.0

The data for the marital status of the respondents are reported by number and percentage in Table VI. The majority of the respondents were single--406 out of 582 (80 percent). One hundred and three (17.7 percent) were married, and 13 (2.2 percent) were divorced.

The data for race of the respondents are given in Table VII by number and percentage. These data show that the majority of the students who participated in the study 512 (87.3 percent) were Caucasian;

the second largest group was the International students, 42 (7.1 percent), followed by Native Americans, 16 (2.7 percent). Black Americans were next in order, nine (1.5 percent), and then Spanish Americans, seven (1.2 percent). It is not known how the small population other than the Caucasians, influenced the data. But since the study was a random sample of the total student population, it was not proper to study subgroups but to note their presence.

TABLE VI

MARITAL STATUS OF RESPONDENTS BY NUMBER AND PERCENTAGE
(N = 582)

Marital Status	Number	Percentage
single	466	80.1
married	103	17.7
divorced	13	2.2
Totals	<u>582</u>	<u>100.0</u>

TABLE VII

RACE OF RESPONDENTS ACCORDING TO NUMBER AND PERCENTAGE
(N = 586)

Race	Number	Percentage
Caucasian	512	87.4
Black American	9	1.5
Native American	16	2.7
Spanish American	7	1.2
International Student	42	7.2
Totals	<u>586</u>	<u>100.0</u>

The data for level in the university are presented by number and percentage in Table VIII. The students who responded were classified as freshmen 146 (24.7 percent); sophomores, 122 (21.7 percent); juniors, 99 (16.8 percent); seniors, 110 (18.7 percent), and graduates, 112 (19.0 percent). It is of interest to note that the majority of responses according to position in the university were from freshmen students.

TABLE VIII
RESPONDENTS' POSITION IN THE UNIVERSITY BY NUMBER
AND PERCENTAGE (N = 588)

Position	Number	Percentage
freshmen	145	24.7
sophomore	122	20.7
junior	99	16.8
senior	110	18.7
graduate	112	19.0
Totals	588	100.0

The data on the classification of respondents are reported in Table IX by number and percentage. The college with the greatest number of respondents (graduate and undergraduate) was the College of Arts and Sciences, 187 (31.8 percent). The College of Business Administration was next with 122 (20.7 percent), followed by the College of Engineering, 89 (15.1 percent), the College of Agriculture, 72 (12.0 percent), the College of Home Economics, 46 (7.8 percent), and Veterinary Medicine, 12 (2.0 percent).

TABLE IX
RESPONDENTS' COLLEGE OF AFFILIATION BY NUMBER
AND PERCENTAGE (N = 588)

Classification	Number	Percentage	Number	Percentage
Agriculture	2004	9.0	72	12.2
Arts and Sciences	6015	27.0	187	31.8
Business Administration	4455	20.0	122	20.7
Education	1337	6.0	60	10.2
Engineering	3564	16.0	89	15.1
Home Economics	1337	6.0	46	7.8
Veterinary Medicine	223	1.0	12	2.0
Graduate	3341	15.0	*	*
Totals	22276	100.0	588	100.0

* Graduate students were included in college of their study.

The data on the respondents' place of residence are shown in Table X. Most of the students who responded to the questionnaire resided in one of the residence halls at the university--263 out of 586, or 44.8 percent. The next largest number, 182 (31.0 percent) lived in off-campus housing; 77 (13.1 percent) lived in their own home; 33 (5.6 percent) were fraternity or sorority residents, and 31 (5.2 percent) were residents in married student housing. From the available data at Oklahoma State University, 1978-1979, approximately 6,870 students resided in residence halls, 819 family units in married student housing, and 2,243 in fraternities or sororities.

The data on the religious preference of the respondents are reported by number and percentage in Table XI. These data indicate that over 50 percent of the respondents (62.6 percent--363 out of 579) indicated

Catholicism, and eight (1.3 percent) of respondents' religious preference was Islamic. Five of the respondents identified Judaism (0.86 percent) as their religious preference, and 124 (21.4 percent) indicated their religious preference as "other" than those options available on the questionnaire. These results appear to reflect the balance of religious groups in Oklahoma.

TABLE X
RESPONDENTS' PLACE OF RESIDENCE BY NUMBER AND
AND PERCENTAGE (N = 586)

Place of Residence	Number	Percentage
dormitory	263	44.8
fraternity/sorority	33	5.6
off-campus	182	31.1
married student housing	31	5.2
own home	77	13.1
Totals	586	100.0

TABLE XI
RELIGIOUS PREFERENCE OF RESPONDENTS BY NUMBER
AND PERCENTAGE (N = 579)

Religious Preference	Number	Percentage
Protestant	363	62.7
Catholic	79	13.6
Jewish	5	0.9
Islamic	8	1.4
Other	124	21.4
Totals	579	100.00

The data which reports on the size of the high school from which the respondents graduated are found in Table XII. As the table indicates, the majority of the respondents (394--67.5 percent out of 584) graduated from a high school of 1500 students or less. The remainder of the respondents reported that they graduated either from a high school of 2000-2500 (127--21.7 percent) or from a high school of 1500-1999 (63--10.78 percent).

TABLE XII

SIZE OF HIGH SCHOOL FROM WHICH RESPONDENTS GRADUATED BY
NUMBER AND PERCENTAGE (N = 584)

Size of High School	Number	Percentage
27- 499	157	26.9
500- 999	132	22.6
1000-1499	105	18.0
1500-1999	63	10.8
2000-2500	127	21.7
Totals	584	100.0

Table XIII reports the data about the range of respondents' GPAs by number and percentage. The data indicate that the majority of the respondents reported a GPA of 3.0 or above. Less than five percent (3.25 percent) of the respondents reported a GPA of below 2.0. Two hundred and thirty-two (39.7 percent) identified a GPA of between 2.0 and 3.0. Hence, 474 out of 583 (81.8 percent) had a GPA of 2.5 or above.

TABLE XIII
GPAs OF THE RESPONDENTS BY NUMBER
AND PERCENTAGE (N = 583)

GPA	Number	Percentage
Below 2.0	19	3.2
2.0 - 2.49	90	15.4
2.5 - 2.99	142	24.4
3.0 - 3.49	176	30.2
3.5 - 4.0	156	26.8
Totals	583	100.0

Instrumentation

The instrument developed and used was a 94-item questionnaire adapted by the researcher from those used by a number of universities in the United States. Chief among these was the Student Alcohol Survey by Ruth C. Engs, of Indiana University. Others consulted were the Alcohol Awareness Questionnaire, of Ball State University, and surveys used at the University of Florida and California Polytechnic State University. It contained eight sections: A) Drinking Patterns; B) Time, Place, and Drinking Tendencies; C) Reasons for Drinking; D) results of Drinking; E) Reasons for not Drinking; F) Attitudes Toward Drinking; G) Knowledge About Alcohol, and H) Background Information. The researcher pre-tested the instrument with a representative sample of 40 subjects for reliability and clarity. From the results, 22 items were eliminated and clarity was made for each item. As for validity, no information was available in regard to the establishment of validity for the instruments which served as models. But if such was established, the same could not

be claimed for this instrument because of the changes made.

The instrument was delivered for the most part by hand to the subject by the researcher and some helpers. A cover letter explaining the intent of the study, instructions for completing the instrument and the assured anonymity of the respondents despite the need to code for follow-up purposes. The subjects were instructed to return the questionnaire within two weeks via campus mail. Those who did not respond within two weeks were contacted by telephone when this was possible, by the researcher and his helpers, and were encouraged to respond as soon as possible. Some were contacted personally.

A second questionnaire was hand-delivered--in a few cases mailed--to those who reported that they had discarded the original. A total of 590 questionnaires was returned to the researcher. This represents approximately 55 percent of the total distribution sample (1075).

Data Analyses

Each questionnaire was checked individually for completion of all possible responses. They were then processed through the scanner after hand-checking. Inconsistency in number of responses to each question is most likely due to insufficient recording to the responses on the questionnaire for the scanner.

Several statistical treatments were selected for the examination of the data collected. First, however, the questionnaires were scanned by the Bureau of Tests and Measurements, Oklahoma State University, Stillwater, Oklahoma, and the data transmitted to computer cards. Then, statistical analysis of the data was completed by the Oklahoma State University Computer Center. A previously designed computer program (52)

was used to complete this research.

Frequency and percentage tabulations were obtained. Then total scores were obtained for portions of the data. Section A (questions 3, 4, 5, 6, 7, 8) was programmed to give a total score; the same was done for questions 3, 4, 5 together, and 6, 7, 8 together. Section G (questions 13-23) was also programmed for total scores. Questions 1, 3, 4, 5, 6, 7, 8, 13-23, and the frequency totals for questions 3, 4, 5 together were run as a function of the sex of the respondents. Question 1 was run as a function of position in school (question 65). Frequency of use totals were also run as a function of college, of affiliation, and the size of the high school from which subjects graduated. Use or non-use of alcohol was run as a function of place of residence (question 67).

Five hypotheses were tested for significance of relationship. For hypotheses one to four, the Pearson Product-Moment Correlation technique was employed to assess the relationship between knowledge of the effects of alcohol and patterns of consumption, knowledge of the effects of alcohol and attitudes toward alcohol use, attitude toward alcohol use and patterns of consumption, and finally, consumption pattern and perceived outcomes (results). The formula for the Pearson Product-Moment Correlation technique and a description of its methodology are included in Bruning and Kentz (53) and Siegel (54).

The confidence level (alpha) established for the determination of the level of significance, was .05. Because the computer program utilized for the statistical analysis of these data provided the exact alpha level automatically, they are included as additional information.

Hypothesis five was tested for significance of difference by the

analysis of variance method. The methodology and statistical procedures involved in the analysis of variance are described in detail in Kirk (55). Popham (56) provides a discussion of the basic assumptions involved in performing the analysis of variance.

The F-test was used to determine significance of difference. The confidence level (α) established for the determination of the level of significance was .05. A description of the F-test and its methodology are included in Haber and Rynyan (57).

Summary

This chapter has considered the type of research used, the subjects involved, instrumentation, and statistical procedures. Chapter IV will present, analyze, and discuss the data obtained in this investigation. Pertinent tables will be used to present the results of the statistical procedure.

CHAPTER IV

RESULTS AND DISCUSSION

The purpose of this study was to determine the use of alcohol among Oklahoma State University students, and the relationship of this use to attitudes toward a) alcohol; b) knowledge about alcohol and selected background characteristics such as age, sex, classification of students at the university; c) age at the time of first drink, and d) perceived outcomes and social setting of drinking at Oklahoma State University among undergraduate and graduate students. This chapter includes a demographic identification of the subjects and a discussion of the results from the analysis of the data.

During the 1978-1979 fall-spring semesters, 1075 questionnaires (Alcohol Knowledge and Use Survey) were distributed to Oklahoma State University undergraduate and graduate students. This sample, as described in Chapter III, was selected as a five percent random sample, stratified by college and sex from a total enrollment of 22,276 students. A total of 590 (54.9 percent) of the questionnaires was returned.

Use or Non-use of Alcohol

Another portion of the survey dealt with the respondents' use or non-use of alcohol. These data are reported by number and percentage in Table XIV. There were 577 responses. Of this number, 17 percent (98) indicated that they did not drink and never had; nine percent (52)

indicated that they had imbibed occasionally in the past but no longer did so; 1.9 percent (11) indicated that they had imbibed frequently in the past but no longer did so; 9.7 percent (56) indicated that they now drink but did not do so in the past, and 62.3 percent (368) stated that they drink now and did in the past. The data clearly indicated that 72 percent (416) of the respondents drank when this study was conducted.

TABLE XIV
RESPONDENTS' USE OR NON-USE OF ALCOHOL BY NUMBER
AND PERCENTAGE (N = 577)

Use or Non-use of Alcohol	Number	Percentage
I do not drink and never have	98	16.9
I do not drink but used to occasionally	52	9.0
I do not drink but used to frequently	11	1.9
I do drink now but did not in the past	56	9.7
I do drink now and have in the past	360	62.4
Totals	577	100.0

The respondents were asked about their parents' use of alcoholic beverages. The data from the respondents are reported in Table XV. Three hundred and fourteen (59.1 percent) of the respondents identified that either their mother or father or both drank alcoholic beverages. Of this number, 219 (14.3 percent) indicated that both parents consumed alcohol under some form. The data also identified that 216 (40.7 percent) of the respondents' parents did not drink alcohol.

TABLE XV
PARENTS' USE OF ALCOHOL BY NUMBER
AND PERCENTAGE (N = 530)

Parents' Use	Number	Percentage
both parents	219	41.3
neither parent	216	40.7
father only	80	15.0
mother only	15	2.8
Totals	530	99.9*

* Does not equal 100 percent due to rounding.

The respondents were also asked to indicate the age at which they had their first drink. The responses to these data are reported by number and percentage in Table XVI. It is indicated that 7.5 percent of the respondents (133) had their first drink before they were ten years old; 22.7 percent (100) between 10 and 14 years of age; 57.9 percent (255) between 15 and 18 years of age; 10.2 percent (45) between 19 and 21 years of age, and 1.5 percent (7) over 21 years of age. These data indicated that 388 respondents (88.1 percent) had their first alcoholic beverage at 18 years of age or younger. Of further interest is the fact that 133 respondents (30.2 percent) had their first drink of alcoholic beverage at the age of 14 and younger.

The data which reported the frequency with which respondents used beer, wine, or liquor are reported in Table XVII. When asked about the frequency with which they used these beverages, those respondents who drank beer at least once a month or more totaled 316 (71.8 percent). By comparison, there were 205 (46.4 percent) who drank liquor at least

once a month or more, and 109 (24.7 percent) who drank wine at the same frequency. Beer was consumed every day by 12 (2.7 percent) of the respondents; wine by four (0.9 percent) of the respondents, and liquor by three (0.68 percent) of those who responded. One hundred and sixty-eight of the respondents (38.2 percent) drank beer at least once a week but not every day. Only 47 (10.6 percent) drank liquor at the same frequency, and 18 (4.1 percent) drank wine. It is obvious from these data that beer was the beverage most frequently consumed by the majority of the respondents.

TABLE XVI
RESPONDENTS' AGE AT TIME OF FIRST DRINK BY NUMBER
AND PERCENTAGE (N = 440)

Age at Time of First Drink	Number	Percentage
under 10	33	7.5
between 10 and 14	100	22.7
between 15 and 18	255	57.9
between 19 and 21	45	10.2
over 21 years	7	1.5
Totals	440	100.0

The students were also asked about the quantity of beer, wine and liquor which they consumed when they drank. Responses to these data are reported in Table XVIII by number and percentage. Of the respondents, 240 (54.2 percent) consumed three or more cans of beer at a time; 214 (48.3 percent) consumed the same quantity of liquor at a time, and 120

respondents (27.1 percent) consumed three or more glasses of wine at a time. Of these numbers, 54 (12.0 percent) consumed over six cans of beer at one time. In contrast, 19 respondents (4.3 percent) consumed over six drinks at a time, and 12 (2.7 percent) consumed the same quantity of wine. These data indicated a considerably greater consumption of beer at any time, compared to wine or liquor.

TABLE XVII

RESPONDENTS' FREQUENCY OF CONSUMPTION OF BEER, WINE,
AND LIQUOR BY NUMBER AND PERCENTAGE

Frequency of Consumption	Beer		Wine		Liquor	
	No.	Percent	No.	Percent	No.	Percent
every day	12	2.7	4	0.9	3	0.68
at least once a week but not every day	168	38.2	18	4.1	47	10.6
at least once a month but less than once a week	136	30.9	87	19.7	155	35.1
more than once a year but less than once a month	79	18.0	199	45.0	171	38.7
once a year or less	<u>45</u>	<u>10.2</u>	<u>134</u>	<u>30.3</u>	<u>66</u>	<u>14.9</u>
Totals	440	100.0	442	100.0	442	99.9*

* Does not equal 100 percent due to rounding.

TABLE XVIII
RESPONDENTS' QUANTITY OF CONSUMPTION OF BEER, WINE,
AND LIQUOR BY NUMBER AND PERCENTAGE

Quantity of Consumption	Beer		Wine		Liquor	
	No.	Percent	No.	Percent	No.	Percent
over 6 can/glasses/ drinks at a time	54	12.0	12	2.7	19	4.3
5 or 6 cans/glasses/ drinks at a time	72	16.3	27	6.1	54	12.2
3 or 4 cans/glasses/ drinks at a time	114	25.9	81	18.3	141	31.8
1 or 2 cans/glasses/ drinks at a time	144	32.7	185	41.8	164	37.0
less than 1 can/glass/ drink at a time	<u>57</u>	<u>12.9</u>	<u>138</u>	<u>31.2</u>	<u>65</u>	<u>14.7</u>
Totals	440	99.8*	443	100.1*	443	100.1

* Does not equal 100 percent due to rounding.

Time, Place, and Drinking Tendencies

The students were asked where, with whom, and when they drank alcoholic beverages most frequently. The data for where they drank are found in Table XIX. These data revealed that the majority (233 out of 443, 52.6 percent) drank most frequently in clubs and bars. The next most frequently mentioned place for drinking was their own home or apartment (24.6 percent). A friend's home was identified by 78 students (17.6 percent), and 18 (4.1 percent) most frequently drank in the residence halls. Only five students (1.1 percent) identified that they drank most

frequently in fraternities or sororities.

TABLE XIX
RESPONDENTS' PLACE OF MOST FREQUENT DRINKING BY
NUMBER AND PERCENTAGE (N = 443)

Place	Number	Percentage
residence halls	18	4.1
own home, apartment	109	24.6
Greek housing	5	1.1
clubs, bars	233	52.6
friends' houses	78	17.6
Totals	443	100.0

The data for with whom they drank revealed that most of the students drank most frequently with mixed groups (257 out of 445, 57.8 percent). Ninety of the respondents (20.2 percent) drank most frequently with undergraduates of the same sex; 33 (7.4 percent) drank with undergraduates of the opposite sex; 49 (11.0 percent) of the students drank most frequently with adults (non-students), and only 16 (3.6 percent) drank with graduate students.

The data for the time of day when drinking took place are reported by number and percentage in Table XXI. The majority of the respondents (289 out of 445, 64.9 percent) drank most frequently between 5:00 and 9:00 P. M. The next largest number (148, 33.3 percent) drank most frequently after 10:00 P. M. Hence, the data indicated that 437 respondents (98.2 percent) drank most frequently after 5:00 P. M.

TABLE XX
WITH WHOM THE RESPONDENTS DRINK MOST FREQUENTLY BY
NUMBER AND PERCENTAGE (N = 445)

With Whom	Number	Percentage
undergraduate, same sex	90	20.2
undergraduate, opposite sex	33	7.4
graduate students	16	3.6
adults (non-students)	49	11.0
mixed groups	257	57.8
Totals	<u>445</u>	<u>100.0</u>

TABLE XXI
TIME OF DAY OF MOST FREQUENT DRINKING BY
NUMBER AND PERCENTAGE (N = 445)

Time of Day	Number	Percentage
morning (before noon)	3	0.7
early afternoon (noon - 3:00)	2	0.4
late afternoon (3:00 - 5:00)	3	0.7
evening (5:00 - 9:00)	289	64.9
late evening (after 10:00)	148	33.3
Totals	<u>445</u>	<u>100.0</u>

Data for the time of week when drinking took place are reported by number and percenta-e in Table XXII. The majority of students drank frequently on week-ends (332 out of 444, 74.8 percent). It was also revealed by the data that a considerable number of students (103, 23.2 percdnt) drank frequently on both week-ends and week-days. However,

only nine (2.0 percent) of the students reported that they drank frequently on week-days (Sunday-Thursday).

TABLE XXII
TIME OF WEEK OF MOST FREQUENT DRINKING BY
NUMBER AND PERCENTAGE (N = 444)

Time of Week	Number	Percentage
week day (Sunday-Thursday)	9	2.0
week end (Friday-Saturday)	332	74.8
both	103	23.2
Totals	<u>444</u>	<u>100.0</u>

Reasons for Drinking

The number and percentages for the reasons why the students drank are shown in Table XXIII. Eleven possible reasons for drinking alcoholic beverages were included in the questionnaire. The responses to each reason were indicated by the student on a five-point scale ranging from very frequently to never. The students were instructed to respond to each of the reasons for drinking (see questionnaire, Appendix A).

Findings from the study identified that of the majority of students who drink, 246 out of 448 (54.9 percent) drank because they enjoyed the taste. The next largest number of responses (207, 46.6 percent) indicated that students drank frequently or very frequently for reasons of sociability. Other reasons for drinking which were identified by the respondents in the very frequent and frequent categories, in descending

TABLE XXIII
REASONS FOR DRINKING BY NUMBER AND PERCENTAGE

Question No.	Reasons	V.F.		F		O		S		N		Totals	
		N	%	N	%	N	%	N	%	N	%	N	%
13	to facilitate study	8	1.4	3	0.5	16	2.7	38	6.5	374	88.8	439	99.9*
14	to get along better on dates	5	1.1	18	4.0	76	17.1	99	22.2	247	55.5	445	99.9*
15	to relieve fatigue or tension	14	3.1	55	12.4	158	35.5	98	22.0	120	27.0	445	100.0
16	sociability	56	12.6	151	34.0	153	34.4	47	10.6	38	8.5	445	100.1*
17	aches and pains	6	1.3	3	0.7	39	8.7	67	15.0	331	74.2	446	99.9*
18	enjoyment of taste	89	19.9	157	35.0	123	27.5	45	10.0	34	7.6	448	100.0
19	in order not to be shy	8	1.8	28	6.3	54	12.1	103	23.0	254	56.9	447	100.1*
20	for a sense of well being	12	2.7	22	5.0	62	14.0	87	19.6	261	58.8	444	100.1*
21	to forget problems	12	2.7	21	4.7	71	15.9	103	23.0	240	53.7	447	100.0
22	to get high	30	6.7	52	11.6	79	17.7	68	15.2	217	48.7	446	99.9*
23	to get drunk	31	7.0	46	10.3	110	24.6	101	22.6	159	35.6	447	100.1*

* Does not equal 100 percent due to rounding.

order were: to get high, 82 students (18.3 percent); to get drunk, 77 students (17.3 percent), and 69 students (15.5 percent) reported that they drank to relieve fatigue or tension. Less than ten percent of the students reported that they drank for any one of the following reasons: in order not to be shy; for a sense of well being; to forget problems; to get along better on dates; to relieve aches or pains or pains or to facilitate study.

Of the reasons for drinking, another 123 students (27.5 percent) drank occasionally because they enjoyed the taste, and 153 students (34.4 percent) drank occasionally for sociability reasons. Over one-third of the students (35.5 percent) drank occasionally to relieve fatigue or tension. Collectively, the data identified that the students drank occasionally to very frequently because they enjoyed the taste (82.4 percent), and for social reasons (81.0 percent). About 40 students (41.0 percent) drank occasionally to very frequently to relieve tension and fatigue.

Results of Drinking

The data from the responses to the questions about the results of drinking are reported by number and percentage in Table XXIV (see questionnaire, Section D, Appendix A). The data indicate that less than 50 percent of the students who drank identified a situation within a six-month period which was occasionally to very frequently a result of drinking. However, 162 students (36.7 percent) reported that they had occasionally to very frequently driven a car after several drinks, and 126 respondents (28.2 percent) drive while drinking. In other words, 288 students (64.9 percent) very frequently drank while driving and/or

TABLE XXIV
RESULTS OF DRINKING BY NUMBER AND PERCENTAGE

Question No.	Results	V.F.		F		O		S		N		Totals	
		N	%	N	%	N	%	N	%	N	%	N	%
24	interfered with academic efforts	5	1.1	10	2.2	38	8.5	100	22.5	292	65.6	445	99.9*
25	interfered with work-related responsibilities	1	0.2	3	0.7	14	3.2	50	11.3	373	84.6	441	99.9*
26	gave you a hangover	8	1.8	22	5.0	86	19.4	146	33.0	181	40.9	443	100.1*
27	caused problems in relationships	3	0.7	15	3.4	34	7.7	85	19.0	309	69.3	446	100.1*
28	did something while or after drinking which regretted later	9	2.0	14	3.2	70	15.9	130	29.4	219	49.5	442	100.0
29	drove a car after several drinks	29	6.6	58	13.1	75	17.0	103	23.4	176	40.0	441	100.1*
30	drinking while driving	18	4.0	38	8.5	70	15.7	82	18.3	239	53.5	447	100.0

* Does not equal 100 percent due to rounding.

drove after drinking several drinks, and 96 students (32.2 percent) frequently and very frequently did so.

Slightly over 25 percent (26.2 percent) of the students reported that they occasionally to very frequently had a hangover as a result of drinking; 21.1 percent identified that they had done something while or after drinking which they regretted. Of the respondents, 52 (11.8 percent) identified that occasionally to very frequently their drinking resulted in problems in relationships with others, and the same percentage of students (11.8 percent) reported that drinking interfered with their academic efforts. Only 18 students (4.1 percent) reported that occasionally to very frequently their drinking interfered with work-related responsibilities.

Reasons for not Drinking

The data which report the reasons for not drinking are found in Table XXV. These data indicate that the majority of the respondents who do not drink, 123 (82.0 percent) strongly agreed or agreed that their reason for not drinking was that they considered alcohol detrimental to general health. The next largest number of those who responded in the same fashion, 114 (77.6 percent) identified moral or religious reasons for not drinking. The other reasons identified by the respondents as strongly agreed or agreed were, in descending order, dislike the taste, 99 (65.5 percent); parents disapprove, 90 (62.5 percent); excessive drinking by others, 102 (61.3 percent); in athletic or other training, 57 (39.9 percent), and friends disapprove, 42 (28.4 percent). In the strongly agreed category of reasons for not drinking, 72 (49.0 percent) identified moral or religious reasons; 70

TABLE XXV
RESPONDENTS' REASONS FOR NOT DRINKING BY NUMBER AND PERCENTAGE

Reasons	SA		A		U		D		SD		Totals	
	N	%	N	%	N	%	N	%	N	%	N	%
health	70	46.7	53	35.3	11	7.3	14	9.3	2	1.3	151	100.0
moral/religions	72	49.0	42	28.6	13	8.8	12	8.2	8	5.4	147	100.0
dislike taste	58	38.4	41	27.2	24	15.9	20	13.2	8	5.3	151	100.0
parents disapprove	40	27.8	50	34.7	22	15.3	25	17.4	7	4.9	144	100.1*
excessive drinking by others	47	31.3	45	30.0	27	18.0	23	15.3	8	5.3	150	99.9*
in training	28	19.6	29	20.3	17	11.9	40	28.0	29	20.3	143	100.0*
friends disapprove	16	10.8	26	17.6	38	25.7	44	29.7	24	16.2	148	100.0

*Does not equal 100 percent due to rounding.

(46.7 percent) identified health reasons, and 58 (38.4 percent) indicated that they dislike the taste. Only 16 (10.8 percent) of the respondents strongly agreed that disapproval by friends was a reason for not drinking. Other reasons for not drinking identified in the undecided category, in descending order, were excessive use by others, 27 (18.0 percent); dislike the taste, 24 (15.9 percent); parents disapprove, 25 (15.3 percent); in athletic or other training, 17 (11.9 percent); moral or religious reasons, 13 (8.8 percent), and health, 11 (7.3 percent).

Attitudes Toward Drinking

The students were requested to identify their attitudes toward drinking by responding to a five-point scale ranging from strongly agreed to strongly disagreed. The data for the responses to these questions are found in Table XXVI by number and percentage. These data identified that the majority of the respondents, 431 out of 569 (75.8 percent) strongly agreed or agreed that drinking alcoholic beverages responsibly was okay. Over 50 percent (60.6 percent) of the 355 respondents identified that they disagreed or strongly disagreed that drinking is never a good thing. In other words, 60.6 percent of the respondents indicated that drinking can sometimes be a good thing. The data also identified that 262 respondents (44.8 percent) strongly agreed or agreed that an occasional drink was okay. In regard to attitude, "It's nobody's business how much someone drinks so long as he does not bother others," 161 respondents (27.5 percent) strongly agreed or agreed.

Only 10.0 to 17.0 percent of the respondents were undecided in

TABLE XXVI
RESPONDENTS' ATTITUDE TOWARD DRINKING BY NUMBER AND PERCENTAGE

Attitudes	S.A.		A		U		D		S.D.		Totals	
	N	%	N	%	N	%	N	%	N	%	N	%
never a good thing	55	9.4	77	13.1	99	16.9	280	47.8	75	12.8	586	100.0
responsibility is okay	124	21.8	307	54.0	57	10.0	54	9.5	27	4.7	569	100.0
occasionally drunk is okay	55	9.4	207	35.4	89	15.2	136	23.2	98	16.8	585	100.0
nobody's business	52	8.9	109	18.6	100	7.0	217	37.0	109	18.6	587	100.0*

* Does not equal 100 percent due to rounding.

terms of the four items on the questionnaire in regard to attitudes toward drinking alcoholic beverages. The students were most often undecided about "drinking is never a good thing" (16.9 percent), and "it's nobody's business how much someone drinks so long as he does not bother others." (17.0 percent). The least indecision of the respondents was toward the statement "drinking responsibly is okay" (10.0 percent), and "an occasional drink is okay" (15.2 percent).

The respondents were also requested to identify their parents' attitudes toward drinking alcohol. The data for the responses to these questions are reported by number and percentage in Table XXVII. Among those who responded, 350 (59.5 percent) identified that their parents felt that "drinking responsibly is okay." "Drinking is never a good thing" was identified as their parents' attitude by 193 respondents (32.8 percent). Fewer respondents, 30 out of 588 (5.1 percent) identified that their parents held the attitude that "it's nobody's business." When comparing the respondents' attitude toward drinking by frequency and percentage (see Table XXVI) and their perception of their parents' attitudes toward drinking, the data revealed that the rank order of responses were identical.

Knowledge About Alcohol

The subjects were asked to identify their knowledge about alcohol by responding to 18 statements in Section G of the questionnaire (Appendix A). The data from the responses to Knowledge About Alcohol are reported by number and percentage in Table XXVIII. The three possible responses were: true, false, and don't know. Of the 18 possible correct answers, approximately 60 percent (62.2 percent) of the respondents

TABLE XXVII

RESPONDENTS' PERCEPTION OF PARENTS' ATTITUDE TOWARD DRINKING
BY NUMBER AND PERCENTAGE (N = 588)

Parents' Attitude	Number	Percentage
Drinking is never a good thing	193	32.8
Drinking responsibly is okay	350	59.5
An occasional "drunk" is okay	30	5.1
It's nobody's business how much someone drinks so long as he/she does not bother anyone else	15	2.5
Totals	<u>588</u>	<u>99.9*</u>

* Does not equal 100 percent due to rounding

TABLE XXVIII

NUMBER AND PERCENTAGE OF QUESTIONS ANSWERED CORRECTLY ON
THE KNOWLEDGE SCALE BY THE RESPONDENTS (N = 590)

Number of Questions Answered Correctly	Number of Respondents	Percentage of Respondents
0	3	0.5
1	4	0.6
2	2	0.3
3	7	1.2
4	14	2.4
5	32	5.6
6	42	7.1
7	50	8.5
8	65	11.0
9	77	13.1
10	73	12.4
11	88	14.9
12	65	11.0
13	42	7.1
14	12	2.0
15	9	1.5
16	4	0.6
Totals	<u>590</u>	<u>99.8*</u>

* Does not equal 100 percent due to rounding.

answered one-half or more (9 - 16) of the statements correctly. Observations of the fewest number of correct responses indicated that 48.2 percent of the respondents answered nine or less questions correctly. None of the respondents achieved a perfect score. The highest score was 16 out of 18. The data from the responses to Knowledge About Alcohol are reported by number and percentage in Table XXIII.

Using descending order, the data in the following table identifies the statements which were answered correctly by 50 percent or more of the respondents. See Table XXIX.

The data indicated that the students were knowledgeable about the use of alcohol for social reasons as exhibited by the fact that 90.0 percent correctly answered the statement: "Many people drink for social acceptance, because of peer pressures and to gain adult status." Also, the respondents achieved 89.5 percent correct answers to the statement: "In America, drinking is usually considered an important socializing custom in business, for relaxation, and for improving interpersonal relationships." Of the total respondents, 84.4 percent were aware that one can become an alcoholic by drinking beer, and 82.3 percent were cognizant of the fact that alcohol is a drug. See Table XXIX above.

The data in the following Table, XXX, identified the statements which were answered correctly by less than 50 percent of the respondents. The question with the least number of correct answers by the respondents are listed first in the table.

The above data identified that only 25 percent of the students knew that alcohol is a depressant, and only 26.3 percent were knowledgeable about the rate of alcohol absorption and metabolism of alcohol. Only 26.0 percent of the students knew that approximately 10

TABLE XXIX

QUESTIONS ANSWERED CORRECTLY BY 50 PERCENT OR MORE OF THE
RESPONDENTS BY NUMBER AND PERCENTAGE

Question Number	Question	Correct Ans.		Total	
		N	%	N	%
55	Many people drink for social acceptance because of peer group pressure and to gain adult status	503	90.0	559	100.0
43	In America, drinking is usually considered an important socializing custom in business . . .	520	89.5	581	100.0
50	A person cannot become an alcoholic by just drinking beer	487	84.4	577	100.0
45	Alcohol is not a drug	479	82.3	582	100.0
57	Beer usually contains from 2-12 percent alcohol by volume	390	66.7	585	100.1*
59	Liquor taken straight will affect you faster than liquor mixed with water	349	59.6	586	100.0
49	Most people drink to escape from problems, loneliness and depression	298	52.2	571	100.0
52	Distilled liquors (gin, whiskey, vodka, etc.) usually contain about 15-20 percent alcohol by volume	298	51.1	583	100.0
48	Table wine contains from 2-12 percent alcohol by volume	290	50.8	571	100.0

* Does not equal 100.0 percent due to rounding.

TABLE XXX

QUESTIONS ANSWERED CORRECTLY BY LESS THAN 50 PERCENT OF THE
RESPONDENTS BY NUMBER AND PERCENTAGE

Question Number	Question	Correct Ans.		Total	
		N	%	N	%
44	Alcohol is usually classified as a stimulant	146	25.2	580	100.0
54	It takes about as many hours as the number of beers drunk to burn up the alcohol ingested	149	26.3	566	100.0
47	Approximately 10 percent of fatal highway accidents are alcohol-related	146	26.0	561	100.0
42	Drinking milk before drinking an alcoholic beverage will slow down the absorption of alcohol into the body	184	31.5	584	99.9*
46	A blood alcohol concentration of 0.1 percent is the legal definition of alcohol intoxication in most states . . .	196	34.6	566	100.0
56	Proof on a bottle of liquor represents half the percent of alcohol contained in the bottle	225	40.1	561	100.0
53	Moderate consumption of alcoholic beverages is generally not harmful to the body	232	41.3	563	100.0
58	Drinking coffee or taking a cold shower can be an effective way of sobering up	284	48.5	586	100.0
51	To prevent getting a hangover, one should sip his drink slowly, drink and eat at the same time, and space drinks over a period of time	280	49.7	563	99.9*

* Does not equal 100 percent due to rounding.

percent of fatal highway accidents are alcohol-related.

Concerning other misconceptions about alcohol, only 31.5 percent of the students knew that drinking milk before drinking alcoholic beverages slows down alcohol absorption, and only 41.3 percent knew that moderate consumption of alcohol is not harmful. Only 48.5 percent of the students knew that drinking coffee or taking a cold shower was not an effective way of sobering up. Less than 50 percent (49.7 percent) of the students knew that sipping alcoholic beverages, eating at the same time, and spacing drinks over a period of time will prevent a hangover.

Only 34.6 percent of the students knew that the legal definition for intoxication in most states for drinking is 0.1 percent blood alcohol intoxication. A slightly higher percentage--40.1 percent--knew that proof on a liquor bottle represents twice the percent of alcohol in the product.

Analysis of Statistical Data

To analyze statistically the data from this study, a score for the respondents' knowledge of alcohol, patterns of consumption, attitudes toward drinking, and the perceived outcomes of drinking were obtained. These are found in Table XXXI. A numerical value was assigned to each of the possible responses to the questions identified for knowledge, pattern, attitude, and perceived outcomes.

The score for knowledge of alcohol was based on questions 42-59 in the questionnaire (see Appendix A). The assigned numerical values to the responses were: 0 = true; 1 = false, and 2 = I don't know. A score for pattern of consumption was based on questions 3-8 on the

questionnaire. These questions asked how often the respondent drank beer, wine, and liquor, and how much of each they usually drank at one time. The score for attitude toward drinking was obtained from questions 38-41 on the questionnaire. The numerical values assigned to the responses ranged from 0-5, according to whether the subject strongly agreed, agreed, was undecided, disagreed, or strongly disagreed to each statement.

TABLE XXXI

NUMBER, MEAN SCORE, AND STANDARD DEVIATION OF THE FOUR
VARIABLES RELATED TO ALCOHOL

Variables	Number	Mean	Standard Deviation
knowledge	590	9.25	2.87
pattern	590	294.03	516.47
attitude	563	8.20	3.42
results	428	22.96	4.72

The Pearson-Product-Moment Correlation technique was used to determine the significance of relationships between 1) knowledge of the effects of alcohol and patterns of consumption; 2) attitude toward alcohol consumption and consumption patterns; 3) knowledge of the effects of alcohol and attitudes toward consumption, and 4) alcohol consumption patterns and perceived outcomes of drinking. The level of significance was established at $<.05$.

Hypothesis 1

The null of hypothesis I states: There is no relationship between the respondents' knowledge of the effects of alcohol and the pattern of its consumption. The results of the Pearson Product-Moment analysis of this hypothesis are presented in Table XXXII. An r value of 0.086 was obtained; the probability level of significance obtained was $<.05$ (.036); thus, the null hypothesis was not accepted. In other words, there was a relationship between the respondents' knowledge of the effects of alcohol and their pattern of consumption.

TABLE XXXII

MATRIX OF THE PEARSON PRODUCT-MOMENT RESULTS COMPARING FOUR MEASURES OF ALCOHOL-RELATED VARIABLES

	Knowledge	Pattern	Attitude	Results
knowledge	N = 590	.086	-0.260	-0.129
pattern		N = 590	-0.226	-0.295
attitude			N = 563	0.288
results				N = 482

Hypothesis 2

The null of hypothesis 2 stated: there is no relationship between the respondents' attitude toward alcohol consumption and their own consumption of it. The r value was -0.226 (the minus value was accounted

for by an inverse order of scores assigned to responses) (see Table XXXII); the probability level of significance was <5 (0.0001). Thus, it was concluded that there was a significant relationship between the respondents' attitude toward alcohol consumption and their consumption of it.

Hypothesis 3

The null of hypothesis 3 stated: there is no relationship between the knowledge of the effects of alcohol and attitudes toward its consumption. The r value obtained was -0.260 (the minus value is accounted for by an inverse order of scores assigned to responses) (see Table XXXII); the probability level of significance was $<.05$ (0.0001). Thus, it was concluded that there was a very significant relationship between the knowledge of the effects of alcohol and attitudes toward its consumption. The null hypothesis was not accepted.

Hypothesis 4

The null of hypothesis 4 stated: there is no relationship between the consumption patterns and the perceived outcomes of drinking. The r value obtained was -0.295 (the minus value is accounted for by an inverse order of scores assigned to responses) (see Table XXXII); the probability level of significance was $<.05$ (0.0001). Thus, it was concluded that there was a very significant relationship between the consumption patterns and the perceived outcomes of drinking. The null hypothesis was not accepted.

Hypothesis 5

The null of hypothesis 5 was: there is no significant difference between the social setting of drinking and the patterns of consumption by the respondents. For the scores of numbers and frequency of percentage of social setting, see Tables XIX to XXII. The variables contained in hypothesis 5 included where, with whom, time of day, and time of week the subjects most frequently drank. The statistical analysis (AOV) of the difference between each variable and the pattern of consumption are shown in Table XXXIII.

TABLE XXXIII
ANALYSIS OF VARIANCE FOR SOCIAL SETTING OF DRINKING AND PATTERN
OF CONSUMPTION OF ALCOHOL VARIABLES

Variable	d.f.	Mean Sq.	F-score
where do they drink	4	1106496.2	3.62*
with whom they drink	4	469886.2	1.52
time of day they drink	4	101862.5	0.32
time of week they drink	2	303378.4	7.42*

*Significant at .005 level or less.

The data indicated that there was a significant difference at the $<.001$ level between where the students drank ($F = 3.62$) and the pattern of consumption of alcohol. In addition, there was also a significant relationship between the time of week they drank and the pattern of

consumption ($F = 7.42$). In other words, the place of drinking (residence halls/own home/apartment, Greek housing, clubs/bars, or friend's home) were significantly related to the students' pattern of consumption. Since clubs/bars were the most frequently identified places of drinking, it could be concluded that the more frequently the subjects visited clubs or bars, the greater the consumption of alcoholic beverages. Also, it was evident from the data that frequency of drinking by the respondents on the weekend influenced their drinking patterns significantly.

The data indicated that there was no significant difference between "with whom they drank" and the subjects' consumption pattern of alcohol ($F = 1.52$) as well as between the time of day they drank and their pattern of consumption ($F = 0.32$).

Summary

The results from each section and each question have been discussed in the presentation of these results. The results of each hypothesis have also been presented. Chapter V will deal with a summary of the study, conclusions drawn from the results reported in this chapter, and will identify implications for the future on the Oklahoma State University campus vis-a-vis the use of and knowledge about alcohol.

CHAPTER V

SUMMARY, CONCLUSIONS, RECOMMENDATIONS

This chapter is divided into three major sections; a general summary of the investigation is presented first. A second section delineates conclusions drawn from the results reported in Chapter IV of the study. The last section will discuss recommendations for future research.

Summary

The purpose of this study was to determine the extent of alcohol use and the relationship of that use to attitudes toward alcohol, knowledge about alcohol, and selected background variable such as age, sex, classification of students, age at the time of first drink, and perceived outcomes of drinking at the Oklahoma State University campus among undergraduate and graduate students.

The study sample was composed of five percent random sample from the total enrollment of 22,276 students, stratified by sex and across the six colleges and Veterinary Medicine. Instruments were delivered to the subjects--in some cases mailed--during October and November, 1979. A total of 590 (54.9 percent) of usable questions was returned.

The data were tabulated by frequency and percentage, and used to identify background characteristics of the subjects, their use of alcohol, and knowledge score. A numerical score was obtained for each

variable which was analyzed statistically. Several statistical techniques were utilized in analyzing the selected variables. The Pearson Product-Moment technique was used to assess the relationship between knowledge of the effects of alcohol and patterns of consumption, knowledge of the effects of alcohol and attitudes toward alcohol use, attitude toward alcohol use and patterns of consumption and, finally, consumption patterns and perceived outcomes (results).

The Analysis of Variance was used to analyze the difference between the social settings of drinking and patterns of consumption. The F-test was used to discover if significant F values existed. The level of significance for all statistical treatments was set at .05 level of confidence.

Of the 590 undergraduate and graduate students in the study, the majority (65.3 percent) were 21 years of age or less; about equally distributed by percentages of males and females; 80.1 percent were single and 87.4 percent were of the Caucasian race. Most of the subjects resided in the dormitory (44.8 percent), and 31.0 percent resided in off-campus housing. Their religious preference was predominately Protestant (62.7 percent), most (67.5 percent) had graduated from a high school of 1500 or less, and at the time of this study, 81.1 percent had a GPA of 2.5 or above (4.0 = A); 43 percent had a GPA of 3.0 or better.

Regarding the students' use of alcohol, 72.0 percent reported that they drank when data for this study were obtained. The respondents also indicated that 59.1 percent of their parents (one or both) drank. Over 75 percent (88.1 percent) of the students reported that they had had their first drink at age 18 or younger. Of this percentage, 30.2

percent were 14 years of age or younger.

Beer was the alcoholic beverage consumed most frequently by the respondents. More than one out of three (38.2 percent) drank beer at least once a week but not every day, and 54.2 percent of the respondents drank three or more cans at one time.

Most of the students reported that they drank most frequently in clubs and bars (52.6 percent), and 24.6 percent drank in their own homes. Almost all of the respondents (98.2 percent) drank after 5:00 P. M.; 57.8 percent drank with mixed groups, and 74.8 percent drank most frequently on the weekends.

Of those who drank, 82.4 percent reported that they did so occasionally to very frequently because they enjoyed the taste, and 41.0 percent did so for sociability. The respondents' attitudes toward drinking identified most often were "drinking responsibly was okay" (75.8 percent), and "drinking can sometimes be a good thing", 60.6 percent. However, 64.9 percent of the students who drank reported that they occasionally to very frequently drank while driving and/or drove after drinking several drinks. Of this number, 10.6 percent did so very frequently.

Of the respondents who did not drink, 82.0 percent gave health as the reason; moral or religious reasons were reported by 77.6 percent of the students.

All of the subjects were asked to respond to the 18 questions about their knowledge of alcohol. No respondent answered all of the questions correctly. However, 62.6 percent answered one-half or more of the statements correctly, and 48.2 percent answered one-half or fewer accurately. The least number of respondents were able to identify

that alcohol is a depressant, the relationship of alcohol consumption and the rate of its absorption and the incidence of highway accidents related to alcohol. Of the studies by other researchers concerning college students' knowledge about alcohol, the same general findings seem to be present (46, 47, 48, 50, 51)--that students on the whole have a general lack of knowledge about alcohol. Many facts about alcohol, the effect of alcohol on the body, and facts about alcoholic beverages are not known to students; consequently, they have many myths about drinking.

The students identified that the first place they would suggest to a fellow student in need of help for a drinking problem was Alcoholics Anonymous (36.6 percent). The university counseling center was identified by 25.7 percent of the respondents, and a clergyman was suggested by 14.4 percent of the students.

Conclusions

The following conclusions are based on the data from 950 undergraduate and graduate students at Oklahoma State University, 1978-1979:

1) Since a large percentage of students drink, the researcher concluded that there possibly could be some problem drinkers among that number. The findings of Hanson (1974) and Engs (1978) are supportive of this conclusion. Student personnel workers and counseling service need to be apprised of this finding.

2) Family drinking patterns tend to influence the drinking patterns of youth from those families where drinking takes place. Modelling the drinking behavior behavior of parents especially plays a large part in the decision to drink and how to drink. Parents must be made conscious

of this.

3) Students drink mainly for social reasons. The need for acceptance would appear to be involved here, with drinking serving as an avenue for achieving this acceptance by peers. Alternate activities for social acceptance by peers should be made available when students do most of their drinking, viz., weekends.

4) The general interest in health as a reason for not drinking is consequent upon the anti-establishment era of the 1960s and the back-to-nature movement. However, in Oklahoma, moral and religious reasons play a very important role in reasons for not drinking.

5) Many college students lacked knowledge about alcohol and its effects. They held many myths about alcohol. The researcher concluded that there is a need for educational programs. The information obtained from the knowledge questions can serve as a basis for the development of educational programs on alcohol and alcohol abuse. And these programs must include both the affective and cognitive domains.

6) Only four items surveyed attitudes toward drinking. The attitude question may not provide enough discrimination to draw conclusions as to attitudes toward drinking. Further probing appears necessary in this area.

Recommendations

The findings and conclusions from this study were employed by the researcher to make the following recommendations--that:

1) campus alcohol-awareness programs be initiated and that these programs include factual information as part of their programs so as to increase the students' general knowledge about alcohol and to give

them basic facts for making responsible drinking decisions.

2) university curricula contain alcohol education as a component of general education for all students, especially those in secondary teacher education.

3) in-service training programs be developed for resident hall personnel to provide them with skills for detecting and referring students with possible alcohol problems.

4) the university counseling center be staffed with an individual who has skills in dealing with students who have alcohol-related problems and that the presence of this professional be given visibility on campus.

5) in-service programs in alcohol awareness and knowledge be developed to train teachers responsible for alcohol education in secondary schools. These programs should also include techniques and methods of teaching about alcohol to secondary school students.

Suggestions for Further Research

1) A longitudinal study on the freshmen and sophomore students who participated in this study to determine patterns of consumption over time.

2) Evaluation of the effectiveness of an alcohol-awareness program on knowledge, attitude, and patterns of consumption by participants.

3) A study of the status of alcohol education in secondary schools in Oklahoma.

4) A study to determine the effect of variables other than knowledge and attitude on patterns of consumption.

5) A regional study (Kansas, Texas, Oklahoma, and Arkansas) be conducted to determine alcohol behavior, attitudes, and knowledge among college students.

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APPENDIX

COVER LETTER AND QUESTIONNAIRE

ALCOHOL-KNOWLEDGE AND USE SURVEY
% 314 N. Murray
October 31, 1978

Dear Student:

The attached survey on Alcohol Use and Knowledge is being conducted at OSU for the benefit of students. Your name was chosen at random from the University enrollment to be included in a 5% stratified sample of the student population being asked to participate.

The survey is important for a number of reasons:

- It will supply considerable data on the nature and extent of alcohol use at the University;
- It will point out possible patterns of alcohol-related problems at the University;
- It will supply an estimate of the degree of student knowledge about alcoholic beverages, including why and how they tend to be used, with what potential effects.

Such information is vital if:

- Adequate counseling resources are to be made available;
- Programs relating to prevention of alcohol abuse are to be established;
- Appropriate teacher-training courses are to be initiated.

Coding of the survey is necessary should follow-up contact be needed to remind participants to return the surveys. NO USE OF ANY INDIVIDUAL'S RESPONSES BY ANY OTHER THAN ABSOLUTELY ANONYMOUS MEANS IS INTENDED OR PROPOSED, NOR SHALL IT BE AUTHORIZED OR ALLOWED.

It should take no longer than 15 to 20 minutes from your busy schedule to complete this survey, therefore you are strongly requested to return it immediately. The anticipated data for beginning the processing of the data is November 18. Your survey must be back by this date.

Thank you most sincerely for your cooperation.

Yours truly,

John Wm. Lundberg
John Wm. Lundberg
Doctoral Student, Applied
Behavioral Studies

Dr. W. Price Ewens
Dr. W. Price Ewens, Professor
Applied Behavioral Studies

ALCOHOL - KNOWLEDGE AND USE SURVEY

To serve students better, information about knowledge and use of alcohol is needed. Your willingness to be thoughtful and honest in your answers to the following questions will help in obtaining valuable information as an aid to serving students better.

Your answers will be kept completely confidential. Do not put your name on this form.

PLEASE USE A PENCIL and completely blacken the appropriate answer space at the right. DO NOT USE A BALL POINT OR OTHER PEN.

SECTION A - DRINKING PATTERN

1. To which of the following categories do you belong?

- a. I do not drink and never have.
- b. I do not drink, but used to occasionally.
- c. I do not drink, but used to frequently.
- d. I do drink now, but did not in the past.
- e. I do drink now and have in the past.

a b c d e
1 0 0 0 0

IF YOU DO NOT DRINK, PROCEED TO SECTION E, AND CONTINUE.

2. At what age did you have your first drink?

- a. under 10
- b. 10 - 14 yrs.
- c. 15 - 18 yrs.
- d. 19 - 21 yrs.
- e. over 21 yrs.

a b c d e
2 0 0 0 0

TO RESPOND TO QUESTIONS 3, 4, & 5, USE THIS SCALE:

- a. every day
- b. at least once a week, but not every day
- c. at least once a month, but less than once a week
- d. more than once a year, but less than once a month
- e. once a year or less

3. How often on the average do you usually drink beer?
4. How often on the average do you usually drink wine?
5. How often on the average do you usually drink liquor?

a b c d e
3 0 0 0 0
4 0 0 0 0
5 0 0 0 0

TO RESPOND TO QUESTIONS 6, 7, & 8, USE THIS SCALE:

- a. over 6 cans/glasses/drinks
- b. 5 or 6 cans/glasses/drinks
- c. 3 or 4 cans/glasses/drinks
- d. 1 or 2 cans/glasses/drinks
- e. less than 1 can/glass/drink

6. How much beer on the average do you drink at a time?
7. How much wine on the average do you drink at a time?
8. How much liquor on the average do you drink at a time?

a b c d e
6 0 0 0 0
7 0 0 0 0
8 0 0 0 0

SECTION B - TIME, PLACE, DRINKING TENDENCIES9. Where do you most frequently drink?

- a. resident hall
- b. own home/apartment
- c. greek housing
- d. clubs, bars
- e. friend's house

a b c d e
9 1 0 0 0 0

10. With whom do you most frequently drink?

- a. undergraduates, same sex
- b. undergraduates, opposite sex
- c. graduate students
- d. adults (non-students)
- e. mixed groups

a b c d e
10 1 0 0 0 0

11. At what time of day do you most frequently drink?

- a. morning (before noon)
- b. early afternoon (noon til 3)
- c. late afternoon (3 - 5)
- d. evening (5 - 9)
- e. late evening (after 10)

a b c d e
11 0 0 0 0 1

12. What time of week do you most frequently drink?

- a. weekday (Sun. - Thurs.)
- b. weekend (Fri. - Sat.)
- c. both

a b c
12 0 0 0

SECTION C - REASONS FOR DRINKING

TO RESPOND TO QUESTIONS

13 - 23, USE THIS SCALE:

- a. very frequently
- b. frequently
- c. occasionally
- d. seldom
- e. never

- 13. to facilitate study
- 14. to get along better on dates
- 15. to relieve fatigue or tension
- 16. sociability
- 17. for aches and pains
- 18. enjoyment of taste
- 19. in order not to be shy
- 20. for a sense of well being
- 21. to forget problems
- 22. to get high
- 23. to get drunk

a b c d e
13 1 0 0 0 0
14 1 0 0 0 0
15 1 0 0 0 0
16 1 0 0 0 0
17 1 0 0 0 0
18 1 0 0 0 0
19 1 0 0 0 0
20 1 0 0 0 0
21 1 0 0 0 0
22 1 0 0 0 0
23 1 0 0 0 0

SECTION D - RESULTS OF DRINKING

In the past six months how often has your drinking led to the following situations? TO RESPOND TO QUESTIONS 24 - 30, USE THIS SCALE:

- a. very frequently
- b. frequently
- c. occasionally
- d. seldom
- e. never

- 24. interfered with academic efforts
- 25. interfered with work-related responsibilities
- 26. gave you a hangover
- 27. caused problems in relationships
- 28. done something while or after drinking which you later regretted
- 29. driven a car after several drinks
- 30. been drinking while driving a car

a b c d e
24 1 0 0 0 0
25 1 0 0 0 0
26 1 0 0 0 0
27 1 0 0 0 0
28 1 0 0 0 0
29 1 0 0 0 0
30 1 0 0 0 0

SECTION E - REASONS FOR NOT DRINKING

IF YOU DRINK, SKIP THIS SECTION AND PROCEED TO SECTION F.

Which of the following reasons influenced you not to drink? TO RESPOND TO QUESTIONS 31 - 37, USE THIS SCALE:

- a. strongly agree d. disagree
b. agree e. strongly disagree
c. undecided

31. do not like the taste
32. in athletic or other training
33. detrimental to general health
34. parents disapprove
35. friends disapprove
36. moral or religious reasons
37. excessive use by others

	a	b	c	d	e
31	1	1	1	1	1
32	1	1	1	1	1
33	1	1	1	1	1
34	1	1	1	1	1
35	1	1	1	1	1
36	1	1	1	1	1
37	1	1	1	1	1

SECTION F - ATTITUDES TOWARDS DRINKING

TO RESPOND TO QUESTIONS 38 - 41, USE THIS SCALE:

- a. strongly agree d. disagree
b. agree e. strongly disagree
c. undecided

38. drinking is never a good thing
39. drinking responsibly is okay
40. an occasional drunk is okay
41. it's nobody's business how much someone drinks as long as he does not annoy others.

	a	b	c	d	e
38	1	1	1	1	1
39	1	1	1	1	1
40	1	1	1	1	1
41	1	1	1	1	1

SECTION G - KNOWLEDGE ABOUT ALCOHOL

The following statements deal with information about alcohol. The statements will be either true or false. If you do not know the answer to the statement, do not guess. USE THIS SCALE FOR YOUR ANSWERS: T, true; F, false; DK, don't know.

42. Drinking milk before drinking an alcoholic beverage will slow down the absorption of alcohol into the body.
43. In America, drinking is usually considered an important socializing custom in business, for relaxation, and for improving interpersonal relationships.
44. Alcohol is usually classified as a stimulant.
45. Alcohol is not a drug.
46. A blood alcohol concentration of 0.1% is the legal definition of alcohol intoxication in most states in regard to drinking.
47. Approximately 10% of fatal highway accidents are alcohol-related.
48. Table wines contain from 2 - 12% alcohol by volume.
49. Most people drink to escape from problems, loneliness, and depression.
50. A person cannot become an alcoholic by just drinking beer.
51. To prevent getting a hangover one should sip his drink slowly, drink and eat at the same time, and space drinks over a period of time.
52. Distilled liquors (gin, whiskey, vodka, etc.) usually contain about 15 - 20 % alcohol by volume.
53. Moderate consumption of alcoholic beverages is generally not harmful to the body.
54. It takes about as many hours as the number of beers drunk to completely burn up the alcohol ingested.
55. Many people drink for social acceptance, because of peer group pressure, and to gain adult status.
56. Proof on a bottle of liquor represents half the percent of alcohol contained in the bottle.

	T	F	DK
42	0	0	0
43	0	0	0
44	0	0	0
45	0	0	0
46	0	0	0
47	0	0	0
48	0	0	0
49	0	0	0
50	0	0	0
51	0	0	0
52	0	0	0
53	0	0	0
54	0	0	0
55	0	0	0
56	0	0	0

57. Beer usually contains from 2 - 12% alcohol by volume.
58. Drinking coffee or taking a cold shower can be an effective way of sobering up.
59. Liquor taken straight will affect you faster than liquor mixed with water.

T F DK
57 0 0 0
58 0 0 0
59 0 0 0

SECTION H - BACKGROUND INFORMATION

This is the final section of the questionnaire. These questions are for background information.

60. Age: a. 18 and under d. 25-34
b. 19-21 e. 35 and over
c. 22-24
61. Sex: a. male b. female
62. Marital status: a. single b. married c. divorced
63. Position: a. Freshman d. Senior
b. Sophomore e. Graduate
c. Junior
64. Race: a. Caucasian d. Spanish American
b. Black American e. International Student
c. Native American
65. College of affiliation: a. Agriculture e. Engineering
b. Arts & Science f. Home Economics
c. Business Admin. g. Veterinary Medicine
d. Education
66. What is your G.P.A.: a. below 2.0 d. 3.0 - 3.49
b. 2.0 - 2.49 e. 3.5 - 4.0
c. 2.5 - 2.99
67. Place of residence: a. dorm d. married student housing
b. fraternity/sorority e. own house
c. Off-campus
68. Size of the High School from which graduated: a. 27 - 499 students d. 1500 - 1999 students
b. 500 - 999 students e. 2000 - 2500 students
c. 1000 - 1499 students
69. Parents' use of alcohol: a. both parents d. mother only
b. neither parent e. do not know
c. father only f. does not apply
70. Parents' attitude towards drinking: a. Drinking is never a good thing.
b. Drinking responsibly is okay.
c. An occasional 'drunk' is okay.
d. It's nobody's business how much someone drinks as long as he/she does not bother anyone else.
71. If you knew a student who needed help with a drinking problem, which of the following is the first place you would suggest for help? a. Clergymen e. Psychological Services
b. Alcoholic Anonymous f. Residence Hall, Frat./Soro.
c. Student Health Center personnel
d. Univ. Counseling Center
72. What is your religious preference? a. Gospel Protestant d. Jewish
b. Confessional Protestant e. Islamic
c. Catholic f. other

a b c d e
60 0 0 0 0
61 0 0
62 0 0 0
63 0 0 0 0 0
a b c d e
64 0 0 0 0 0
a b c d e f g
65 0 0 0 0 0 0 0
a b c d e
66 0 0 0 0 0
a b c d e
67 0 0 0 0 0
a b c d e
68 0 0 0 0 0
a b c d e f
69 0 0 0 0 0 0
a b c d
70 0 0 0 0
a b c d e f
71 0 0 0 0 0 0
a b c d e f
72 0 0 0 0 0 0

2
VITA

John William Lundberg

Candidate for the Degree of

Doctor of Education

Thesis: STUDENT BEHAVIOR, ATTITUDES AND KNOWLEDGE OF ALCOHOL AT
OKLAHOMA STATE UNIVERSITY

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Education: Attended grade school in Middletown, New York; graduated from the Little Flower Benedictine High School, Newton, New Jersey, in 1948; received the Bachelor of Arts degree with a major in Philosophy and a minor in Classical Languages from Immaculate Conception Seminary College, Conception, Missouri in May, 1954; received the Master of Science degree in Student Personnel and Guidance from Oklahoma State University in August, 1969; completed requirements for the Doctor of Education Degree at Oklahoma State University in December, 1984.

Professional Experience: Served as Chaplain-Counselor to secondary level Indian Youth at Chilocco Indian School, Chilocco, Oklahoma, 1965-1970; Chaplain-Counselor to the Newman Club at Southeastern State University, Durant, Oklahoma, 1970-1974; Director of St. Francis Xavier Parochial School, Stillwater, Oklahoma, 1974-1976; Pastor at various Catholic parishes, 1969 to present.

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