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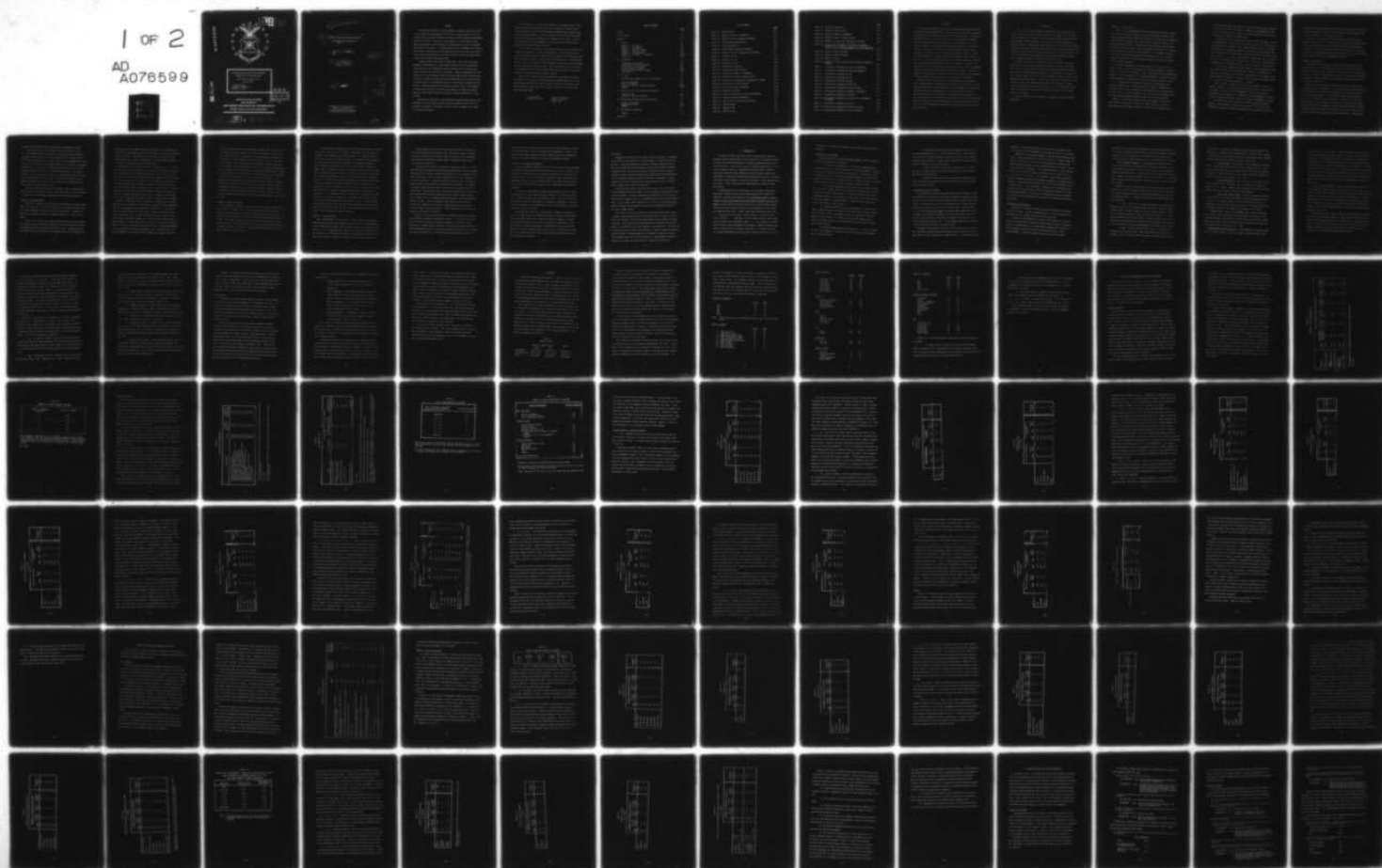
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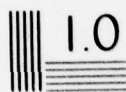
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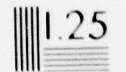




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ALCOHOLISM AND ALCOHOL RELATED PROBLEMS  
AMONG USAF CIVILIAN EMPLOYEES

AFIT Technical Report 79-4

August 1979

T. Roger Manley  
Charles W. McNichols  
Michael J. Stahl

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## Preface

The research described in this document was initiated in the fall of 1977 at the request of representatives of the U.S. Air Force Director of Civilian Personnel and actual data collection from nearly 10,000 employees was completed by the fall of 1978. Successful accomplishment of a survey effort of this magnitude required the active support and assistance of a variety of managers and technical specialists. The authors would like to acknowledge some of these contributions, both because of their importance to this work and as an indication to those who might hope to do similar research of the wide range of activities to be considered and orchestrated.

Lieutenant General (now General) Bennie Davis, then the Air Force DCS/ Manpower and Personnel and J. Craig Cumbey, Director of Civilian Personnel, provided the top level management support without which an in-house survey effort like this one could never be performed. Several representatives of the Director of Civilian Personnel aided us with many administrative and coordination tasks in getting the data collection accomplished, and have helped in the continuing process of disseminating results of the effort to appropriate individuals. These representatives include Neil Galloway, Chief of the Employee Relations Division and Hank Gottlieb and Joe Reber, the former and present Drug and Alcohol Abuse Prevention and Control Program administrators in that division.

Dave Armor and Bruce Orvis, representatives from Rand Corporation who had performed an earlier survey of alcohol prevalence among Air Force military personnel, assisted us in adaptation of their survey instrument to our study of a civilian population.

As her MS thesis at the Air Force Institute of Technology, Captain Mary McCully performed an extensive review of the literature of alcohol misuse and, on the basis of this review, formulated hypotheses about alcohol misuse for the sampled population. Extracts from her literature review and results of tests of some of these hypotheses are imbedded in this report. Tests of other hypotheses will be documented in a thesis by Captain Richard Larkins which will be available later this fall.

The Air Force is fortunate in having access to sophisticated capabilities supporting the mechanics of survey based research. The Air Force Office of Civilian Personnel Operations (OCP0) used its automated civilian personnel data base to draw the stratified sample desired by the researchers. Personnel working for the Air Force Director of Administration arranged for survey instrument printing, packaging, and distribution. Data processing facilities of the Air Force Human Resources Laboratory (AFHRL) were used to process the scan sheets on which survey responses were originally captured.

Finally, while recognizing the contributions of many named and unnamed individuals to this report, the authors take full responsibility for its content and emphasize that conclusions reached in the study are opinions of the authors and may not represent official policy of the U.S. Air Force or any other government agency.

T. Roger Manley  
Melbourne, Florida

Charles W. McNichols  
Michael J. Stahl  
Dayton, Ohio



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### Abstract

This report summarizes a research effort accomplished for the Air Force Director of Civilian Personnel in an attempt to estimate the nature and extent of alcohol-related problems among Air Force civilian employees. The research methodology, based on an earlier Rand study of Air Force military members, involved administration of a questionnaire to a random sample of Air Force civilian employees. Nine thousand nine hundred and thirty-nine surveys were returned, representing a 75.6% response rate. Although drinking problems encompass a continuum of effects, two major categories or levels of alcohol impact were defined in the Rand study and are identified in this effort. A total of 1.1% of the sample were determined to be alcohol-dependent, indicated by chronic behaviors representative of physical dependence on alcohol. An additional 5.8% of the sample have experienced one or more serious consequences related to drinking and are classified as adversely affected. A variety of demographic variables were included in the survey, and these permit comparisons of alcohol-related problems among specific categories of respondents.

Additional criterion measures of job satisfaction, work involvement, stress, and psychological dependence provide potential correlates for alcohol-dependent and adversely affected behavior. Also presented in the survey were questions dealing with respondent attitudes about organizational help in dealing with alcohol-related problems, and questions about perceptions of the career impact of being identified as an individual with a drinking problem. Because of the nature of the study methodology and the problem under examination, all alcohol prevalence estimates derived from the research are felt to be conservative.



## 1. Overview

In the fall 1977 the authors were requested by a representative of the office of the U.S. Air Force Director of Civilian Personnel (DPC) to provide research support on the subject of alcohol abuse and alcoholism among civilian USAF employees. More specifically, the request was for the researchers to develop prevalence estimates which would enable the DPC staff to more accurately determine the extent of problem drinking among the USAF civilian workforce, and estimate the effectiveness of the current occupational alcoholism program. The latter is required by the Comprehensive Alcohol Abuse and Alcoholism Prevention, Treatment, and Rehabilitation Act of 1970 (PL 91-616).

The research began with a thorough review of the alcoholism research, meeting with a team of Rand Corporation researchers who had recently begun a multi-year, far-ranging study on alcohol misuse and treatment among USAF military personnel; design and administration of a questionnaire to a large, randomly selected sample of Air Force civilian employees; and the analysis of data gathered with the questionnaire. This report constitutes a presentation of our findings to our client, the USAF Director of Civilian Personnel. However, since we feel that our work with this data base is far from complete, we consider this report to be but one step in the process started by the initial request for assistance.

In this overview each of the chapters is summarized, and major findings highlighted.

## Chapter 2. Introduction

There is little disagreement with the contention that misuse of alcohol is a problem with national impact. The costs of problem drinking in 1975 alone were estimated to be nearly \$43 billion, and 11 percent of all deaths in that year were estimated to be alcohol-related, as were 40 percent of all fatal industrial accidents. These and many other statistics were included in former Secretary of Health, Education and Welfare Califano's Third Special Report to the U.S. Congress in the Spring 1979. It is somewhat ironical to note that although such attention-getting estimates exist for the nation, virtually no empirical research has been conducted on alcohol misuse among civilian Federal employees.

Government organizations have lagged behind the civilian sector for a number of years. Of the 2,400 occupational alcoholism programs in existence in 1977, only 400 were in the public sector. Many hoped that the Comprehensive Alcohol Abuse and Alcoholism Act of 1970 would dramatically change all of that within government, but impact of the law so far has been relatively minimal.

It is interesting to contrast the motivations of governmental and industrial organizations in conducting alcohol programs. Government representatives talk in terms of what they are required to do by law, Agency regulations or the Civil Service Commission rules, while industry representatives talk about how the programs positively affect the firm's profitability.

Common to successful occupational alcoholism programs is the active participation of supervisors. Supervisors remain sensitive to signs of deteriorating job performance, and where indicated refer affected workers to

qualified professionals for diagnosis and possible counseling and treatment. The key feature is that the supervisor focuses on job performance, a practice which provides help for workers with drinking problems, but which also enhances overall supervisory effectiveness.

Previous research can generally be placed in one of two camps: clinical or epidemiological. The majority of studies described in the literature are based upon clinical research. These studies generally make use of subjects who have been institutionalized because their health has deteriorated, they have experienced serious consequences and developed physical addiction to the drug of alcohol. In contrast, epidemiological studies make use of large samples which are randomly drawn from populations of interest. Typically such studies make use of survey instruments such as that used in this research.

Clinicians and epidemiologists often engage in heated exchanges over the merits and limitations of the two approaches; however, our review of the literature has convinced us that the two approaches tend to complement rather than contradict one another. Findings of some of the more well known studies in the current literature are summarized in chapter 2.

Finally, chapter 2 presents an overview of the approach used in this research. Emphasis is placed upon the two categorizations of problem drinking adopted. The first is alcohol dependence, which is akin to what is frequently called "alcoholism." We establish alcohol dependence by focusing on chronic behaviors which imply addiction or physical dependence on alcohol.

The second classification is what is referred to as being adversely affected. An individual is placed in this category if he or she has experienced one or more of 13 serious consequences associated with drinking, has

lost three or more days during the past year from work because of drinking, and/or consumed a daily volume of alcohol which would cause damage to the liver (five ounces or more of ethanol per day).

This work is differentiated from much of what has previously been reported because our focus is clearly on the work-place, with subjects who are gainfully employed, and meet the demands of a highly regulated work environment. These factors clearly separate participants in this research from the institutionalized patients of the clinicians, and to a more limited extent from the participants of epidemiological works.

### Chapter 3. The Sample

The survey was distributed to 13,146 USAF civilian employees during October-November 1978. The sample was stratified by grade and randomly selected. In order to insure anonymity of respondents, questionnaires were sent only to Civilian Personnel Offices responsible for 80 or more selected respondents. Usable responses were received from 9,939 individuals for a 75.6 percent response rate.

While this normally would be considered an excellent response rate, it causes the authors some concern. This concern centers on the possibility that individuals with drinking problems may be over-represented among the 24.4 percent non-respondents. Since complete anonymity was promised and given, it is impossible for the researchers to look into the reasons for non-responses. For the purposes of our analysis we therefore must assume that no differences exist between respondents and non-respondents; however, reasonable prudence leads us to suspect that individuals with drinking problems are probably over-represented among non-respondents. Therefore, we



emphasize the conservative nature of these data throughout the report.

Some characteristics of the sample which are of interest include:

(1) four MAJCOMs account for 77 percent of the sample with 48 percent of respondents from Air Force Logistics Command (AFLC), 13 percent from Air Force Systems Command (AFSC), 9 percent from Air Training Command (ATC), and 7 percent from Military Airlift Command (MAC); (2) 36 percent of respondents are women; (3) 79 percent of the sample are married; (4) 10 percent are Hispanic, 9 percent are Black, 2 percent American Indians, and 3 percent Oriental; (5) 15 percent have one or more college degrees and 8 percent did not graduate from high school; and (6) 16 percent are 30 years of age or younger, 20 percent are in their 30's, 58 percent are between 40-60 years, and 5 percent are over 60 years of age.

Based upon known characteristics of the USAF civilian employee population as well as a comparison with the larger AFMIG survey of 1975, the sample is considered to be reasonably representative of the overall population.

#### Chapter 4. Prevalence Rates

A total of 1.1 percent of the sample were determined to be alcohol dependent. This means that 1.1 percent reported that they experienced two or more of the four "dependent" behaviors at least once per month. In addition to that group, one percent reported one dependence behavior at least once per month.

A total of 6.7 percent of the sample reported that they had experienced one or more of the 13 consequences, drinking at a level of presumptive physical damage, and/or missing three or more days of work. Extrapolating from this sample to the entire USAF civilian employee workforce, these admittedly

conservative criteria suggest that more than 2,500 Air Force employees can be classified as dependent upon alcohol and another 14,000 as being adversely affected by alcohol. Therefore, we can state with some confidence that 16,500 employees constitutes a "lower bound" as an estimate of the number of individuals in the workforce with drinking problems.

Some other points of interest related to prevalence are: (1) slightly less than 20 percent of respondents did not drink at all during the past year, but 23.3 percent said that they had gotten drunk on one or more occasions; (2) a majority (52 percent) reported that they averaged one ounce of alcohol (i.e., two ounces of 100 proof whiskey) or less each day; (3) a total of 1.2 percent consumed daily volumes of alcohol which exceeded five ounces (the level at which damage is presumed to occur to one's liver); (4) respondents under 25 years of age reported the highest incidence of serious consequences and alcohol dependence symptoms; (5) men drank more frequently and in greater volume than did women, as well as reporting higher incidence of dependence symptoms and serious consequences than women; (6) Hispanics, American Indians, and Blacks reported higher incidence of alcohol dependence and serious consequences than did Orientals and Whites; (7) individuals with less formal education were more likely to report having experienced serious consequences; (8) non-high school graduates were the most likely to report physical dependence symptoms, but college graduates reported dependence symptoms at a rate which was almost as high; (9) unmarried respondents were more likely to report having experienced serious consequences and dependence symptoms than were married respondents; (10) respondents with four or more dependents (not counting oneself) reported the highest incidence of

serious consequences and alcohol dependence symptoms; (11) the greater the average daily intake of alcohol, the higher the probability that an individual experienced serious consequences or reported dependence symptoms; (12) a break point in the consumption of alcohol appears to occur at one ounce of alcohol per day--those who consume an average greater than one ounce (two drinks) appear to run a significantly higher risk of becoming problem drinkers; (13) respondents who reported low job satisfaction reported higher incidence of serious consequences and dependence symptoms than did those with moderate and high job satisfaction; (14) a direct relationship appears to exist between work involvement and problem drinking--the more involved individuals are with their work, the less likely they are to report serious consequences or dependence symptoms; and (15) respondents reporting "moderate" levels of job-related stress experienced slightly lower incidence of serious consequences and dependence symptoms than those who reported "high" or "low" levels of stress.

#### Chapter 5. Impact on the Job

A computational scheme was used to arrive at an estimate of work days lost due to misuse of alcohol. This scheme considered late arrivals and early departures from work, working at decreased effectiveness, and absenteeism. It yielded an overall average of .359 day per year per employee lost due to misuse of alcohol. This figure includes the 20 percent who did not drink during the past year as well as the 65 percent who did drink but lost no work time because of drinking. Overall, a total of 15.3 percent indicated that they lost some time from work because of drinking.

In examining the distribution of time lost from work because of drinking against the classifications of a number of demographic and organizational variables, the following observations were made: (1) employees under 30 years of age reported more time lost because of drinking; (2) men reported lost time at about twice the rate of women; (3) Hispanics and American Indians reported the highest rates of lost time, Orientals reported the lowest--Blacks and Whites had about the same rates; (4) non-married respondents reported about twice the rate of lost time as did married individuals; (5) respondents who drank one ounce or less of alcohol per day reported a mean of 0.21 day lost per employee, those who drank 2-3 ounces per day lost 1.78 days per employee, and those who drank 4-5 ounces per day lost an average of 4.13 days per employee; (6) the loss of 3 or more days from work was reported by 53 percent of respondents who reported only one serious consequence; (7) respondents with one or more serious consequences lost an average of 4.24 days per employee; (8) respondents with low job satisfaction and low work involvement were about twice as likely to have lost time from work because of drinking than were those with moderate or high levels; and (9) those with low levels of stress in their work were less likely to report time lost from work because of drinking.

#### Chapter 6. The Supervisor

When asked how many of their workers, in their opinions, had drinking problems which affected their performance at work, Air Force civilian supervisors responded with estimates which yielded a figure of 8.2 percent of the workforce. This is somewhat higher than the 6.7 percent rate identified by the researchers as being adversely affected by alcohol misuse, and adds credence to the authors' contention that these data are highly conservative.



The questionnaire used in this research was designed so that the last nine questions applied to supervisors only. Based upon responses to these questions it was possible to establish that 14.9 percent of the respondents were supervisors and that the average number of employees supervised was 11.08 workers per supervisor.

Since the key to successful occupational alcoholism programs is active and effective participation by supervisors who concentrate on job performance, the comparison of supervisor perceptions with those of all respondents (note that a supervisor is also one who is supervised by his or her supervisor) is of particular interest. The data provided by supervisors show consistently higher incidence rates than those provided by all respondents. For example, supervisors report that they told 5.3 percent of those supervised to cut down on their drinking (recall that supervisors estimated that 8.2 percent of their employees had drinking problems which affected their work), whereas only 1.0 percent of all respondents reported that their supervisors had told them to cut down. Similar discrepancies were noted for items covering referral for treatment, for receiving a lower appraisal rating, and for receiving formal disciplinary actions. Possible explanations for these differences are discussed in chapter 6.

Finally, 81 percent of the supervisors reported that they spent no time at all working on alcohol-related people problems. If this were an accurate report, it would constitute a stinging indictment of civilian Air Force supervisors. However, what we conclude is that on many occasions supervisors deal with problems which are related with problem drinking or misuse of alcohol, but they are not aware of it. The individual who arrives late to work, or

does sloppy work on occasion may in fact have a drinking problem but is considered by the supervisor to be irresponsible or unmotivated. If this is the case, perhaps greater emphasis on alcohol-related behavior and consequences should be included in supervisory training and development programs.

#### Chapter 7. Psychological Dependence

Specific, observable behaviors as well as clearly identifiable consequences associated with alcohol were the major focus of this research. Insofar as was possible the researchers tried to relieve the respondent of the necessity to interpret events. Also, the researchers attempted to focus on behaviors and consequences which could be observed by others, should they have the opportunity. A major exception to this approach was the treatment of psychological dependence.

The measure of psychological dependence was developed for this research from questionnaire items used by previous researchers. The measure consists of six items which address why an individual drinks. Responses to each item are summed to form an overall measure of psychological dependence. This measure has been shown to be psychometrically sound, and may possess significant potential for use by clinicians.

Individuals who scored high on psychological dependence were found to also incur higher incidence of serious consequences resulting from drinking, and to experience higher rates of alcohol (chemical) dependence. Younger respondents were found to score higher on psychological dependence, as did men, Hispanics, non-married personnel, individuals who lost time from work because of drinking, those who drank over one ounce of alcohol per day, those who scored high on job-related stress, and those who scored low on job satisfaction and work involvement.

## Conclusions

Although the completion of this report fulfills the authors' commitment to the staff of the Director of Civilian Personnel, it clearly does not end the work. With the cooperation of numerous individuals throughout the Air Force, the 10,000 USAF civilian employees who were kind enough to complete the questionnaire, and previous researchers--especially the Rand team--an extremely valuable and equally complex data base dealing with drinking behavior of government employees has been established. The authors, although headed in different directions, plan to continue their analysis and report their findings in the scientific literature.

We believe that a major contribution of our work is that it provides senior management with some insights into the tangible and human costs of the misuse of alcohol. The data are admittedly conservative, and in our future work we shall re-examine some of our assumptions and further challenge definitions. This, we hope, shall come about as a result of a continuing dialogue which has already started between the authors and professionals working in the area of alcohol misuse.

On the basis of our work to date we are convinced that alcohol misuse is a problem of major proportions which exacts high costs in terms of lost productivity, accidents, injuries and ruined health, property damage, and human suffering. As we were pitifully uninformed when we undertook this research effort, so we believe is too large a portion of the population. Much needs to be done in the area of education and awareness. Greater management attention seems warranted as increased emphasis on occupational alcoholism programs. These programs might well benefit substantially from heightened awareness on the part of all employees, but especially on the part of supervisors.

## 2. Introduction

The study of alcohol abuse and alcoholism among Federal government employees received added impetus with the passage of the Comprehensive Alcohol Abuse and Alcoholism Prevention, Treatment, and Rehabilitation Act of 1970 (PL 91-616). This particular piece of legislation made the U.S. Civil Service Commission (CSC), in cooperation with the Secretary of Health, Education, and Welfare (HEW) responsible with other Federal agencies and departments for developing and maintaining appropriate prevention, treatment, and rehabilitation programs and services for Federal civilian employee alcohol abusers. Similar legislation has been enacted by a number of state legislatures.

As highlighted by the 1977 GAO Report to the Congress, "Most Agency Programs for Employees with Alcohol-Related Problems Still Ineffective" (HRD-77-75), and even more recently by the Third Special Report to the U.S. Congress on Alcohol and Health from the Secretary of Health, Education, and Welfare, alcohol abuse and alcoholism constitute a major national problem which has not been noticeably affected by the Comprehensive Alcohol Abuse and Alcoholism Act of 1970. Further, both reports pointedly observe that ". . . there have been no studies on the prevalence of alcoholism among Federal employees . . . (and) there is also a lack of similar studies among private or other public employees" (GAO, p. 8). In a foreword to the HEW report Secretary Califano observed that research is urgently needed because "there is much we still do not know," and that it "is essential not only for a better understanding of the processes leading to alcoholism, but also



to enable us to provide better treatment and more effective approaches to prevention."

#### Dimensions of the Problem

Selected highlights from the Third Special Report provide an appreciation of the dimensions of the problem.

1. There are an estimated 9.3 to 10 million problem drinkers, including alcoholics in the adult population of the United States (7 percent of the 145 million adults 18 years of age and older). Additionally, there are estimated to be 3.3 million problem drinkers among 14-17 year olds (19 percent of all Americans in this age group). Of adults who drink, 36 percent can be classified as either current or potential problem drinkers.

2. Per capita consumption since 1971 has been the highest in the U.S. since 1850, ranging from 2.63 to 2.69 gallons of ethanol (pure alcohol) per person 14 years of age and older. The rate of increase in per capita consumption, however, has flattened out in the 1970's; indicating either that the American appetite has been surfeited, or there has been a noticeable shift in the national "drug of choice."

3. Somewhat paralleling per capita consumption, the rate of cirrhosis deaths increased by 36.6 percent from 1960 to 1970, and then leveled off in the early 1970's, and dropped slightly (6.3 percent) in 1974-1975. However, liver cirrhosis still ranked as the sixth most common cause of death in the United States in 1975, with 95 percent of the cases estimated to be alcohol-related.

4. Alcohol-related deaths were estimated to run as high as 205,000 in 1975. That estimate is 11 percent of the 1.9 million deaths recorded in the U.S. during that year.

5. Alcohol abuse and alcoholism were estimated to have cost the United States nearly \$43 *billion* in 1975: \$19.6 billion in lost production; \$12.74 billion in health and medical costs; \$5.14 billion in motor vehicle accidents; \$2.86 billion in violent crimes; \$1.94 billion in social response programs; and \$0.43 billion in fire losses.

6. Half of all traffic fatalities and one-third of all traffic injuries are alcohol-related. The more severe the crash, the more likely the driver had been drinking.

7. Almost 40 percent of all fatal industrial accidents, 69 percent of drownings, 80 percent of fire fatalities, and 70 percent of fatal falls are alcohol-related.

#### Occupational Alcoholism Programs

The Comprehensive Alcohol Abuse and Alcoholism Act of 1970 was a somewhat belated initiative taken by the Federal government to develop a program aimed at the early identification and rehabilitation of employees who misuse alcohol. Such programs are not new in the private sector, where they have been winning increasing acceptance since the late 1940's and early 1950's. In fact, in the Third Special Report it was noted that between 1950 and 1973 the number of occupational programs in the United States multiplied from about 50 to 500, and by 1977 the number of employers with some type of program had increased to almost 2,400. Of that number approximately 2,000 were in the private sector and 400 in the public sector.

The Report indicates that 72 percent of the Executives of the "Fortune 500" companies possessing occupational programs were convinced that the programs were effective and saved their companies money. In organizations where

workers were represented by labor unions, the unions have become active either as partners with management, or by being the initiators of programs.

Common to all occupational programs is the key role performed by supervisors. Under the model which is used in virtually all programs today, the supervisor remains alert to signs of deteriorating job performance and refers the affected worker to qualified professionals for diagnosis and possible counseling and treatment. If the employee refuses to see the professionals or to enter the program, disciplinary action is taken *based upon unacceptable job performance*. It is important to note that the supervisor does not attempt to function as an amateur psychologist or diagnostician, but focuses on job performance and leaves the counseling and treatment to those qualified to do it. This constitutes a change from earlier programs which attempted to train supervisors to look for symptoms of alcoholism, and has had the added benefits of providing aid to employees on personal problems not related to alcohol misuse and of increasing the overall effectiveness of supervisors.

#### An Overview of the Research

Researchers in the area of alcohol abuse and alcoholism can be placed in one of two camps: clinical or epidemiological. The two stand apart on the bases of focus, subject selection, and data collection.

Following Jellinek (1960), the clinicians view alcoholism as a physical disease, with the alcoholic progressing through several stages of increasing severity. Epidemiologists, on the other hand, recognize the clinical alcoholism syndrome as anchoring one end of the severity scale of alcohol-related problems. Clinicians typically select subjects who have been

admitted to an institution for treatment of alcohol-related problems, and then analyze the data collected from these patients for trends. Epidemiologists utilize random selection of households or other populations of interest and collect data through the use of questionnaires and interviews.

Clinical Research Findings. The preponderance of research reports found in the literature on alcoholism and alcohol-related problems in the United States are based upon clinical studies using as subjects patients undergoing formal treatment. Characteristic of these subjects are observable symptoms of physical dependence on the drug of alcohol. Included among these symptoms are morning drinking, tremors, blackouts, and loss of control over drinking.

Results of clinical studies appear to generally agree with each other. Variables of interest include sex, age, marital status, ethnic background, socioeconomic status and job type, anxiety and personal control, and attitude toward alcohol use. Findings related to some of these variables are discussed below.

1. Sex. The majority of identified alcoholics are younger males (Beckman, 1976); are less educated (Stambul and Armor, 1977); are single, consume alcohol in greater quantities and with greater frequency and drink more in the morning than their female counterparts (Bromet, et al., 1976). Female alcoholics exhibit higher levels of tension and anxiety, come from families which have histories of parental drinking problems, and seek spouses who have potential drinking problems (Beckman, 1976; Bromet, et al., 1976).

2. Age. Individuals admitted to hospitals or institutions for problems with alcohol are usually middle-aged, ranging from 35-60 years (Hoffman, et al., 1973; Kolb, 1976); which seems reasonable upon reflecting



that alcohol is a relatively ineffective drug and requires some time for individuals to develop a physical addiction for it (Fisher, 1976). However, as Kolb (1976) and Lehner (1978) have noted, the mean age of those admitted has been dropping significantly for the past several years.

3. Marital Status. More alcoholics are single and live by themselves. When compared with single alcoholics, married alcoholics tend to be older, have fewer arrests for alcohol-related infractions, and exhibit less tension. Unmarried alcoholics also scored significantly higher on an alcoholism severity index (Bromet, et al., 1976).

4. Socioeconomic Status. More alcoholics tend to come from low income households and, if employed, hold low paying, manual labor jobs (Schuckit, et al., 1976). However, higher quantities of alcohol were found by Room (1976) to be consumed in higher income households.

5. Tension and Personal Control. High tension and low feelings of control over self and one's environment are fairly common descriptions of alcoholics. Alcoholics appear to rely on the effects of alcohol to reduce tension and to bolster feelings of control over themselves and their environments (Boyatzis, 1974; Beckman, 1976; Bromet, et al., 1976).

In summary, while there is wide agreement among clinical researchers that alcoholics do not comprise an unique personality type, there is also widespread consensus that alcoholics exhibit characteristics which at least partially distinguish them from normal individuals and other clinical disorder groups (Freed, 1976; Horn, et al., 1974).

Epidemiological Research Findings. The epidemiological research literature is relatively sparse. In fact, one author recently noted that there

have only been six major studies of drinking problems among the general United States population (McCully, 1978). The first study of major significance was that conducted by Mulford in 1964 in which he attempted to discover the kinds of problems associated with drinking through the use of a national survey. Another major contribution to epidemiological research was made in 1969 by Cahalan and his associates in the Social Research Group at the University of California when they analyzed drinking practices in the general population and effectively moved out from the clinical environment to the everyday world of non-institutionalized subjects (Cahalan and Room, 1974).

In 1970, Cahalan published a report on the measurement of the prevalence of various types of problem drinking and an analysis of their correlates. In 1974, Cahalan and Room described their analysis of problem drinking among American men based upon two sets of national survey data. These two comprehensive studies are the most frequently cited epidemiological works in the literature and have had a profound influence upon epidemiological research. Of particular import have been the definitional and measurement approaches used in them.

Epidemiologists have focused on problem drinking rather than limiting their inquiries to chronic alcoholism. They consider drinking problems to be any kind of problem--physical, work-related, social, or psychological--which is closely associated with the consumption of alcohol. They do not attempt to establish cause and effect, but restrict their analysis to determination of correlation among measured variables.

The subject of validity of the epidemiological approach, frequently raised by clinicians, is a crucial one. In any kind of self report, and especially one attempting to measure a socially undesirable behavior, it is important to carefully consider the likelihood of subjects responding honestly to survey items. On this subject all researchers agree that percentage estimates concluded from epidemiological surveys should be considered as conservative (Fitzgerald and Mulford, 1978; McQueen and Celento, 1978; Knupfer, 1967). Also, there are considerations such as variability in the quantity and frequency (Q/F) with the seasons of the year as shown by Fitzgerald and Mulford (1978). Such variation is significant because respondent reported Q/F rates appear to reflect respondent drinking patterns of recent weeks.

Cahalan focuses on two groups of variables in his studies: demographic and psycho-social. Among the first set were sex, age, marital status, geographic region, urbanization, socioeconomic status, religion, and ethnic background. Among the psycho-social variables were attitude toward drinking, environmental support, impulsivity and nonconformity, alienation and maladjustment. Some of the findings are provided below.

1. Sex. All published studies to date on drinking problems have found that men drink more often than women; men also drink greater quantities and experience more problems (McCully, 1978). However, as noted by Wechsler, et al. (1976) and Beckman (1976), the margin appears to be narrowing dramatically.

2. Age. Young people drink less frequently but more heavily than older adults (Cahalan, 1970; Celentano, et al., 1978). Among men, the pre-

valence of drinking problems was, in the aggregate, highest for those in their late teens and early twenties (Celentano, et al., 1978). Among women, problems did not occur until they entered their thirties, increased in their forties, and then dropped off sharply in their fifties (Celentano, et al., 1978).

3. Marital Status. Married men who are over 30 years of age and who have children at home have relatively low alcohol consumption and experience fewer problems related with drinking. Single men in their twenties are most likely to experience problems (Cahalan, 1974).

4. Geographic Region. The dryer regions, where the Temperance Movement had its greatest influence, showed a much higher proportion of heavy drinkers experiencing consequences from their drinking (McCully, 1978).

5. Urbanization. Drinking problems are more prevalent in larger cities than in rural areas (Cahalan, 1970 and 1974).

6. Socioeconomic Status. Individuals from the lower socioeconomic group (less than a high school education and an annual income of less than \$6,000) are more likely to experience consequences associated with alcohol consumption than are their higher status neighbors (Cahalan, 1970 and 1974).

7. Psycho-social Variables. Attitude toward drinking, environmental support for heavy drinking, impulsivity and nonconformity, and alienation and maladjustment accounted for almost all the variance associated with problem drinking ( $R^2 = .15$ ), with the attitude toward drinking the most potent predictor variable (Cahalan, 1970).



In summary, it can be seen from the preceding review of the research literature that the findings of the clinical and epidemiological researchers can be viewed as complementary. Except for the fact that the subject population is larger and that the alcohol abuser in the epidemiological research is younger (early 20's) than the clinicians' institutionalized subject, correlates tend to support rather than contradict one another.

#### USAF Research

The USAF has been sponsoring and conducting research on the prevalence of alcohol abuse and alcoholism among Air Force personnel since 1976. Initial efforts focused on active duty military personnel and were conducted by a team of Rand Corporation researchers (Polich and Orvis, 1979). Prevalence research among Air Force civilian employees began in 1977, when the authors of this report were asked for research support by the Director of Civilian Personnel.

Since the Air Force has been charged by the Comprehensive Alcohol Abuse and Alcoholism Act of 1970 to evaluate the overall effectiveness of current Air Force treatment and rehabilitation programs (it was the requirement which prompted the request for help), it was decided that a logical starting point would be an effort which would establish the prevalence of alcohol abuse and alcoholism among civilian employees and permit calculation of a penetration rate (Schlenger and Hayward, 1976). Further, since Rand Corporation had recently conducted a survey based in large part upon the instruments developed by Mulford and Cahalan among USAF military personnel and had established a data base which could be used for comparison purposes, we adopted much of their methodology for our work.

Essential to our work and that of Rand is an understanding of several important terms:

1. Adversely Affected. An individual who experiences one or more serious consequences as a result of alcoholic consumption.
2. Alcohol Dependent. An individual who exhibits observable, chronic behavioral problems which imply physical dependence on alcohol or physical impairment akin to dependence.
3. Physical Dependence. A "need" for the drug of alcohol to maintain bodily equilibrium, or the presence of withdrawal symptoms when alcohol is absent.
4. Serious Consequences. Consequences of alcoholic consumption which result in physical/bodily damage or in the disruption of one's social or work life.

As the reader can appreciate from examining the above definitions, alcoholism is defined in terms of physical dependence upon the substance, while alcohol abuse is established by problems which occur as a result of an individual's drinking. In the vernacular, an alcohol abuser is a person with a "drinking problem."

In conducting prevalence research among civilian USAF employees the authors constructed a 109 item questionnaire containing items which establish both physical dependence and serious consequences. Making use of the validation work of Polich and Orvis (1979), as well as incorporating some of the authors' own validation measures, the questionnaire examines dependence in terms of morning drinking, tremors ("shakes"), memory loss (black-

outs"), and loss of control over drinking. Classification of the alcohol abuse categorization is accomplished through the reporting of one or more of 15 separate indications: 13 serious consequences caused by misuse of alcohol, prolonged consumption of alcohol at quantities equal to or exceeding that established as causing liver damage (high risk consumption); and a total of three or more days lost at work as a result of alcoholic consumption. Similar to the 13 problem areas identified by Cahalan (1970), the 13 serious consequences contained in the questionnaire fall into three categories: work impairment, physical damage, and social disruption.

Also included in the instrument are: a six item measure of psychological dependence; a six item intoxication index; questions covering past treatment for drinking problems; attitudinal questions covering issues such as the perceived organizational norms toward individuals with drinking problems; and a number of personal and organizational variables which have been identified as important by other researchers.

Lastly, three criterion variables used in the analysis of the data were included in the instrument. They are the Hoppock measure of job satisfaction (McNichols, Stahl, and Manley, 1978), the Patchen (1965) work involvement (or work motivation) measure, and a six item measure of stress/tension adapted from Farquhar (1977).

### 3. The Sample

The survey instrument was distributed to 13,146 U.S. Air Force civilian employees during October-November 1978. The sample was randomly selected and stratified by grade. Also, in order to protect the anonymity of individuals, questionnaires were only sent to Civilian Personnel Offices responsible for 80 or more selected respondents. Usable responses were provided by 9,939 individuals, providing an effective response rate of 75.6 percent. Of the completed questionnaires returned to the researchers, 69 percent were group administered and 31 percent sent to respondents through the mail.

The response rate for group administration of survey instruments was 78.4 percent and the response rate for administration through the mail was 70.2 percent. It is not known what proportion of those considered non-respondents to the mail administration actually received the questionnaires. However, we do know that of the 21.6 percent non-respondents to group administration 1.7 percent refused to participate. The remaining 19.9 percent were notified, but for reasons unknown to the researchers did not show up at the time they were scheduled to fill out the questionnaire. These figures are summarized in Table 3-1.

Table 3-1  
Response Rates

	Method of Administration		Overall
	Group	Mail	
Respondents	6841 (78.4%)	3098 (70.2%)	9939 (75.6%)
Non-Respondents	1880 (21.6%)	1327 (29.8%)	3207 (24.4%)
Total	8721 (100%)	4425 (100%)	13146 (100%)



Although a response rate of 76 percent is normally considered excellent, when the focus of the research is essentially on self-reports of socially undesirable behavior, and the subset of the population which is of particular interest (i.e., alcoholics and alcohol abusers) will be a relatively small proportion of the overall population, non-respondents constitute a source of very real concern. One cannot help but suspect that a significant number of alcoholics and alcohol abusers are included among the 3207 non-respondents, and the absence of their responses significantly biases the data base in a conservative direction. That is, we consider our figures to understate the magnitude and impact of the problem. An additional factor which may bias our data is the well-documented proclivity towards denial on the part of alcoholics and alcohol abusers when they are questioned about their drinking and its consequences.

For our analysis we have assumed that the data provided by the respondents are representative of the overall population of USAF civilian employees, although we recognize that in so doing we undoubtedly err on the side of conservatism/understatement. Therefore, in drawing conclusions about dimensions of the problem among civilian employees, the reader would be well-advised to keep in mind that the data represent "best case" bounds on the problem of alcoholism and alcohol abuse.

The following are presented to provide the reader with an appreciation of the characteristics of the population responding to the survey. The data which follow, and those which are presented in subsequent sections of this report, are weighted by respondents' grades so that they may more accurately represent responses of the entire population of civilian employees. The

weights used represent the ratio of the number of individuals in specified pay systems and grade levels in the civilian force to the number of respondents in those grades. This procedure, therefore, effectively corrects for disproportionate sampling across civilian grades. Since, to the best of our knowledge, these data represent only the second time civilian employees have been surveyed on an Air Force-wide basis, responses from the original 1975 AFMIG survey are also provided for purposes of comparison.

MAJCOM OF ASSIGNMENT:

	<u>Alcohol</u>	<u>AFMIG</u>
AFLC	48%	35%
AFSC	13	12
ATC	9	8
MAC	7	8
TAC	3	5
Other	20	32*

\*Note: SAC accounted for 9% of the AFMIG sample, but only 2% of the alcohol sample.

GRADE CATEGORIES:

	<u>Alcohol</u>	<u>AFMIG</u>
I (WG1-4;GS1-3)	14%	10%
II (WG5-8;WL1-3;GS4)	20	21
III (WG9-10;WS1-3;WL4-6;GS5)	23	25
IV (WG11-12;WS4-6;WL7-10;GS6)	9	9
V (WG13;WS7-8;WL11-13;GS7)	6	6
VI (WG14-15;WS9-10;WL14-15;GS8)	3	3
VII (WS11-12;GS9)	7	8
VIII (WS13-14;GS10-11)	7	7
IX (WS15-16;GS12)	6	6
X (WS17-19;GS13-15)	5	5

YEARS OF SERVICE:

	<u>Alcohol</u>	<u>AFMIG</u>
Less than 1 year	3%	4%
1-5 years	16	20
6-10 years	15	17
11-15 years	19	19
16-20 years	15	11
21-25 years	10	14
26-30 years	13	9
Over 30 years	9	6

EDUCATION:

Non High School Grad	8	10
High School Grad	40	39
Some College	37	37
College Degree	7	6
Beyond Bachelor's	8	8

RACE:

Black	9	7
Hispanic	10	6
American Indian	2	2
Oriental	3	2
White/Other	75	83

SEX:

Male	63	65
Female	36	35

SUPERVISOR:

Military	20	25
Civilian	80	75

MARITAL STATUS:

Married	79	81
Never Been Married	8	8
Divorced	9	8
Legally Separated	1	1
Widow/Widower	2	2

NUMBER OF DEPENDENTS:

	<u>Alcohol</u>	<u>AFMIG</u>
None	25%	24%
One	22	22
Two	19	19
Three	18	17
Four	9	11
Five or More	7	7

PRIMARY EMPLOYMENT FUNCTION:

Maintenance	27	25
Supply	10	10
Logistics Management	7	6
Civil Engineering	7	11
Comptroller	6	6
Procurement	5	5
Administration	5	6
Personnel	4	6
R&D	4	4
Other	25	21

AGE:

20 years or less	2	1
21-24 years	4	6
25-30 years	10	11
31-39 years	20	20
40-48 years	25	30
49-60 years	33	27
Over 60 years	5	5

Summarizing, the following general observations can be made concerning the sample:

1. The sample compares favorably with the 17,110 person AFMIG sample collected in 1975. That sample was also randomly selected and stratified by grade but was not subjected to the constraint of 80 or more selected respondents being serviced by a Civilian Personnel Office.



2. With almost half the respondents (48%) from AFLC, that MAJCOM is more heavily represented than it was in the AFMIG data base. This is considered to be a function of the 80 or more respondents per Civilian Personnel Office constraint.

3. This sample reflects a somewhat higher proportion of racial minority group members than did the AFMIG sample (25% versus 17%).

4. This sample is slightly older, and has a little more Federal service, but in other respects matches the AFMIG data base very closely.

These comparisons suggest that the prevalence sample is reasonably representative of the overall population insofar as standard demographic variables are concerned.

#### 4. Prevalence Rates Among USAF Civilian Employees

The initial thrust of our analysis of the survey data was to establish prevalence rates for alcoholism among USAF civilian employees using many of the working definitions and criteria adopted by the Rand researchers in their work with USAF military members. We did this so that the Air Force might have the benefit of complementary prevalence studies for their entire force, and so that both research teams (AFIT and Rand) might proceed along parallel paths in refining their survey instruments.

##### Physical Dependence

Two of the four indicators of physical dependence incorporated in the Rand research, and also adopted here, are based upon the frequently made observation that alcoholics need alcohol in order to maintain their equilibrium. This need can be objectively identified by the observable phenomenon of tremors (or "shakes"), or implied from morning drinking. Clinicians have observed that morning drinking is frequently engaged in as a means of averting withdrawal symptoms. An extreme (but somewhat rare) form of the "shakes" would be delirium tremens; however, the less severe but still observable hand tremors would probably be the symptom experienced by most individuals reporting that they had experienced tremors. To insure the respondents understood the wording of this symptom, two differently constructed items were included in the survey. A positive response (experienced at least once per month) to either or both was counted as one symptom of physical dependence.

The third symptom, memory loss (individuals forgetting what they had done while drinking), was adopted because it seemed a fairly conclusive indicator

of dependence, i.e., if individuals drink to the point of not remembering what happened the night before one or more times per month, they are heavily dependent upon alcohol. The final symptom, loss of control while drinking (drinking until becoming intoxicated) has been identified by numerous clinicians and researchers as being characteristic of alcoholics undergoing treatment.

As Ringer et al. (1977) in an empirical test of National Council on Alcoholism (NCA) criteria for diagnosis of alcoholism have shown, the indications of dependence adopted by Rand and AFIT are among the more powerful correlates to alcoholism.

A summary of the frequency of symptoms of physical dependence reported by respondents is presented in Table 4-1. The reader will note that memory loss is the symptom most frequently reported, with 5.6 percent indicating that they had experienced it during the past year. Of those reporting its occurrence, slightly more than one percent reported that it happened at least once a month. Table 4-2 presents a frequency breakout of the number of physical dependence symptoms per respondent. Using the decision rule established by the Rand team, one percent of the sample are categorized as being physically dependent upon alcohol, i.e., 1.1 percent reported two or more symptoms at least once per month over the past year. As suggested previously, the criterion for classification as being alcohol dependent (two of the four physical dependence symptoms at least once per month over the past year) is considered very conservative and represents a "worst case" or lower bound on the extent of the problem. More will be said of this later in the report.

Table 4-1

## SYMPTOMS OF PHYSICAL DEPENDENCE

Symptom <sup>a</sup>	Percent Reporting (During Past Year) <sup>b</sup>						
	Never	Has Happened, But Not In Past Year	1-2 Days Per Year	3-11 Days Per Year	1-3 Days Per Month	1-4 Days Per Week	5-7 Days Per Week
Tremors ("Shakes")	92.1	4.0	2.2	0.5	0.2	0.5	0.5
Tremors (Morning Shakes)	91.5	3.8	2.8	0.8	0.2	0.3	0.6
Morning Drinking	93.2	3.2	1.6	0.7	0.2	0.5	0.6
Memory Loss (Blackouts)	86.5	7.9	3.5	1.0	0.3	0.3	0.5
Loss of Control	91.3	4.0	2.3	1.2	0.3	0.5	0.3

<sup>a</sup> Item wording for all symptoms was specified as being related to drinking.<sup>b</sup> N = 9,939



Table 4-2

## NUMBER OF PHYSICAL DEPENDENCE SYMPTOMS

Number of Symptoms* Reported	Percent of Sample**
0	97.9
1	1.0
-----	
2	0.4
3	0.2
4	0.5

\*Each symptom is counted only if it is reported as occurring once a month or more frequently. The four symptoms are tremors ("shakes"), morning drinking, memory loss/blackouts, and loss of control when drinking. If both "shakes" and "hands shook a lot in the morning" are reported, they count only as one symptom.

\*\*N = 9,939

### Serious Consequences

Occurrence during the past year of any one of thirteen consequences related to or caused by drinking, the loss of three or more working days, or the consumption of alcohol at a level of "presumptive physical damage" was sufficient to classify a respondent as being adversely affected (an "alcohol abuser"). Table 4-3 presents the percentage of respondents who reported experiencing consequences related with drinking during the past year. As can be seen, driving while intoxicated and fighting are the most frequently reported consequences of problem drinking.

The impact of drinking on productivity can be inferred from the consequences in Table 4-3 and directly estimated from the information presented in Table 4-4. As the reader will note, it is estimated that 0.359 days per employee was lost last year because of misuse of alcohol. The impact of employee drinking on the work environment will be considered in more depth later in this report.

Table 4-5 presents figures on the total volume of alcohol consumed on a daily basis during the past year. It is of possible interest to note that over half the respondents (52 percent) would be classified as "moderate drinkers" and 15 percent as "heavy drinkers" according to the criteria used by the researchers who conducted the recent Honolulu Heart Study (New England Journal of Medicine, 6 April 1979). Also, Table 4-5 somewhat understates alcohol consumption since 13 percent of the sample either failed to fill out consumption survey items completely, or filled them out incorrectly.

Table 4-6 presents a summary of the serious consequences used to establish the "adversely affected" classification of (alcohol abusers). According to these decision rules, 6.9 percent of USAF civilian employees (about

Table 4-3

## ALCOHOL-RELATED CONSEQUENCES

Consequence <sup>a</sup>	Never	Happened But Not In Past Year	Happened Once or More In Past Year
Received disciplinary action	98.5	0.8	0.7
Received lower performance rating	98.2	0.9	0.9
Illness kept me from work for a week or more	97.5	1.3	1.2
Hospitalized for two or more days	97.9	1.7	0.4
Visited a physician two or more times	97.5	1.9	0.6
Had an accident causing self-injury	97.5	1.8	0.7
Had accident: caused injury/property damage	97.1	2.2	0.7
Spouse left because of drinking	98.6	0.7	0.7
Spouse threatened to leave but did not	97.3	1.7	0.9
Arrested for DWI	94.7	4.4	0.9
Arrested for non-driving offense	97.2	2.2	0.6
Spent time in jail	95.9	3.4	0.7
Got into fight(s)	94.1	4.1	.9

<sup>a</sup> All incidents were specified as caused by or related to alcohol consumption and occurring during the past year.

<sup>b</sup> N = 9,939

<sup>c</sup> For individuals whose frequency of fighting while drinking exceeds frequency of fighting while not drinking.

Table 4-4  
LOST WORKING TIME

Item <sup>b</sup>	Percent Reporting (In Past Year) <sup>a</sup>		
	Any Occurrence	Occurrences Resulting In 3 or More Lost Days	Estimated Days <sup>c</sup> Lost Per Person
Missed an entire work day	5.5%	1.9%	.161 days
Worked at lower level of performance than normal <sup>d</sup>	11.4	5.1	.118
Arrived late or left early	5.0	2.2	.047
Was "high" at work <sup>e</sup>	6.0	1.9	.066
Days lost from any item		4.3%	.359 days

<sup>a</sup>N = 9,939

<sup>b</sup>Each survey item asked about incidents caused by drinking a hangover, or illness caused by drinking.

<sup>c</sup>Estimated for entire population; total days lost divided by total population.

<sup>d</sup>One occurrence counted as the loss of 25 percent of a work day.

<sup>e</sup>One occurrence counted as the loss of 25 percent of a work day. Counted only to the extent that days "high on duty" exceeds days of "lower performance than normal" for that person (to avoid possible double counting).



Table 4-5

## TOTAL ALCOHOL CONSUMPTION (VOLUME)

Level of Alcohol Consumption <sup>a</sup> (Ounces/Day During Past Year)	Percent Reporting <sup>b</sup>
Abstained	20%
Up to - 1.0	52
1.1 - 2.0	8
2.1 - 3.0	3
3.1 - 4.0	2
4.1 - 5.0	1
Over 5.0	1

<sup>a</sup>Expressed in ounces of pure ethanol, derived from ethanol content of liquor, wine, and beer and the quantity and frequency reported consumed for each beverage.

<sup>b</sup>N = 9,939; 13 percent of the respondents did not completely and/or correctly respond to survey items used to compute alcohol consumption.

Table 4-6

## SUMMARY OF SERIOUS CONSEQUENCES OF DRINKING

<u>Serious Consequence<sup>a</sup></u>	<u>Percent Reporting</u>
<u>Work Impairment</u>	
Official punishment	0.6
Lower performance rating	0.9
Loss of three working days <sup>b</sup>	3.1
<u>Physical Damage</u>	
Illness lasting one week	1.2
Hospitalization	0.5
Visits to physician	0.6
Accident with self-injury	0.6
Accident with injury to others or property damage	0.5
Consumption at a level of presumptive damage <sup>c</sup>	1.2
<u>Social Disruption</u>	
Spouse threatened to leave	0.9
Spouse left	0.5
DWI arrest	0.9
Non-driving arrest	0.6
Jail	0.6
Fights	.9
One or More Consequences	6.7

<sup>a</sup>Counted as one or more occurrences during past twelve months.

<sup>b</sup>Having three or more total days lost from missing work, being late, working at lower performance, or being high on duty.

<sup>c</sup>Total consumption of five ounces or more of ethanol per day DURING PAST YEAR.

14,000 could be classified as "problem drinkers." This percentage is less than the 6.7 percent indicated in Table 4-6 because 0.9 percent of the "abusers" also reported 2 or more symptoms of physical dependence per month. In the case where an individual can be classified as both "physically dependent" and "adversely affected," the more serious "label" applies. Therefore, extrapolating from this sample to the entire USAF civilian employee workforce, these criteria suggest that a little more than 2,500 can be classified as alcohol dependent and another 14,000 as adversely affected. Overall, a minimum of 16,500 employees can be considered to have drinking problems.

#### Prevalence Rates vs. Selected Variables

1. *Age.* Respondents were placed into seven different age groupings: under 25 years; 25-30 years; 31-39 years; 40-48 years; 49-54 years; 55-60 years; and over 60 years. Prevalence rates for these categories are presented in Table 4-7.

As the data presented in Table 4-7 clearly show, respondents under 25 years of age report the highest incidence of both serious consequences and physical dependence symptoms. The 2.8 percent who reported 2 or more symptoms of alcohol dependence are exactly twice the rate of the next highest group, those over 60 years of age. Respondents in the 25-30 years of age group reported the second highest incidence of serious consequences (13 percent). The data seem to indicate that respondents over 40 years of age experience consequences at similar rates.

Table 4-7  
PREVALENCE BY AGE  
(N = 9,939)

	Serious Consequences		Physical Dependence Symptoms			Percent of Sample
	None	One or More	None	One	Two or More	
Under 25 years	86%	14%	96.5%	0.7%	2.8%	7
25-30 years	87	13	96.6	2.2	1.2	10
31-39 years	92	8	97.7	1.2	1.1	20
40-48 years	95	5	98.3	.8	.9	25
49-54 years	95	5	98.3	.7	1.1	19
55-60 years	96	4	98.5	.8	.7	14
Over 60 years	95	5	98.2	.4	1.4	5



The authors fully expected, based upon the work of the Rand team, that respondents under 30 would report the highest incidence of both alcohol dependence and serious consequences. However, there is a school of thought which holds that since alcohol is a relatively ineffective drug, it takes a long period of time for an individual to become addicted to it. Curiously, this notion is supported somewhat by the fact that those over 60 years of age report the second highest incidence of alcohol dependence; even though this group reported the lowest mean daily consumption of alcohol. The latter, mean daily consumption, was found to be negatively correlated with age (i.e., younger respondents drank more than older respondents).

2. *Sex.* Table 4-8 plainly shows that men experience more difficulty with alcohol than do women. While some observers hold that problem drinking among women is increasing significantly, we find ourselves unable to comment on the subject. However, these data constitute a sizeable baseline from which future change can be measured. As far as these data are concerned, men report experiencing serious consequences because of drinking at a rate which is almost three times that reported by women. Men report alcohol dependence symptoms at twice the rate reported by women. It does seem possible that some of the consequences contained in the survey instrument are biased toward detection of drinking problems among men (e.g., getting into fights while drinking), and this might account for part of the difference in reported prevalence between men and women.

3. *Race.* Table 4-9 presents prevalence summarizations according to five categorizations of race. These data suggest that the incidence of alcohol dependence and serious consequences are significantly higher among Blacks, Hispanics, and American Indians. This finding is in agreement with those of

Table 4-8  
PREVALENCE BY SEX  
(N = 9,939)

	<u>Serious Consequences</u>		<u>Physical Dependence Symptoms</u>			Percent of Sample
	<u>None</u>	<u>One or More</u>	<u>None</u>	<u>One</u>	<u>Two or More</u>	
Men	92%	8%	97.7%	1.1%	1.2%	64
Women	97	3	98.6	.8	.6	36

Table 4-9  
PREVALENCE BY RACE  
(N = 9,939)

	Serious Consequences		Physical Dependence Symptoms			Percent of Sample
	<u>None</u>	<u>One or More</u>	<u>None</u>	<u>One</u>	<u>Two or More</u>	
Black	90%	10%	96.6%	1.3%	2.1%	9
Hispanic	89	11	95.8	1.8	2.3	10
American Indian	86	14	96.5	1.0	2.5	2
Oriental	94	6	98.5	.7	.8	3
Other	95	5	98.4	.8	.8	76

previous studies. However, caution is recommended in interpreting the data presented in Table 4-9. As with the difference between alcohol prevalence rates of men vs. women, it is quite possible that the survey items were more likely to apply to members of one racial grouping than another.

4. *Education.* Table 4-10 clearly shows that individuals with less formal education are more likely to report having experienced a serious consequence associated with drinking during the past year. However, that same pattern is not apparent when the prevalence rates for alcohol dependence are examined. In this categorization of problem drinking, college graduates are second only to those who did not complete high school. College graduates are also second only to non-high school graduates in mean daily consumption of alcohol. While the higher incidence of problem drinking among non-high school graduates was expected from previous research efforts, there was nothing found in the literature which would have led us to expect that college graduates would report the second highest rate of alcohol dependence. This finding, coupled with the fact that college graduates reported the lowest incidence of serious consequences leads one to wonder if the survey items establishing consequences are more sensitive to problems encountered by individuals of lower socio-economic status.

5. *Marital Status.* Table 4-11 shows, as does previous research, that unmarried individuals experience a higher incidence of drinking problems. In this case unmarried respondents report almost double the rate of alcohol dependency and a rate of serious consequences which is two-thirds again higher than married respondents.

6. *Number of Dependents.* Table 4-12 presents a curious distribution of prevalence rates, when they are viewed along the lines of the number of depen-



Table 4-10  
PREVALENCE BY EDUCATION  
(N = 9,939)

	Serious Consequences		Physical Dependence Symptoms			Percent of Sample
	<u>None</u>	<u>Two or More</u>	<u>None</u>	<u>One</u>	<u>Two or More</u>	
Didn't Complete High School	90%	10%	96.4%	1.6%	2.0%	15%
High School Diploma	94	6	98.1	.7	1.1	34
Some College	93	7	98.3	1.0	.6	36
College Degree(s)	95	5	97.8	.9	1.3	15

Table 4-11

PREVALENCE BY MARITAL STATUS

(N = 9,939)

	Serious Consequences		Physical Dependence Symptoms			Percent of Sample
	<u>None</u>	<u>One or More</u>	<u>None</u>	<u>One</u>	<u>Two or More</u>	
Married	94%	6%	98.2%	.9%	.9%	79
Not Married	90	10	97.1	1.4	1.6	21

Table 4-12

PREVALENCE BY NUMBER OF DEPENDENTS  
(N = 9,939)

	Serious Consequences		Physical Dependence Symptoms			Percent of Sample
	<u>None</u>	<u>One or More</u>	<u>None</u>	<u>One</u>	<u>Two or More</u>	
None	93%	7%	97.6%	1.5%	.9%	25
One	95	5	98.0	.7	1.3	22
Two	94	6	98.4	.7	.8	19
Three	94	6	98.6	.8	.6	18
Four or More	91	9	97.2	1.1	1.7	16

dents (not counting oneself) reported by respondents. Individuals with four or more dependents reported the highest rate (9 percent) of serious consequences and the highest incidence of alcohol dependence symptoms (1.7 percent). The group reporting the second highest incidence of serious consequences was that with no dependents, and the group with the second highest incidence of alcohol dependence symptoms was that with one dependent. These findings were somewhat surprising to the researchers, since they had expected the younger, unmarried (i.e., no dependents) respondents to report the highest rate of alcohol dependence symptoms. The fact that in both prevalence classifications the group reporting four or more dependents clearly had the highest prevalence rates has not, to our knowledge, been previously observed. This phenomenon may well be characteristic of individuals with drinking problems, who because of family responsibilities, remain in the active workforce. It might be that these individuals would leave the workforce were it not for their responsibilities. Of course an alternative explanation might be that their responsibilities were contributing factors to their drinking problems.

7. *Years of Federal Service.* Table 4-13 presents prevalence rates as distributed according to years of federal service reported by respondents. It can be noted that respondents with five years or less service report the highest incidence of alcohol dependence symptoms and the second highest rate of serious consequences. Once respondents pass the ten year point in service, the reported rate of alcohol-related consequences seems to level out at 5-6 percent of that population. Employees with over 30 years service report the second highest rate of alcohol dependence symptoms, a fact which seems congruent with the notion of alcoholism as a progressive process of



Table 4-13  
PREVALENCE BY YEARS OF FEDERAL SERVICE  
(N = 9,939)

	Serious Consequences		Physical Dependence Symptoms			Percent of Sample
	<u>None</u>	<u>One or More</u>	<u>None</u>	<u>One</u>	<u>Two or More</u>	
5 Years of Less	93%	7%	96.9%	1.2%	1.9%	19
6-10 Years	91	9	98.3	.9	.8	15
11-20 Years	94	6	97.9	1.0	1.0	32
21-30 Years	95	5	98.6	.8	.6	25
Over 30 Years	94	6	97.3	1.1	1.7	9

addiction/dependency, at least beyond 30 years service. When Table 4-13 is viewed alongside Table 4-7 (Prevalence by Age) the findings seem compatible, with those under 25 years of age reporting the highest incidence of both consequences and alcohol dependence symptoms, and those over 60 years reporting the second highest incidence of dependence symptoms.

8. *Average Daily Consumption of Ethanol.* Table 4-14 presents prevalence data according to various classifications of average daily intake of ethanol. This figure was calculated using a battery of questions which established type of alcoholic drink consumed, size of drink, number of drinks consumed, and frequency of drinking. In handling incomplete or missing responses, the researchers either adopted the most conservative alternative or rejected the consumption data for a particular respondent. Accordingly, 13 percent of the respondents were placed in the couldn't measure category. Of that group three percent reported being adversely affected by alcohol within the past year and two-tenths of one percent reported two or more symptoms of physical dependence per month.

As the data clearly show, the greater the daily intake of alcohol the more likely one is to report having experienced serious consequences associated with drinking and symptoms of physical dependence on alcohol. One curious deviation in the relationship between alcohol consumption and physical dependence symptoms can be seen in the differences between the 2-3 oz. and 3-4 oz. categories. The latter group (3-4 oz.) actually reports fewer individuals with two or more dependence symptoms than does the group which reports consuming less alcohol on a daily basis. However, it can be noted that the 3-4 oz. group does report a significantly larger proportion who experienced one symptom per month. No matter, the message seems clear:

Table 4-14  
PREVALENCE BY AVERAGE DAILY CONSUMPTION OF ETHANOL  
(N = 9,939)

	Serious Consequences		Physical Dependence Symptoms			Percent of Sample
	None	One or More	None	One	Two or More	
Couldn't measure*	97%	3%	99.2%	.6%	.2%	13
None	100%	0	100.0	0	0	20
Less than 1 oz/day	96	4	99.1	.4	.5	52
1-2 oz/day	85	15	95.7	2.3	2.0	8
2-3 oz/day	71	29	89.7	5.4	4.9	3
3-4 oz/day	71	29	88.9	8.0	3.0	2
4-5 oz/day	46	54	74.8	8.1	17.1	1
More than 5 oz/day	0	100	54.2	14.1	31.7	1

\*Some respondents chose not to answer some or all of the battery of questions used to compute average daily consumption, and some answered questions incorrectly. Therefore, responses from only 87 percent of the sample were used for these computations.

those respondents who consume an ounce or more of alcohol per day run a much higher risk of suffering a serious consequence because of drinking or of becoming physically dependent upon alcohol.

9. *Job Satisfaction.* Job satisfaction was measured for each respondent by summing their responses to the four question Hoppock measure of general job satisfaction. This global measure was first used with civilian Air Force employees in 1975 when the researchers conducted the initial Quality of Air Force Life (QOAFLE) surveys. Responses provided by 17,110 civilian employees at that time established a baseline score of 19.31. (Note: this score is computed by summing responses to each of the four job satisfaction questionnaire items.) The mean score for the 9,939 respondents to this survey was 19.72, which suggests a significant rise in Air Force employee job satisfaction.

Job satisfaction has been included in this research because of the belief by many that satisfaction (or the lack thereof) with one's work is one of the single most important dimensions of the individual's overall sense of well-being, or quality of life. It has been stated and shown with varying success, that satisfaction or dissatisfaction with one's work life spills over and affects other areas of an employee's life. Therefore, it seemed possible that job satisfaction might well be correlated with problem drinking.

Table 4-15 presents the distribution of serious consequences and physical dependence symptoms by three classifications of job satisfaction. Those respondents who scored 17 or lower were classified as having low job satisfaction, those with scores of 18-21 were considered to have moderate job satisfaction, and those with scores of 22 or higher were classified as being highly satisfied with their jobs.



Table 4-15  
PREVALENCE BY JOB SATISFACTION  
(N = 9,939)

	Serious Consequences		Physical Dependence Symptoms			Percent of Sample
	None	One or More	None	One	Two or More	
Low	90%	10%	96.2%	1.4%	2.4%	23
Moderate	94	6	98.6	.7	.7	46
High	94	6	98.1	1.1	.8	31

As the data in Table 4-15 show, respondents with low job satisfaction appear to report a higher incidence of both serious consequences and physical dependence symptoms. Interestingly, there does not appear to be any significant difference between those with high and moderate job satisfaction.

10. *Work Involvement.* This variable was included in the survey instrument to complement the job satisfaction measure. Both work involvement and job satisfaction are of interest because they are considered by many to be indirect or pseudo measures of the degree to which work is a positive, motivating experience and the impact it has on the lives of employees. Job satisfaction is more of a cognitive measure which represents a set of beliefs held by employees about their jobs, and work involvement is more of a conative or action-tendency which reports on actual on-the-job behaviors. In both cases the organization and its managers can directly influence the levels of each experienced by employees.

Table 4-16 reveals a pattern somewhat similar to that of the preceding table. Individuals who report low work involvement also report the highest incidence of serious consequences and alcohol dependence symptoms, while those with moderate and high work involvement more closely resemble one another.

11. *Stress.* Because so much has been written lately about executive stress and stress at the work place, with alcoholism and problem drinking as frequent results of such stress, a six question measure of stress was included in the questionnaire. Adapted from a physician's intake interview, the six items address tension and anxiety both on the job and after work. Based upon the work of Selye (1974) and others, one might expect to observe a "U-shaped" distribution of stress vs. problem drinking. That is, stress functions as the spice of life: too little and life is colorless and unappealing, too much and

Table 4-16

PREVALENCE BY WORK INVOLVEMENT  
(N = 9,939)

	Serious Consequences		Physical Dependence Symptoms			Percent of Sample
	None	One or More	None	One	Two or More	
Low	90%	10%	96.4%	1.3%	2.3%	24
Moderate	93	7	98.0	1.0	1.0	35
High	95	5	98.7	.8	.5	41

it is overpowering and incapacitates the individual experiencing it. Therefore, in these data one would expect to find that there is some moderate region of stress wherein serious consequences and alcohol dependence symptoms would be at a lower level than for the regions where very low or very high stress exists.

Such a distribution is suggested by Table 4-17, but the relationship is not supported statistically by curvilinear regression analysis techniques.

12. *Serious Consequences vs. Dependence Symptoms.* As a final presentation for this section, Table 4-18 presents a cross-tabulation of serious consequences vs. physical dependence symptoms using the same categories employed in preceding tables. Additionally, the overall percentage is included in each cell of this table. From this presentation we can observe several interesting points. First, it can be seen that one-fourth of the individuals who report two or more physical dependence symptoms report no serious consequences over the past year. Another point is that almost 80 percent of the individuals who reported having experienced one or more serious consequences during the past year, did not report even one dependence symptom. Finally, by far the largest cell is that which is assigned to those who reported neither serious consequences nor physical dependence symptoms, and they constituted 92.6 percent of the population.

#### Summary

A total of 6.9 percent of the 9,939 person sample were classified as "problem drinkers." Of that number 0.2 percent reported experiencing two or more alcohol dependence symptoms at least once a month, 5.8 percent reported having experiences one or more serious consequences associated with their drinking during the past year, and 0.9 percent reported having



Table 4-17  
PREVALENCE BY STRESS  
(N = 9,939)

	Serious Consequences		Physical Dependence Symptoms			Percent of Sample
	None	One or More	None	One	Two or More	
Low	92%	8%	97.7%	1.3%	1.0%	21
Moderate	95	5	98.5	.7	.8	60
High	91	9	96.4	1.7	1.9	20

Table 4-18  
PHYSICAL DEPENDENCE VS. SERIOUS CONSEQUENCES

Serious Consequences	Physical Dependence Symptoms			Percent of Sample
	<u>None</u>	<u>One</u>	<u>Two or More</u>	
None	99.2% (92.6)	.5% (0.5)	.3% (0.3)	93.3 (93.3)
One or More	79.2 (5.2)	8.1 (0.6)	12.7 (0.9)	6.7 (6.7)

two or more physical dependence symptoms and one or more serious consequences. Extrapolated to the entire population of Air Force civilian employees, these figures suggest that more than 2,500 employees are physically dependent upon alcohol and another 14,000 or more were adversely affected by alcohol during the past year. Overall, over 16,500 employees could be classified as problem drinkers.

Slightly less than 20 percent of the sample indicated that they had not consumed any alcohol during the past 12 months, 52 percent averaged 1 ounce of ethanol or less per day (1 ounce = a little more than 2 cans of beer, 2 glasses of wine, or 2 1-ounce shots of whiskey), 8 percent averaged 1-2 ounces per day (3-4 drinks), and 7 percent averaged more than 2 ounces per day. A significant part of the sample (13 percent), although they drink, chose not to answer part or all of the battery of questions used to compute the average daily consumption, and therefore were not used for consumption calculations. A total of 1.2 percent of the sample was identified as consuming an average daily volume of alcohol (over 5 ounces) which is causing damage to their livers. (Note: the five ounce criterion has been criticized as being too conservative by a number of physicians.)

The loss of three or more work days because of drinking and fighting while drinking were the most frequently reported consequences during the past year. Overall (including earlier years), the loss of working time, arrests for driving while intoxicated and fighting while drinking were the most frequently reported consequences.

Prevalence rates were examined vis a vis standard demographic and selected criterion variables. Among the findings were:

(1) Respondents under 25 years of age reported the highest incidence of both serious consequences associated with drinking and alcohol dependence symptoms.

(2) Men were found to drink more frequently and greater volume than women. Men also reported dependence symptoms at twice the rate and consequences at three times the rate of women.

(3) Blacks, Hispanics, and American Indians reported higher incidence of serious consequences and dependence symptoms than did orientals and whites.

(4) Individuals with less formal education were more likely to report having experienced serious consequences; however, this relationship was not the case with physical dependence symptoms. Although non-high school graduates reported the highest incidence of physical dependence symptoms, college graduates reported symptoms at a rate almost as high.

(5) Unmarried respondents reported almost double the dependency rate of married respondents. They also reported a significantly higher incidence of serious consequences.

(6) Individuals with four or more dependents (not counting oneself) reported the highest incidence of serious consequences and alcohol dependence symptoms.

(7) The greater the average daily intake of alcohol, the greater the probability that an individual experienced serious consequences or dependence symptoms. A break-point appears to exist at the level of one ounce of ethanol per day. Those who consume an average greater than one ounce (two drinks) appeared to run a significantly higher risk of becoming a problem drinker.

(8) Respondents who reported low job satisfaction also reported significantly higher rates of serious consequences and dependence symptoms than did those who reported moderate or high job satisfaction.



(9) A linear relationship appears to exist between work involvement and problem drinking: the higher the involvement, the less likely serious consequences or physical dependence will be reported.

(10) Individuals who reported "moderate" stress experienced lower rates of serious consequences and alcohol dependence symptoms than did those who reported higher or lower levels of job related stress.

## 5. Impact of Alcohol on the Worker and the Job

In this chapter the focus of attention is directed at self-reports of respondent on-the-job behaviors which impair productivity through absenteeism, diminished performance and/or accidents.

### Focal Behaviors

Table 5-1 provides an overview of respondent reports which have been selected as being related to worker productivity. The first four items are of particular importance because they were used to compute an overall variable (DAYSOFF) of time lost from work because of drinking. As reflected in Table 4-4, the total days lost was .359 days per employee. (Recall that 20 percent of the respondents did not consume any alcohol at all during the past year.)

As reflected in Table 5-1, more than one out of every ten employees reported that they worked at a decreased level of performance at one time or more because of drinking or a hangover. Similarly, approximately five percent reported arriving late or leaving early from work, staying off from work, and/or being "high" from drinking while on the job. The first and fourth items were used in combination (i.e., the respondent had to indicate that performance was impaired) in the calculations performed to compute DAYSOFF.

Not used in the lost time computations but included in Table 5-1 are items which provide information associated with individual effectiveness on the job. For example, we consider it of interest to note that over ten percent reported that they drank at work on one or more occasions during the past year. This is assumed to mean that respondents

drank while on authorized meal breaks, rather than drinking from a bottle hidden in a desk drawer. Unfortunately, it is necessary to make such an interpretation because the wording of the questionnaire item was not specific. It merely stated: "I drank at work." Nevertheless, we can observe that ten percent of the respondents reported drinking during the work day on one or more occasions, six percent reported being "high" from drinking while at work, and eleven percent indicated that their effectiveness was diminished because they were drinking or hungover.

Also related to productivity and previously discussed as consequences associated with drinking were items which included illness associated with drinking which caused the loss of a week or more of work and accidents which caused injuries to oneself or others. Considered serious consequences, these three items were experienced by but a small fraction of the respondents during the past year or at anytime in the past. While these may seem negligible, if the reader keeps in mind that one percent of the USAF civilian employee work force equals approximately 2,290 individuals who experienced one or more of the items reported, the numbers can be kept in perspective more easily.

Not directly related to productivity, but included in Table 5-1 because they certainly have the potential of affecting productivity, were three items which report on respondents getting drunk, getting sick from drinking, and driving after consuming five or more drinks in a two hour period. According to these self-reports almost 23 percent of the sample got drunk on one or more occasions last year, 13 percent reported that they had gotten sick from drinking, and a like number said that they had driven a car while influenced by alcohol. These figures are of magnitudes which suggest that the focus of

TABLE 5-1  
PRODUCTIVITY-RELATED BEHAVIORS

	<u>Never</u>	<u>Happened, but not in past year</u>	<u>Once or more during past year</u>
I did not work at my normal level of performance because of drinking or a hangover . . . . .	76.5%	12.1%	11.4%
I arrived late at work or left work early because of drinking or a hangover . . . . .	87.6	7.4	5.0
I stayed off from work because of drinking or a hangover . . . . .	86.6	8.7	5.5
I was high from drinking while at work . . . . .	86.1	7.9	6.0
I drank at work . . . . .	80.2	9.4	10.4
I had an illness connected with my drinking which kept me from work for a week or longer . . . . .	97.5	1.3	1.2
My drinking contributed to my getting hurt in an accident . . . . .	97.6	1.8	0.6
My drinking contributed to an accident where others were hurt or property was damaged . . . . .	97.3	2.2	0.5
I was drunk . . . . .	60.0	16.8	22.8
I was sick from drinking . . . . .	66.7	19.9	13.4
I drove a car just after drinking five or more drinks in a two hour period . . . . .	75.8	11.2	13.0



occupational alcoholism programs might be broadened to include an active awareness/education component for all drinkers.

#### DAYSOFF vs. Selected Variables

The contrived variable DAYSOFF is of interest for two important reasons. First, since it represents actual time lost from the job it provides one input of the cost of alcohol misuse to the employer, the U.S. Air Force. The second reason is that DAYSOFF presents a very real measure which can be verified and actually observed by any reasonably alert supervisor. DAYSOFF is calculated by adding the days reported being lost because of drinking to those days where respondents reported arriving late or leaving early because of drinking or hangovers, as well as to those days where respondents reported that they were "high" from drinking while at work and this caused them to work below their normal level of effectiveness. In the cases of leaving early or arriving late or working at diminished effectiveness one-quarter of a day was counted as being lost.

Because of its significance to management, DAYSOFF was examined in much the same manner as the prevalence variables, and results are presented to the reader in much the same manner as in the previous chapter. For purposes of presentation DAYSOFF was collapsed into four categories: (1) no days lost; (2) on day or less lost; (3) 1.25 to 2.75 days lost; and (4) three days or more lost from work because of drinking. The overall distribution of the sample according to these categories is presented in Table 5-2. (Recall that the average time lost from work because of drinking during the past year was .359 day per employee.)

TABLE 5-2

## DAYS OF WORK LOST BECAUSE OF DRINKING

<u>None</u>	<u>One Day or Less</u>	<u>1.25-2.75 Days</u>	<u>3.0 Days or More</u>	<u>Percent of Sample</u>
84.7%	8.6%	3.2%	3.4%	100%

1. *Age.* Table 5-3 clearly indicates that younger individuals are more likely to lose time from work because of drinking than are older workers. Respondents appear to fall into three categories: those under 30 year report the highest incidence of time lost; respondents in their 30's appear to form a middle-ground; and individuals 40 years of age and older appear to lost the least time from work. These data further support the notion that younger employees have the most difficulty with alcohol.

2. *Sex.* Men report time lost from work at twice the rate of women for the two higher categories (1.25 days or more), which appears to be consistent with the prevalence patterns discussed earlier. These data are presented in Table 5-4.

3. *Race.* As seen in Table 5-5, American Indians appear to experience the greatest difficulty with drinking *vis a vis* working, while Orientals appear to be the least affected. Hispanics report the greatest proportion who have lost some time from work, but the majority of their reports were in the one day or less and the 1.25-2.75 days categories. These data are consistent with that of Table 4-9, which showed that Hispanics and American Indians experienced the highest incidence of serious consequences and alcohol dependence symptoms. Black respondent reports were very similar to the "Other" (White) reports.

TABLE 5-3

## DAYSOFF BY AGE

	<u>Workdays Lost Because of Drinking</u>				Percent of Sample
	<u>None</u>	<u>One Day or Less</u>	<u>1.25-2.75 Days</u>	<u>3.0 Days or More</u>	
Under 25 years	68%	18%	8%	6%	7%
25-30 years	65	21	5	8	10
31-39 years	79	12	4	5	20
40-48 years	89	6	3	2	25
49-54 years	92	4	2	2	19
55-60 years	95	3	1	1	14
Over 60 years	96	2	0	2	5

TABLE 5-4  
 DAYSOFF BY SEX

	<u>Workdays Lost Because of Drinking</u>				<u>Percent of Sample</u>
	<u>None</u>	<u>One Day or Less</u>	<u>1.25-2.75 Days</u>	<u>3.0 Days or More</u>	
Men	84%	8%	4%	4%	64%
Women	87	9	2	2	36%



TABLE 5-5  
DAYSOFF BY RACE

	<u>Workdays Lost Because of Drinking</u>				Percent of Sample
	<u>None</u>	<u>One Day or Less</u>	<u>1.25-2.75 Days</u>	<u>3.0 Days or More</u>	
Black	87%	7%	2%	4%	9%
Hispanic	79	12	5	4	10
American Indian	83	8	2	7	2
Oriental	91	6	2	1	3
Other	85	8	3	3	76

4. *Education.* Table 5-6 is included not so much for patterns which can be found, but for the absence of any significant differences between the various education classifications. If the reader will recall, Table 4-10 clearly showed that respondents who did not complete high school were much more likely to have experienced serious consequences or alcohol dependence symptoms than were the more highly educated respondents. However, as far as days lost from work is concerned, level of formal education appears to have little influence. One possible explanation for the non-high school graduates not reporting more time lost, as one might expect to find, is that as hourly wage workers these individuals are more closely supervised than are salaried personnel.

5. *Marital Status.* Table 5-7 provides further support to the observation that non-married personnel experience more difficulty with alcohol misuse than do married personnel. In the instance of days lost to work because of drinking, the rates among non-married personnel were twice those of married respondents.

6. *Number of Dependents.* Table 5-8 also presents information which is somewhat different than one might expect based on the prevalence data presented in Table 4-12. In this case respondents with four or more dependents did not report higher rates of time lost from the job because of drinking, even though they reported the highest incidence of alcohol dependence symptoms and of serious consequences resulting from drinking. Perhaps the necessity of providing support for their dependents mitigates the impact of their drinking problems upon their attendance at work.

TABLE 5-6  
DAYSOFF BY EDUCATION

	<u>Workdays Lost Because of Drinking</u>				Percent of Sample
	<u>None</u>	<u>One Day or Less</u>	<u>1.25-2.75 Days</u>	<u>3.0 Days or More</u>	
Didn't Complete High School	89%	4%	3%	3%	15%
High School Diploma	85	9	3	3	34
Some College	83	10	3	4	36
College Degree(s)	84	10	3	3	15

TABLE 5-7  
 DAYSOFF BY MARITAL STATUS

	<u>Workdays Lost Because of Drinking</u>				Percent of Sample
	<u>None</u>	<u>One Day or Less</u>	<u>1.25-2.75 Days</u>	<u>3.0 Days or More</u>	
Married	88%	7%	3%	3%	79%
Non-Married	75	14	6	6	21



TABLE 5-8  
 DAYSOFF BY NUMBER OF DEPENDENTS

	<u>Workdays Lost Because of Drinking</u>				Percent of Sample
	<u>None</u>	<u>One Day or Less</u>	<u>1.25-2.75 Days</u>	<u>3.0 Days or More</u>	
None	81%	11%	4%	4%	25%
One	89	6	3	3	22
Two	84	9	4	3	19
Three	84	10	3	3	18
Four or More	86	7	3	4	16

ificantly higher rates of serious consequences and dependence symptoms than did those who reported moderate or high job satisfaction.

4-31

7. *Years of Federal Civilian Service.* Table 5-9 appears to be consistent with the prevalence data reported in Table 4-13 in that employees with ten years of service or less report the highest proportion of time lost due to drinking. As with serious consequences, the 6-10 year groups reported the highest rate of any single group. The researchers are unable to explain why this group should report the highest incidence of consequences and time lost; however, several occupational alcoholism program managers have suggested to us that these might be retired military personnel who joined the civil service ranks after retiring from active military service (i.e., "double-dippers").

8. *Average Daily Consumption of Ethanol.* Table 5-10 presents data which also support the common sense notion that the more alcohol individuals consume on a daily basis, the more likely they will experience difficulties associated with their drinking. In examining the distribution of mean days lost from work for the different levels of daily alcohol consumption, in Table 5-11 two natural divisions appear to exist. The first occurs at the one ounce per day point, where respondents who consumed one ounce or less per day lost an average of .21 days because of drinking during the past year. This can be contrasted with the respondents who consumed between 1-2 ounces and lost .87 days on the average, those who consumed 2-3 ounces per day and lost 1.78 days on the average, and those who drank 4-5 ounces and lost 4.13 days.

An interesting and possibly useful finding from the data presented in Table 5-11 is that days lost from work because of drinking appears to be a "leading indicator" of problem drinking which may well become observable by the individual's supervisor when average daily consumption of alcohol exceeds one ounce per day. Note that it is not until average daily consumption

TABLE 5-9  
DAYSOFF BY YEARS OF FEDERAL SERVICE

	<u>Workdays Lost Because of Drinking</u>				Percent of Sample
	<u>None</u>	<u>One Day or Less</u>	<u>1.25-2.75 Days</u>	<u>3.0 Days or More</u>	
5 years or less	78%	13%	6%	4%	19%
5-10 years	78	12	4	6	15
11-20 years	85	8	3	3	32
21-30 years	91	5	2	2	25
Over 30 years	92	4	1	2	9

TABLE 5-10  
 DAYSOFF BY AVERAGE DAILY CONSUMPTION OF ETHANOL  
 (N = 9,939)

	<u>Workdays Lost Because of Drinking</u>				Percent of Sample
	<u>None</u>	<u>One Day or Less</u>	<u>1.25-2.75 Days</u>	<u>3.0 Days or More</u>	
Couldn't measure*	97%	2%	0%	1%	13%
None	100	0	0	0	20
Less than 1 oz/day	84	11	3	2	52
1-2 oz/day	63	17	9	11	8
2-3 oz/day	46	21	15	18	3
3-4 oz/day	47	20	18	15	2
4-5 oz/day	35	13	10	42	1
More than 5 oz/day	38	22	5	35	1

\*Some respondents chose not to answer some or all of the battery of questions used to compute average daily consumption, and some answered questions incorrectly.



TABLE 5-11

AVERAGE DAILY CONSUMPTION OF ETHANOL VS. AVERAGE NUMBER OF DAYS OF  
WORK LOST BECAUSE OF DRINKING DURING THE PAST YEAR,  
AND AVERAGE NUMBER OF SERIOUS CONSEQUENCES

<u>Ounces/Day</u>	<u>Mean Days Lost</u>	<u>Mean Number of Consequences</u>
None	0.0	0.0
Less than 1	0.21	0.07
1-2 oz	0.87	0.27
2-3 oz	1.78	0.63
3-4 oz	1.37	0.53
4-5 oz	4.13	1.36
More than 5	5.08	3.31

Note: The average number of days lost from work because of drinking for workers with one or more consequences is 4.24 days.

reaches the 4-5 ounce per day range that a jump in the incidence of consequences becomes clearly noticeable. Therefore, the progression would appear to be increased consumption of ethanol (exceeding two drinks per day), increased absence from work (including late arrivals, early departures, and being "high" while at work), and then finally serious consequences. Effective supervisors can reasonably detect such a behavioral trend, and could initiate appropriate action before the situation deteriorates.

9. *Job Satisfaction.* Table 5-12 shows a distribution similar to that of Table 4-15. Respondents with low job satisfaction reported losing more than twice as many work days because of drinking than did those with moderate or high job satisfaction. One slight difference between the two sets of data seems to be that there is somewhat more difference between high and moderate job satisfaction than was found in the prevalence data.

10. *Work Involvement.* Table 5-13 presents data which convey the same message as Table 4-16. Respondents who report low work involvement are much more likely to have lost time because of drinking than are those who report moderate or high involvement with their work.

11. *Stress.* The data presented in Table 5-14 suggests that holders of low stress jobs (according to the authors' measure of stress) are less likely to report having lost time from work because of drinking than are holders of high or moderately stressful jobs. There is no suggestion of a "U" shaped curve as was noted in Table 4-17, nor does the relationship appear linear.

12. *Prevalence Rates.* Table 5-15 provides a crosstabulation of prevalence data with various categories of time lost because of drinking. Perhaps one of the most interesting facts is the observation that 53 percent of all

TABLE 5-12

DAYSOFF BY JOB SATISFACTION  
(N = 9,939)

	<u>Workdays Lost Because of Drinking</u>				Percent of Sample
	<u>None</u>	<u>One Day or Less</u>	<u>1.25-2.75 Days</u>	<u>3.0 Days or Less</u>	
Low (4-17)*	78%	12%	4%	6%	23%
Moderate (18-21)	85	8	4	3	46
High (22-28)	89	7	2	2	31

\*Numbers within parentheses indicate range of Hoppock job satisfaction scores in each category.

TABLE 5-13

## DAYSOFF BY WORK INVOLVEMENT

(N = 9,939)

	<u>Workdays Lost Because of Drinking</u>				Percent of Sample
	<u>None</u>	<u>One Day or Less</u>	<u>1.25-2.75 Days</u>	<u>3.0 Days or More</u>	
Low	77%	12%	5%	7%	24%
Moderate	83	10	3	3	35
High	91	5	2	2	41



TABLE 5-14  
 DAYSOFF BY STRESS  
 (N = 9,939)

	<u>Workdays Lost Because of Drinking</u>				Percent of Sample
	<u>None</u>	<u>One Day or Less</u>	<u>1.25-2.75 Days</u>	<u>3.0 Days or More</u>	
Low	88%	7%	3%	2%	58%
Moderate	82	11	4	4	26
High	80	11	4	5	16

TABLE 5-15

DAYSOFF BY SERIOUS CONSEQUENCES AND PHYSICAL DEPENDENCE SYMPTOMS  
(N = 9,939)

		<u>Workdays Lost Because of Drinking</u>				Percent of Sample
		<u>None</u>	<u>One Day or Less</u>	<u>1.25-2.75 Days</u>	<u>3.0 Days or More</u>	
SERIOUS CONSEQUENCES	None	89%	8%	3%	0%	93.3%
	One	30	12	5	53	4.3
	Two or More	30	13	8	50	2.4
ALCOHOL DEPENDENCE SYMPTOMS	None	86%	8%	3%	3%	97.9%
	One	36	21	15	28	1.0
	Two or More	42	16	4	39	1.1

Overall, a total of 15.3 percent of the sample indicated that they had lost some time at work because of drinking. In order to gain a better appreciation of the impact on productivity of alcohol misuse, the variable DAYSOFF was examined against the classifications of the same demographic and criterion variables used to study prevalence rates. Among the findings were:

(1) Younger employees (under 30 years) reported more time lost because of drinking. Respondents 40 years and older reported the lowest lost time.

(2) Men reported lost time at about twice the rate reported by women.

(3) Hispanics and American Indians reported the highest rates of lost time, while Orientals reported the lowest rates. Whites and Blacks reported about the same incidence.

(4) Although non-high school graduates reported higher prevalence rates than respondents with more formal education, no practical differences were observed in incidence of lost time.

(5) Non-married respondents reported lost time at approximately twice the rate of married employees.

(6) The average daily consumption of alcohol appeared to be a possible "leading indicator" of problem drinking. Respondents who drank one ounce or less per day reported a mean of .21 day lost per employee. Those who drank 2-3 ounces reported a mean of 1.78 days lost per employee, and those who drank 4-5 ounces lost an average of 4.13 days per employee. Of those respondents who reported having experienced on serious consequence during the past year, 53 percent had three or more days lost from work as the consequence. For respondents who had one or more serious consequences

last year, the mean time lost from their jobs was 4.24 days. It was suggested that problem drinkers may well follow a pattern whereby their daily intake of alcohol increases, they begin to lose time from their jobs, and then they begin to experience serious consequences associated with their drinking. Effective supervisors can disrupt this sequence of events by observing changes in attendance and arrival/departure patterns and urging participation in occupational alcoholism programs where appropriate.

(7) Respondents who reported low job satisfaction and low involvement in their work were about twice as likely to report lost time because of drinking than were respondents who reported high or moderate levels.

(8) Respondents who reported low levels of stress associated with their jobs were less likely to report time lost from work because of drinking.



## 6. Occupational Alcoholism and the Supervisor

In chapters 4 and 5 it was shown that problem drinking does exist among USAF civilian employees; that problem rates differ among various subsets of the population (i.e., some groups are at higher risk of experiencing problems with alcohol than others); that problem drinking impacts the organization in terms of decreased productivity due to absenteeism and lessened effectiveness of workers; and that behaviors which are capable of being observed by supervisors may constitute warnings that a worker is headed towards a drinking problem. In this chapter we shall examine supervisor responses to survey items which attempt to describe the extent of the problem among their subordinates and compare them with responses to similar items by all respondents.

### Extent of the Problem

The questionnaire used in this research included nine questions at the very end which were applicable to supervisors only. Seven of the nine questions were almost identical to questions asked of all respondents in preceding sections of the questionnaire. To be properly understood, supervisor responses will be examined on a "per supervisor" basis. This is necessary because a single individual could respond as a supervisor and yet still be considered as a subordinate by one or more supervisors in his or her organization.

From their responses to the first of the nine supervisory questions it was established that 14.9 percent of the respondents considered themselves to be supervisors. The mean number of workers supervised was 11.08 workers per supervisor.

The following questions were asked of all respondents and of supervisors about employees working for them.

*How many people have drinking problems?*

ALL EMPLOYEES: 6.9% (alcohol dependent and adversely affected, as described in Chapter 4)

SUPERVISORS: 17.5% (reported one or more workers had a drinking problem; average = .35 workers/supervisors; extrapolating to overall workforce, supervisors estimated that 8.2 percent of workers had drinking problems)

*How many days were lost because workers stayed home due to drinking or hangovers?*

ALL EMPLOYEES: 5.5% (stayed home one or more days)

SUPERVISORS: 22.2% (one or more man days lost; average = 1.23 man days lost/supervisor)

*How many man days were lost because workers operated below normal due to drinking or hangovers?*

ALL EMPLOYEES: 11.4% (one or more times)

SUPERVISORS: 24.8% (one or more man days lost; average = .70 man days lost/supervisor)

Additionally, a question was asked of all respondents concerning arriving late to work and/or leaving early because of drinking, but it was not asked of supervisors concerning their workers.

*How often did you come to work late or leave work early because of drinking or hangovers?*

(ALL RESPONDENTS)

Never	87.8%
Has happened, but not during the past year	7.4%
Happened one or more times last year	4.8%

It is interesting to note that for those who reported that they did arrive late or leave early, the average number of times that happened was 3.70. This suggests a pattern of behavior which could be recognized by a reasonably effective supervisor.

### Supervisory Action

Five questions were asked of supervisors which specifically addressed actions taken by them in dealing with workers who have drinking problems. Similar questions were also asked of all respondents concerning themselves.

*Did your supervisor tell you to cut down on your drinking during the past year?*

*How many of the people you supervised did you tell to cut down on their drinking during the past year?*

ALL EMPLOYEES: 1.0% (supervisors said to cut down)

SUPERVISORS: 13.1% (told one or more workers to cut down;  
average = .24 workers/supervisor )

*Did your supervisor refer you to a treatment program for alcohol abuse during the past year?*

*How many of the people you supervised during the past did you refer to a treatment program for alcohol abuse?*

ALL EMPLOYEES: 0.4% (referred by supervisors)

SUPERVISORS: 5.9% (referred one or more workers to a treatment program; extrapolating to overall population, 913 employees said they were referred, supervisors said they referred 4,897)

*Did you receive a lower score on your performance rating because of your drinking?*

*How many of the people you supervised during the past year did you give lower performance ratings because of alcohol abuse that affected their work?*

ALL EMPLOYEES: 0.9% (received lower performance ratings)

SUPERVISORS: 7.7% (gave one or more lower performance ratings to workers; extrapolating, 1,922 workers said they received lower ratings, supervisors said they gave lower ratings to 5,710)

*Did you receive a disciplinary action because of a problem caused by your drinking?*

*How many people you supervised during the past year did you take disciplinary action against because of a problem related to their alcohol abuse?*

ALL EMPLOYEES: 0.6% (received disciplinary action)

SUPERVISORS: 5.1% (took disciplinary action against one or more workers; extrapolating, 1,451 said they received disciplinary actions, while supervisors said they took actions against 4,051)

In addition to the above questions, supervisors were asked to estimate the amount of time they spent dealing with alcohol-related problems of people during the past year. A total of 80.8% of the supervisors responded that they spent no time working such problems. However, the remaining 19.2 percent of the supervisors reported that they spent an average of 3.12 man days each working such problems. This estimate would total 76.5 man years for civilian Air Force supervisors.

Two other questions were asked of all respondents which also have some bearing on issues being considered in this section.

*Have you ever had professional counseling or treatment, or joined a group (such as AA) to get help for a drinking problem?*

Yes, within the past year 0.5%

Yes, over a year ago 1.2%

No 98.3%

*If you ever had help for a drinking problem, was it from a military program, a civilian program, or both?*

Military program 0.6%

Civilian program 1.2%

Both 0.7%

Not applicable 97.5%



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ALCOHOLISM AND ALCOHOL RELATED PROBLEMS AMONG USAF CIVILIAN EMP--ETC(U)  
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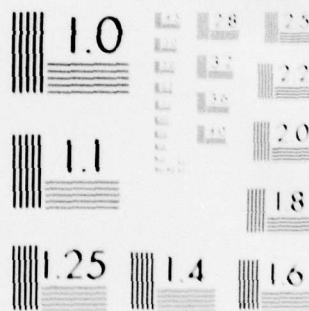
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### Summary

When asked how many of the workers under their supervision had a drinking problem which affected their work during the past year, Air Force civilian supervisors responded with estimates which yielded a figure equal to 8.2 percent of the civilian work force. In chapter 4 the researchers' methodology was described as were calculations which yielded totals of 5.8 percent of the workforce being adversely affected, 0.9 percent being adversely affected and alcohol dependent, and 0.2 percent being alcohol dependent but not adversely affected.

From the question put to supervisors (i.e., ". . . a drinking problem that affected their work."), the relevant category for comparison purposes would be the percentage of employees who are adversely affected. Therefore, the supervisors provide an estimate which is somewhat higher than the one computed by the authors (8.2% vs. 6.7%).

In chapters 4 and 5 the authors described how the variable DAYSOFF was computed to provide an overall measure of time lost from work because of misuse of alcohol. Included among the nine questions given to supervisors only, were two the three components of DAYSOFF: days lost to absenteeism, and days lost because workers performed at levels of effectiveness which were lower than normal. These estimates can be compared directly.

*Days lost because of absenteeism due to misuse of alcohol:*

SUPERVISORS:	.255 days/employee
ALL RESPONDENTS:	.161 days/employee

*Days lost because employee worked at decreased effectiveness because of drinking or hangovers:*

SUPERVISORS: .036

ALL RESPONDENTS: .118

The difference in estimates provide interesting material for consideration. Is it possible that supervisors suspect workers are off from work because of alcohol misuse more often than is actually the case, or is this yet another example of respondents underrating instances of socially undesirable behavior with self-reports? On the question of decreased effectiveness, is it likely that supervisors are not aware of when workers' effectiveness has been impaired by intake of alcohol?

The third component of DAYSOFF was a question which asked respondents if they arrived late at work or left early because of drinking or hangovers. Although this was not asked of supervisors about the workers they supervise (regretably), it is of interest because these behaviors could be observed by supervisors and acted upon. The notion that behavioral patterns are possibly established by problem drinkers is supported by the fact that the mean number of times respondents left early or arrived late at work was 3.70.

In line with the notion that effective supervisors are the essential ingredients to a successful occupational alcoholism program, the questions dealing with supervisory actions are pertinent. They are particularly interesting from the viewpoint of the differences in perceptions between supervisors only and the responses of all participants.



	<u>ALL RESPONDENTS</u>	<u>SUPERVISORS</u>
<i>Told to cut down drinking</i>	1.0%	5.3%
<i>Referred to treatment program</i>	0.4%	2.2%
<i>Lower performance rating</i>	0.9%	2.6%
<i>Received disciplinary action</i>	0.6%	1.8%

As the reader can observe supervisors consistently provide higher estimates than do respondents. A number of possible explanations undoubtedly exist which can explain these differences. Perhaps supervisors report higher estimates because they are attempting to convey an impression that they are taking a more active role than is actually the case. Another possibility--and one which has been mentioned a number of times on preceding pages--is that respondents tend to deny their drinking problem and understate what is essentially an undesirable social behavior. A third explanation might be that supervisors have actually taken the actions taken in the frequencies reported, but they failed to get the message across to their workers.

Finally we find it of interest to note that only 19 percent of the supervisors were aware of spending time on alcohol-related people problems. We suspect that this estimate is low: perhaps due to memory lapse, or maybe because supervisors have not recognized alcohol-related problems when they have dealt with them. Perhaps they did not recognize that the individual they have had to verbally reprimand on a number of occasions for being late actually has a drinking problem and needs professional help.

One final note is provided for professionals working in the area of occupational alcoholism. In our analysis of the data we noted a disparity of 0.89 percent in the responses of individuals who were asked if they had

ever undergone treatment or received help for their drinking problems. After puzzling over the difference we noted that the lower percentage (1.7) was in response to those who received "treatment", whereas the higher percentage (2.5) was in response to receiving "help for a drinking problem."

## 7. Psychological Dependence

In our discussions to this point concerning identification of problem drinking we have emphasized concrete, observable behaviors and consequences of drinking. In our identification of alcohol dependence we intentionally limited our focus to behaviors which are easily recognizable and which imply chemical addiction. If, for example, an individual engaged in morning drinking at least once a month during the past year, we consider that person as having one symptom of physical dependence, i.e., the body craved alcohol to forestall withdrawal distress on at least one occasion per month.

In like manner, the serious consequences used to establish adverse affects required no interpretation. If the respondent received a formal disciplinary action because of a drinking problem, or was arrested for driving while intoxicated, or experienced any one of the other consequences, that individual was considered adversely affected by drinking. No interpretation is necessary on the part of either the researcher nor the respondent: the behavior or the consequence either occurred or it did not.

A departure from this behavioristic approach was taken with the inclusion of six questions which measure psychological dependence. Respondents were asked to select the appropriate response from a five point frequency scale for each of the following: (1) I drink to forget my worries; (2) I drink to relax; (3) A drink helps cheer me up when I am in a bad mood; (4) A drink helps when I am depressed or nervous; (5) I drink when I am bored and have nothing to do; (6) I drink to increase my self-confidence. By performing principal-components analysis of responses to the six questions we were able to establish that the six questions measured one underlying dimension (i.e.,

there was one factor) that the each item could be equally weighted in calculating an overall measure of psychological dependence (factor weights ranged from .65 to .83). Therefore, the responses to each of the six items were summed for each respondent to provide a single measure of psychological dependence.

Having done this, further tests were conducted to insure that the measure was reliable and internally consistent (coefficient alpha = 0.78) and valid. Distribution of psychological dependence scores approached what we consider to be an almost textbook example of an exponential distribution: 38 percent reported the lowest possible score (6), 18 percent reported the next higher score (7), 11 percent the next score (8), with the remainder trailing off along an asymptotic path. The mean score for the measure was 8.33 with a standard deviation of 3.32.

These survey items were included in the questionnaire because we were convinced (as are many other researchers and clinicians) that alcohol is frequently used as a psychological crutch. If this were in fact the case, psychological dependence scores should be effective in differentiating between those who are physically dependent on alcohol and those who are not, and between those who are adversely affected by alcohol and those who are not. We checked this and found the results to be highly significant. The mean psychological dependence scores for those who were physically dependent upon alcohol was 14.38, while the mean score for those who were not dependent was 8.27. The mean psychological dependence score for those who were classified as being adversely affected was 12.05, while those who were not adversely affected had a mean score of 8.03. Tables 7-1 and 7-2 present another view of the same information.



TABLE 7-1  
PSYCHOLOGICAL DEPENDENCE BY SERIOUS CONSEQUENCES

SERIOUS CONSEQUENCES	None	Psychological Dependence		Percent of Sample
		<u>Low</u>	<u>High</u>	
		66%	34%	93.3%
	One or More	22	78	6.7

TABLE 7-2  
PSYCHOLOGICAL DEPENDENCE BY PHYSICAL DEPENDENCE

	Psychological Dependence	Percent of Sample
	Low	High
ALCOHOL DEPENDENCE SYMPTOMS	None	63%
	One	21
	Two or More	22
		97.9%
		1.0
		1.1

Psychological dependence was examined in light of the different classifications of the variables used throughout this report.

1. *Age.* Table 7-3 clearly shows a strong relationship between psychological dependence and age. As with the prevalence variables, younger workers seem to experience greater psychological dependence on alcohol than older workers.

2. *Sex.* Table 7-4 presents the distribution of psychological dependence by sex, and men again report higher scores.

3. *Race.* The distribution of psychological dependence scores according to race presented in Table 7-5 provides a somewhat different picture than did the distribution of prevalence variables in Table 4-9. In this case we note that Blacks appear to be the least psychologically dependent racial group, with Hispanics reporting the highest incidence of "high" psychological dependence scores.

4. *Education.* Unlike the distribution of prevalence variables in Table 4-10, there does not appear to be any noticeable relationship between the amount of formal education of respondents and their psychological dependence scores.

5. *Marital Status.* Table 7-7 shows that non-married respondents are more likely to report high psychological dependence scores than are married individuals. This is similar to the distribution of prevalence scores shown in Table 4-11.

6. *Number of Dependents.* Table 7-8 does not present a distribution similar to that of prevalence by number of dependents in Table 4-12. Specifically, respondents with four or more dependents do not show the highest scores, as was the case with alcohol dependence and serious consequences.

TABLE 7-3

## PSYCHOLOGICAL DEPENDENCE BY AGE

	Psychological Dependence		Percent of Sample
	<u>Low</u>	<u>High</u>	
Under 25 years	56%	44%	7%
25-30 years	55	45	10
31-39 years	59	41	20
40-48 years	64	36	25
49-54 years	65	35	19
55-60 years	67	33	14
Over 60 years	74	26	5

AGE



TABLE 7-4  
PSYCHOLOGICAL DEPENDENCE BY SEX

SEX	Psychological Dependence		Percent of Sample
	Low	High	
Men	60%	40%	64%
Women	67	33	36

TABLE 7-5  
PSYCHOLOGICAL DEPENDENCE BY RACE

	Psychological Dependence		Percent of Sample
	<u>Low</u>	<u>High</u>	
Black	72%	28%	9%
Hispanic	54	46	10
American Indian	59	41	2
Oriental	69	31	3
Other	62	38	76
RACE			

TABLE 7-6

## PSYCHOLOGICAL DEPENDENCE BY EDUCATION

	Psychological Dependence		Percent of Sample
	<u>Low</u>	<u>High</u>	
EDUCATION			
Didn't Complete High School	62%	38%	15%
High School Diploma	64	36	34
Some College	62	38	36
College Degree(s)	61	39	15

TABLE 7-7  
PSYCHOLOGICAL DEPENDENCE BY MARITAL STATUS

	Psychological Dependence		Percent of Sample
	<u>Low</u>	<u>High</u>	
Married	64%	36%	79%
Non-married	57	43	21



TABLE 7-8  
PSYCHOLOGICAL DEPENDENCE BY NUMBER OF DEPENDENTS

	Psychological Dependence		Percent of Sample
	Low	High	
None	63%	37%	25%
One	64	35	22
Two	61	39	19
Three	62	38	18
Four or more	64	36	16

7. *Days Lost from Work.* Table 7-9 shows that psychological dependence appears to be highly correlated with DAYS OFF. The fact that 87 percent of those respondents who lost three or more days from work because of drinking scored high in psychological dependence strikes us as quite significant.

8. *Average Daily Consumption of Ethanol.* Table 7-10 clearly shows what common sense would predict: the higher the average daily intake of alcohol, the more likely the respondent will score high on psychological dependence. As in Table 4-14, breakpoint appears to exist at the one ounce per day point, with the incidence of high scores jumping significantly when respondents moved into the 1-2 ounces per day range. We were also interested by the fact that 43 percent of respondents who were in the light-to-moderate consumption range also scored high. It seems possible that this group would be ideal candidates for some kind of training or awareness intervention.

9. *Stress.* Table 7-11 shows a relationship between stress and psychological dependence. The higher the stress, the more likely the respondent is to score high on psychological dependence. The relationship appears to be linear and gives no indication of the "U" shaped curve suggested in Table 4-17.

10. *Job Satisfaction and Work Involvement.* Tables 7-12 and 7-13 present almost identical pictures: the higher the job satisfaction and the higher the work involvement scores, the less likely the respondent will score high on psychological dependence.

### Summary

The authors developed a measure of psychological dependence on alcohol by using six questionnaire items developed by earlier researchers. Each of the six items deal with some aspect of "why I drink."

TABLE 7-9  
PSYCHOLOGICAL DEPENDENCE BY DAYSOFF

	Psychological Dependence		Percent of Sample
	<u>Low</u>	<u>High</u>	
None	69%	31%	85%
One day or less	31	69	9
1.25-2.75 days	23	77	3
3.0 or more days	13	87	3

TABLE 7-10  
PSYCHOLOGICAL DEPENDENCE BY AVERAGE DAILY CONSUMPTION OF ETHANOL

	Psychological Dependence		Percent of Sample
	Low	High	
AVERAGE DAILY CONSUMPTION OF ETHANOL			
0-1 oz/day	57%	43%	52%
1-2 oz/day	28	72	8
2-3 oz/day	22	78	3
3-4 oz/day	21	79	2
4-5 oz/day	19	81	1
Over 5 oz/day	13	87	1

Note: Abstainers and non-respondents to psychological dependence items have been excluded.



TABLE 7-11

## PSYCHOLOGICAL DEPENDENCE BY STRESS

	Psychological Dependence		Percent of Sample
	<u>Low</u>	<u>High</u>	
STRESS	Low	69% 31%	59%
	Moderate	58 42	26
	High	52 48	16

TABLE 7-12  
PSYCHOLOGICAL DEPENDENCE BY JOB SATISFACTION

	Psychological Dependence		Percent of Sample
	Low	High	
JOB SATISFACTION	Low	55%	23%
	Moderate	62	46
	High	70	32

TABLE 7-13  
PSYCHOLOGICAL DEPENDENCE BY WORK INVOLVEMENT

	Psychological Dependence		Percent of Sample
	Low	High	
WORK INVOLVEMENT	Low	55%	24%
	Moderate	61	35
	High	68	41

Statistical analysis clearly showed that the six items do measure the same dimension, are of equal weights, and can be summed to create a single overall measure of a common phenomenon, psychological dependence on alcohol. This single global measure was found to be internally consistent and valid.

Respondents who scored high on psychological dependence were found to experience significantly higher rates of physical (chemical) dependence on alcohol, and to experience a higher incidence of serious consequences associated with their drinking.

The overall measure of psychological dependence was examined against classifications of variables used in earlier chapters. Among the findings were:

(1) Younger respondents were more likely to score higher on psychological dependence than were older workers (this was also noticed in the relationship between total federal service and psychological dependence.

(2) Men were more likely to score higher on psychological dependence than were women.

(3) Blacks were more likely to score lower on psychological dependence and Hispanics were the most likely to score higher.

(4) No apparent relationship was found to exist between psychological dependence and formal education.

(5) Non-married individuals were more likely to score higher on psychological dependence than were married personnel.

(6) No relationship was found to exist between number of dependents and psychological dependence.

(7) The more days lost from work, the more likely an individual would score high on psychological dependence. Of those who missed three or more days from work because of drinking, 87 percent scored high on psychological dependence.



(9) The higher one scores on the measure of stress, the more likely one is to score high on psychological dependence.

(10) The more highly satisfied an individual is with his or her job and the more involved in the work, the less likely he or she will score high on psychological dependence.

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# **USAF CIVILIAN EMPLOYEE ALCOHOL PREVALENCE SURVEY**

DEPARTMENT OF THE AIR FORCE  
AIR UNIVERSITY (ATC)

**AIR FORCE INSTITUTE OF TECHNOLOGY**

---

Wright-Patterson Air Force Base, Ohio

USAF SCN 78-117

#### PURPOSE OF THE STUDY

The Air Force Institute of Technology is conducting a scientific study of drinking practices of USAF civilian employees. The study draws upon the significant work of Rand Corporation researchers, who are conducting a long term study of the drinking practices of USAF military personnel. This research, along with that of the Rand Corporation, will be used by USAF policymakers to evaluate and improve Air Force policies and programs pertaining to drinking.

You have been selected at random as part of a sample which is representative of all USAF civilian employees. Any answers you provide will be strictly confidential and seen only by Air Force Institute of Technology researchers. No individual information will be given to anyone outside of the research team. The results of this research will be provided in summary form to Headquarters USAF.

#### PRIVACY STATEMENT

In accordance with paragraph 30, AFR 12-35, Air Force Privacy Program, the following information about this survey is provided:

- a. Authority. 10 U.S.C., 8012, Secretary of the Air Force: Powers and Duties, Delegation by.
- b. Principal purpose. The survey is being conducted to collect opinions and behavioral information relating to current and future Air Force policies and programs.
- c. Routine use. The survey data will be converted to statistical information for use by Air Force Institute of Technology researchers and Air Force policymakers and planners.
- d. Participation in this survey is voluntary.
- e. No adverse action of any kind may be taken against any individual who elects not to participate in this survey.

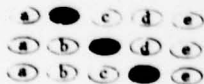
#### INSTRUCTIONS FOR COMPLETING SURVEY

Select only one answer to each question. Mark your answers on the separate answer sheet. Please do not make any marks on this questionnaire form. Do not write your name or SSAN on the answer sheet or the questionnaire form.

Mark your answers carefully so that you enter them next to the answer sheet number corresponding to the survey question number.

Be sure that your answer sheet marks are heavy and that you blacken the oval-shaped space completely. Use only a No. 2 pencil.

Right way to mark answer sheet



Wrong way to mark answer sheet



DO NOT STAPLE OR OTHERWISE DAMAGE THE ANSWER SHEET.

# WORK LOCATION

Look up the number corresponding to your work station on the list below. Record that number in spaces 1-3 of the numeric grid at the right of the answer sheet.

Work Station Number	Work Station Name	Work Station Number	Work Station Name
001	Albrook AFS, Canal Zone	062	Fort Yukon AFS, APO Seattle
002	Almaden AFS, Calif.	063	Fortuna AFS, S.D.
003	Altus AFB, Okla.	064	Francis E. Warren AFB, Wyo.
004	Andersen AFB, Guam	065	Frankfurt, West Germany
005	Andrews AFB, Md.	066	Gentile AFS, Ohio
006	Ankara AS, Turkey	067	George AFB, Calif.
007	Antigo AFS, Wis.	068	Gibbsboro AFS, N.J.
008	Arnold AFS, Tenn.	069	Glasgow AFB, Mont.
009	Athens Airport, Greece	070	Goodfellow AFB, Tex.
010	Aviano AB, Italy	071	Goose AB, Labrador, Canada
011	Barksdale AFB, La.	072	Grand Forks AFB, N.D.
012	Baudette AFS, Minn.	073	Griffis AFB, N.Y.
013	Beale AFB, Calif.	074	Grissom AFB, Ind.
014	Bellows AFS, Hawaii	075	Gunter AFS, Ala.
015	Bergstrom AFB, Tex.	076	Hahn AB, West Germany
016	Bitburg AB, West Germany	077	Hancock Field, N.Y.
017	Blain AFS, Wash.	078	Havre AFS, Mont.
018	Blytheville AFB, Ark.	079	Hickam AFB, Hawaii
019	Bolling AFB, D.C.	080	Hill AFB, Utah
020	Brooks AFB, Tex.	081	Holoman AFB, N.M.
021	Bucks Harbor AFS, Me.	082	Homestead AFB, Fla.
022	Calumet AFS, Mich.	083	Howard AFB, Canal Zone
023	Cambridge AFS, Calif.	084	Hurlburt Field, Fla.
024	Camp New Amsterdam, The Netherlands	085	Incirlik AB, Turkey
025	Campion AFS, APO Seattle	086	Indian Mountain AFS, APO Seattle
026	Cannon AFB, N.M.	087	Indian Spring AF Auxiliary Field, Nev.
027	Cape Charles AFS, Va.	088	Iraklion AS, Crete
028	Cape Canaveral AFS, Fla.	089	Izmir, Turkey
029	Cape Lisburne AFS, APO Seattle	090	K.I. Sawyer AFB, Mich.
030	Cape Newenham AFS, APO Seattle	091	Kaala AFS, APO San Francisco
031	Cape Romaszof AFS, APO Seattle	092	Kadena AB, Okinawa
032	Carwell AFB, Tex.	093	Kalispell AFB, Mont.
033	Castle AFB, Calif.	094	Keesler AFB, Miss.
034	Caswell AFS, Me.	095	Keflavik Airport, Iceland
035	Chanute AFB, Ill.	096	Kelley AFB, Tex.
036	Charleston AFB, S.C.	097	Keno AFS, Oregon
037	Charleston AFS, Me.	098	Kicheloe AFB, Mich.
038	Clark AB, Philippines	099	King Salmon Airport, Ala.
039	Cold Bay AFS, APO Seattle	100	Kingsley Field, Ore.
040	Columbus AFB, Miss.	101	Kirtland AFB, N.M.
041	Craig APO, Ala.	102	Klamath AFS, Calif.
042	Cudjoe Key AFS, Fla.	103	Kotzebue AFS, APO Seattle
043	Dauphin Island AFS, Ala.	104	Kunsan AB, South Korea
044	Davis, Monthan AFB, Ariz.	105	Kwangju AB, South Korea
045	Dobbins AFB, Ga.	106	Lackland AFB, Tex.
046	Dover AFB, Del.	107	Lajes Field, Azores
047	Duluth International Airport, Minn.	108	Lake Charles AFS, La.
048	Dyess AFB, Tex.	109	Langley AFB, Va.
049	Edwards AFB, Calif.	110	Laughlin AFB, Tex.
050	Eglin AFB, Fla.	111	Laurence G. Hanscom AFB, Mass.
051	Eielson AFB, Ala.	112	Lindsey AS, West Germany
052	Ellsworth AFB, S.D.	113	Little Rock AFB, Ark.
053	Elmendorf AFB, Ala.	114	Lockport AFS, N.Y.
054	Empire AFS, Mich.	115	Loring AFB, Me.
055	England AFB, La.	116	Los Angeles AFS, Calif.
056	Ent AFB, Colo.	117	Lowry AFB, Colo.
057	Fairchild AFB, Wash.	118	Luke AFB, Ariz.
058	Finland AFS, Minn.	119	Mac Dill AFB, Fla.
059	Finley AFS, N.D.	120	Makah AFS, Wash.
060	Fort Fisher AFS, N.C.	121	Malmstrom AFB, Mont.
061	Fort Lee AFS, Va.	122	March AFB, Calif.

Work Station Number	Work Station Name
123	Martinsburg AFB, W. Va.
124	Mather AFB, Calif.
125	Maxwell AFB, Ala.
126	McChord AFB, Wash.
127	McClellan AFB, Calif.
128	McConnell AFB, Kan.
129	McGuire AFB, N. J.
130	Mica Peak AFS, Wash.
131	Mill Valley AFS, Calif.
132	Minot AFB, N. D.
133	Minot AFS, N. D.
134	Misawa AB, Japan
135	Montauk AFS, N. Y.
136	Moody AFB, Ga.
137	Moron AB, Spain
138	Mountain Home AFB, Idaho
139	Mt. Hebo AFS, Oregon
140	Mt. Laguna AFS, Calif.
141	Murphy Dome AFS, Alaska
142	Myrtle Beach AFB, S. C.
143	Nellis AFB, Nev.
144	Newark AFS, Ohio
145	Niagara Falls International Airport, N. Y.
146	No. Bend AFS, Oregon
147	No. Charleston AFS, S. C.
148	No. Truro AFS, Mass.
149	Norton AFB, Calif.
150	Offutt AFB, Neb.
151	Oklahoma City AFS, Okla.
152	Ophelm AFS, Mont.
153	Osan AB, South Korea
154	Osceola AFS, Wis.
155	Othello AFS, Wash.
156	Patrick AFB, Fla.
157	Passee AFB, N. H.
158	Peterson Field, Colo.
159	Pillar Point AFS, Calif.
160	Plattsburgh AFB, N. Y.
161	Point Arena AFS, Calif.
162	Pope AFB, N. C.
163	Port Austin AFS, Mich.
164	Punamano AFS, FPO Hawaii
165	Ramstein AB, West Germany
166	Randolph AFB, Tex.
167	Reese AFB, Tex.
168	Rhein-Main AB, West Germany
169	Richards-Gebaur AFB, Mo.
170	Richmond AFS, Fla.
171	Rickenbacker AFB, Ohio
172	Roanoke Rapids AFS, N. C.
173	Robins AFB, Ga.
174	RAF Alconbury, United Kingdom
175	RAF Bentwaters, United Kingdom
176	RAF Chicksands, United Kingdom
177	RAF Lakenheath, United Kingdom
178	RAF Mildenhall, United Kingdom
179	RAF Sculthorpe, United Kingdom
180	RAF Upper Heyford, United Kingdom
181	RAF Wethersfield, United Kingdom
182	RAF Woodbridge, United Kingdom
183	San Antonio AFS, Tex.
184	San Pedro Hill AFS, Calif.
185	San Vito dei Normanni AS, Italy
186	Saratoga Springs AFS, N. Y.
187	Sault Sainte Marie AFS, Mich.
188	Savannah AFS, Ga.
189	Scott AFB, Ill.

Work Station Number	Work Station Name
190	Selfridge AFB (ANG), Mich.
191	Sembach AB, West Germany
192	Seymour Johnson AFB, N. C.
193	Shaw AFB, S. C.
194	Shemya AFB, Alaska
195	Sheppard AFB, Tex.
196	Shu-Lin-Kou AS, Taiwan
197	Sondrestrom AB, Greenland
198	Spangdahlem AB, West Germany
199	Sparrevohn AFS, APO Seattle
200	St. Albans AFS, Vt.
201	St. Louis AFS, Mo.
202	Sunnyvale AFS, Calif.
203	Tachikawa AB, Japan
204	Taegu AB, South Korea
205	Tainan AS, Taiwan
206	Tatiana AFS, APO Seattle
207	Tempelhof Airport, Berlin, Germany
208	Thule AB, Greenland
209	Tin City AFS, APO Seattle
210	Tinker AFB, Okla.
211	Tonopah AFS, Nev.
212	Torrejon AB, Spain
213	Travis AFB, Calif.
214	Truxa Field, Wis.
215	Tyndall AFB, Fla.
216	Vance AFB, Okla.
217	Vandenberg AFB, Calif.
218	Warren AFB, Wyo.
219	Watertown AFS, N. Y.
220	Webb AFB, Mo.
221	Westover AFB, Mass.
222	Wheeler AFB, Hawaii
223	Whiteman AFB, Mo.
224	Wiesbaden AB, West Germany
225	Williams AFB, Ariz.
226	Wright-Patterson AFB, Ohio
227	Wurtsmith AFB, Mich.
228	Yokota AB, Japan
229	Zaragoza AB, Spain
230	Zweibrucken AB, West Germany
231	Off AFB, Ma.
232	Hq, USAF (Washington, DC)
233	Other



1. What is your parent command or assignment?

- a. Alaskan Air Command
- b. U.S. Air Force Academy
- c. Aerospace Defense Command
- d. U.S. Air Forces in Europe
- e. Air Force Accounting and Finance Center
- f. Air Force Logistics Command
- g. Air Force Systems Command
- h. Air Reserve Personnel Center
- i. Air Training Command
- j. Air Force Reserve
- k. Headquarters U.S. Air Force
- l. Air Force Engineering and Services Agency
- m. Air Force Management Engineering Agency
- n. Air Force Intelligence Service

- o. Air Force Data Automation Agency
- p. Military Airlift Command
- q. Pacific Air Forces
- r. Strategic Air Command
- s. Tactical Air Command
- t. U.S. Air Force Security Service
- u. Air Force Military Personnel Center
- v. Air Force Inspection and Safety Center
- w. Air Force Audit Agency
- x. Air Force Office of Special Investigations
- y. Air Force Communications Service
- z. Air Force Test & Evaluation Center
- 1. Air Force Commissary Service Command
- 2. Other

2. What is your present pay system?

- a. GS (General Schedule)
- b. WS (Wage Supervisor)
- c. WL (Wage Leader)
- d. WG (Wage Grade)
- e. UA (Annual salaried--nonappropriated fund)

- f. NA (hourly paid craft worker--nonappropriated fund)
- g. AS or PS (hourly paid administrative support or patron services--nonappropriated fund)
- h. ST (Scientific and Professional--10 U.S.C. 1581 [formerly P.L. 313])

3. What is your present grade level?

- a. 1
- b. 2
- c. 3
- d. 4
- e. 5
- f. 6
- g. 7

- h. 8
- i. 9
- j. 10
- k. 11
- l. 12
- m. 13

- n. 14
- o. 15
- p. 16
- q. 17
- r. 18
- s. 19
- t. ST

4. How long have you been assigned at your present base?

- a. Less than 1 year
- b. 1 year but less than 2
- c. 2 years but less than 3
- d. 3 years but less than 4
- e. 4 years but less than 5
- f. 5 years but less than 10

- g. 10 years but less than 15
- h. 15 years but less than 20
- i. 20 years but less than 25
- j. 25 years but less than 30
- k. 30 years or more

5. What is your age?

- a. 17 or under
- b. 18
- c. 19
- d. 20
- e. 21

- f. 22-24
- g. 25-27
- h. 28-30
- i. 31-33
- j. 34-36

- k. 37-39
- l. 40-42
- m. 43-45
- n. 46-48
- o. 49-51

- p. 52-54
- q. 55-57
- r. 58-60
- s. 61-63
- t. 64 or over

6. Are you a male or female?

a. Male

b. Female

7. How much do you weigh?

- a. 100 lbs or less
- b. Between 101 and 120 lbs.
- c. Between 121 and 140 lbs.
- d. Between 141 and 160 lbs.
- e. Between 161 and 180 lbs.

- f. Between 181 and 200 lbs.
- g. Between 201 and 220 lbs.
- h. Between 221 and 240 lbs.
- i. Over 240 lbs.

8. Which one of the following do you consider yourself?

- a. Black
- b. Hispanic
- c. American Indian

- d. Oriental
- e. Other than A through D

9. What is your highest level of education NOW? (Include accepted GED credits.)
- |  |  |
|--|--|
| a. No high school  | f. More than two years of college            |
| b. Some high school  | g. College degree (BA, BS, or equivalent)    |
| c. GED Certificate or high school equivalency                                  | h. Graduate study but no graduate degree     |
| d. High school graduate  | i. Master's degree                           |
| e. One or two years of college or vocational school (include Associate Degree) | j. Doctor's degree (PhD, MD, LLB, EdD, etc.) |
10. What is your marital status?
- |                               |                      |
|-------------------------------|----------------------|
| a. Married                    | d. Legally separated |
| b. Never been married         | e. Widower/widow     |
| c. Divorced and not remarried |                      |
11. How many dependents do you have? (Do not include yourself.)
- |                 |                         |
|-----------------|-------------------------|
| a. None         | e. 4 dependents         |
| b. 1 dependent  | f. 5 dependents         |
| c. 2 dependents | g. 6 dependents         |
| d. 3 dependents | h. 7 or more dependents |
12. How much total active federal civilian service have you completed?
- |                            |                              |                              |
|----------------------------|------------------------------|------------------------------|
| a. Less than 1 year        | j. 9 years but less than 10  | s. 26 years but less than 28 |
| b. 1 year but less than 2  | k. 10 years but less than 12 | t. 28 years but less than 30 |
| c. 2 years but less than 3 | l. 12 years but less than 14 | u. 30 years but less than 32 |
| d. 3 years but less than 4 | m. 14 years but less than 16 | v. 32 years but less than 34 |
| e. 4 years but less than 5 | n. 16 years but less than 18 | w. 34 years but less than 36 |
| f. 5 years but less than 6 | o. 18 years but less than 20 | x. 36 years but less than 38 |
| g. 6 years but less than 7 | p. 20 years but less than 22 | y. 38 years but less than 40 |
| h. 7 years but less than 8 | q. 22 years but less than 24 | z. 40 or more years          |
| i. 8 years but less than 9 | r. 24 years but less than 26 |                              |
13. Indicate the primary function in which you are currently employed.
- |                         |                             |                   |
|-------------------------|-----------------------------|-------------------|
| a. Maintenance          | g. Personnel                | m. Operations     |
| b. Logistics Management | h. Civil Engineering        | n. Communications |
| c. Supply               | i. Security                 | o. Services       |
| d. Procurement          | j. Investigation            | p. Administration |
| e. Comptroller          | k. Medical                  | q. Legal          |
| f. Transportation       | l. Research and Development | r. Intelligence   |
|                         |                             | s. Other          |
14. Is the person who prepares your performance report military or civilian?
- |             |             |
|-------------|-------------|
| a. Military | b. Civilian |
|-------------|-------------|
15. Which one of the following shows how much of the time you feel satisfied with your job?
- |                           |                            |
|---------------------------|----------------------------|
| a. Never                  | e. A good deal of the time |
| b. Seldom                 | f. Most of the time        |
| c. Occasionally           | g. All the time            |
| d. About half of the time |                            |
16. Choose one of the following statements which best tells how well you like your job.
- |                               |                    |
|-------------------------------|--------------------|
| a. I love it                  | e. I don't like it |
| b. I am enthusiastic about it | f. I dislike it    |
| c. I like it                  | g. I hate it       |
| d. I am indifferent to it     |                    |
17. Which one of the following best tells how you feel about changing your job?
- |   |
|---|
| a. I would quit this job at once if I could.  |
| b. I would take almost any other job in which I could earn as much as I am earning now. |
| c. I would like to change both my job and my occupation.                                |
| d. I would like to exchange my present job for another one.                             |
| e. I am not eager to change my job, but I would do so if I could get a better job.      |
| f. I cannot think of any jobs for which I would exchange.                               |
| g. I would not exchange my job for any other.   |

18. Which one of the following shows how you think you compare with other people?

- a. No one likes his job better than I like mine.
- b. I like my job much better than most people like theirs.
- c. I like my job better than most people like theirs.
- d. I like my job about as well as most people like theirs.
- e. I dislike my job more than most people dislike theirs.
- f. I dislike my job much more than most people dislike theirs.
- g. No one dislikes his job more than I dislike mine.

19. On most work days, how often does time seem to drag for you?

- a. About half the day or more
- b. About 1/3 of the day
- c. About 1/4 of the day
- d. About 1/8 of the day
- e. Time never seems to drag

20. Some people are completely involved in the job -- they are absorbed in it night and day. For others, their job is simply one of several interests. How involved do you feel in your job?

- a. Very little; my other interests are more absorbing.
- b. Slightly involved.
- c. Moderately involved; my job and my other interests are equally absorbing to me.
- d. Strongly involved.
- e. Very strongly involved; my work is the most absorbing interest in my life.

21. How often do you do extra work for your job which is not really required of you?

- a. Almost every day
- b. Several times a week
- c. About once a week
- d. Once every few weeks
- e. About once a month or less

22. Would you say you work harder, less hard or about the same as other people doing your type of work in your work organization?

- a. Much harder than most others
- b. A little harder than most others
- c. About the same as most others
- d. A little less hard than most others
- e. Much less hard than most others

	Never	Rarely	A few Times a Week	Often	Always
23. I feel tense, anxious, or have nervous indigestion.	A	B	C	D	E
24. People at work/home arouse my tension	A	B	C	D	E
25. I have tension or migraine headaches, or pain in the neck or shoulders, or insomnia.	A	B	C	D	E
26. I can't turn off my thoughts at night or on weekends long enough to feel relaxed and refreshed the next day.	A	B	C	D	E
27. I find it difficult to concentrate on what I'm doing because of worrying about other things.	A	B	C	D	E
28. I have a difficult time finding enough time to relax.	A	B	C	D	E
	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
29. Once I find the time, it is hard for me to relax.	A	B	C	D	E
30. My workday is made up of many deadlines.	A	B	C	D	E

Here are some statements people have made about drinking. Please mark for each statement whether you strongly agree, agree, are neutral, disagree, or strongly disagree.

	<u>Strongly Agree</u>	<u>Agree</u>	<u>Neutral</u>	<u>Disagree</u>	<u>Strongly Disagree</u>
31. The Air Force tries to help employees who have a drinking problem.	A	B	C	D	E
32. It's a good thing that the Air Force has started a policy to deglamorize alcohol.	A	B	C	D	E
33. If you refer yourself to the social actions office for drinking problems, disciplinary action will be taken against you.	A	B	C	D	E
34. It is Air Force policy to fire alcoholics.	A	B	C	D	E
35. It is Air Force policy that alcohol abuse information is made a permanent part of the person's record.	A	B	C	D	E
36. When you were growing up, until about the age of 16, did your father or stepfather drink frequently or heavily?					
a. Did not live with a father or stepfather					
b. Yes					
c. No					
37. When you were growing up, until the age of 16, did your mother or stepmother drink frequently or heavily?					
a. Did not live with a mother or stepmother					
b. Yes					
c. No					

HERE ARE SOME QUESTIONS ABOUT YOUR OWN DRINKING.

38. How long has it been since your last drink of beer, wine, or hard liquor?
- |                   |   |
|-------------------|---|
| a. Today          | f. 2-3 months ago (60-119 days ago)           |
| b. 1-7 days ago   | g. 4-6 months ago                             |
| c. 8-14 days ago  | h. 7-12 months ago                            |
| d. 15-30 days ago | i. More than one year ago                     |
| e. 31-59 days ago | j. Never drank any beer, wine, or hard liquor |

SKIP TO QUESTION 101 IF YOU NEVER DRANK ANY BEER, WINE, OR HARD LIQUOR.

39. During the past 30 days, how many days did you drink beer?
- |                         |  |
|-------------------------|--|
| a. Every day            | e. 2-3 days during the past 30 days          |
| b. Nearly every day     | f. Once during the past 30 days              |
| c. 3-4 days a week      | g. Didn't drink any beer in the past 30 days |
| d. Once or twice a week |  |
40. How much beer did you drink on a typical day (in which you drank beer) during the past 30 days?
- |                       |   |
|-----------------------|---|
| a. 1 can (or bottle)  | g. 7 cans                                     |
| b. 2 cans             | h. 8-11 cans (3 or 4 quarts)                  |
| c. 3 cans (one quart) | i. 12-17 cans (5 or 6 quarts)                 |
| d. 4 cans             | j. 18 or more cans (7 or more quarts)         |
| e. 5 cans (2 quarts)  | k. Didn't drink any beer in the past 30 days. |
| f. 6 cans             |   |
41. During the past 30 days, how many days did you drink wine?
- |                         |  |
|-------------------------|--|
| a. Every day            | e. 2-3 days during the past 30 days          |
| b. Nearly every day     | f. Once during the past 30 days              |
| c. 3-4 days a week      | g. Didn't drink any wine in the past 30 days |
| d. Once or twice a week |  |



42. How much wine did you drink on a typical day (in which you drank wine) during the past 30 days?
- |   |  |
|---|--|
| a. 1 wine glass (4 oz.)                                 | g. 7 wine glasses                                  |
| b. 2 wine glasses                                       | h. 8-11 wine glasses                               |
| c. 3 wine glasses (12 oz--about half a fifth or bottle) | i. 12 wine glasses (48 oz--about 2 fifths)         |
| d. 4 wine glasses                                       | j. More than 12 wine glasses or more than 2 fifths |
| e. 5 wine glasses                                       | k. Didn't drink any wine in the past 30 days.      |
| f. 6 wine glasses (24 oz--about one fifth or bottle)    |  |
43. During this period, did you usually drink a regular wine or a fortified wine such as sherry, vermouth, port or Dubonnet.
- |                    |  |
|--------------------|--|
| a. A regular wine. | b. A fortified wine (like sherry, vermouth, port, or Dubonnet) |
|--------------------|--|
44. During the past 30 days, how many days did you drink hard liquor?
- |                         |  |
|-------------------------|--|
| a. Every day            | e. 2-3 days during the past 30 days              |
| b. Nearly every day     | f. Once during the past 30 days                  |
| c. 3-4 days a week      | g. Didn't drink any hard liquor the past 30 days |
| d. Once or twice a week |  |
45. How much hard liquor did you drink in a typical day (in which you drank hard liquor) during the past 30 days?
- |             |                 |   |
|-------------|-----------------|---|
| a. 1 drink  | g. 7 drinks     | l. 17-24 drinks                                     |
| b. 2 drinks | h. 8 drinks     | m. 25 drinks or more                                |
| c. 3 drinks | i. 9-11 drinks  | n. Didn't drink any hard liquor in the past 30 days |
| d. 4 drinks | j. 12-14 drinks |   |
| e. 5 drinks | k. 15-16 drinks |   |
| f. 6 drinks |                 |   |
46. About how many ounces of hard liquor are there in your average drink?
- |                            |                     |
|----------------------------|---------------------|
| a. One ounce (one shot)    | e. 3 ounces         |
| b. 1.25 ounces             | f. 4 ounces         |
| c. 1.5 ounces (one jigger) | g. 5 or more ounces |
| d. 2 ounces                |                     |
- NOW THINK ABOUT THE PERIOD OF THE PAST YEAR--FROM TODAY BACK TO ONE YEAR AGO....
47. During the past year, how many days did you have 8 or more cans of beer in a single day (3 quarts or more)?
- |                                  |                                   |
|----------------------------------|-----------------------------------|
| a. Every day or nearly every day | f. 3-6 days in the past year      |
| b. 3-4 days a week               | g. Once or twice in the past year |
| c. Once or twice a week          | h. Never in the past year         |
| d. 1-3 days a month              |                                   |
| e. 7-11 days in the past year    |                                   |
48. During the past year, how many days did you have 8 or more glasses of wine in a single day (more than a fifth)?
- |                                  |                                   |
|----------------------------------|-----------------------------------|
| a. Every day or nearly every day | e. 7-11 days in the past year     |
| b. 3-4 days a week               | f. 3-6 days in the past year      |
| c. Once or twice a week          | g. Once or twice in the past year |
| d. 1-3 days a month              | h. Never in the past year         |
49. During the past year, how many days did you have 8 or more drinks of hard liquor in a single day (a half pint or more)?
- |                                  |                                   |
|----------------------------------|-----------------------------------|
| a. Every day or nearly every day | e. 7-11 days in the past year     |
| b. 3-4 days a week               | f. 3-6 days in the past year      |
| c. Once or twice a week          | g. Once or twice in the past year |
| d. 1-3 days a month              | h. Never in the past year         |

The following are some of the reasons people have given to explain why they drink wine, beer, or whiskey. When you do drink, how frequently does each of the following reasons explain why you drink? IF YOU DON'T DRINK NOW, ANSWER IN TERMS OF THE PAST WHEN YOU WERE DRINKING.

Rarely or Never	Some of the Time	About Half the Time	Often	Most of the Time
A.....	B.....	C.....	D.....	E.....

50. I drink to be sociable.
51. I drink because I like the taste.
52. I drink to forget my worries.
53. I drink to relax.
54. A drink helps cheer me up when I am in a bad mood.
55. A drink helps me when I am depressed or nervous.
56. I drink when I am bored and have nothing to do.
57. I drink when I'm thirsty.
58. I drink to increase my self-confidence.
59. If you knew you had an alcohol problem, would you volunteer for treatment offered by the Air Force?

a. Yes                                      b. No                                      c. I don't know.

Listed below are a number of things connected with drinking that sometimes affect people while at work. Please indicate those things that have happened to you. If they have happened in the past year, please indicate on how many work days they occurred.

60. I was at work, but did not work at my normal level of performance because of drinking or a hangover.

a. Never happened to me on a work day	f. 4-6 work days <u>in the past year</u>
b. Has happened but <u>not</u> in the past year	g. 7-11 work days <u>in the past year</u>
c. Happened on 1 work day <u>in the past year</u>	h. 12-20 work days <u>in the past year</u>
d. 2 work days <u>in the past year</u>	i. 21-39 work days <u>in the past year</u>
e. 3 work days <u>in the past year</u>	j. 40 or more work days <u>in the past year</u>

61. If you ever worked below your normal level of performance because of drinking or a hangover, how would you rate your performance the last time this happened?

- a. Never worked below my normal level of performance because of drinking or a hangover.
- b. Worked close to 90% of my normal level of performance.
- c. Worked close to 80%
- d. Worked close to 70%
- e. Worked close to 60%
- f. Worked close to 50%
- g. Worked close to 40%
- h. Worked close to 30%
- i. Worked close to 20%
- j. Worked close to 10%

62. I was late to work or left early because of drinking or a hangover.

a. Never happened to me on a work day.	f. 4-6 work days <u>in the past year</u> .
b. Has happened, but <u>not</u> in the past year.	g. 7-11 work days <u>in the past year</u> .
c. Happened on 1 work day <u>in the past year</u> .	h. 12-20 work days <u>in the past year</u> .
d. 2 work days <u>in the past year</u> .	i. 21-39 work days <u>in the past year</u> .
e. 3 work days <u>in the past year</u> .	j. 40 or more work days <u>in the past year</u> .

63. The last time you were late to work or left early because of drinking or a hangover, how much work did you miss that day?

- a. Never was late to work or left early because of drinking or a hangover.
- b. Missed about 1/4 day or less
- c. Missed about 1/2 day
- d. Missed about 3/4 day or more

64. I was off work because of drinking, a hangover, or an illness caused by drinking.

- a. Never happened to me on a work day.
- b. Has happened, but not in the past year.
- c. Happened on 1 work day in the past year.
- d. 2 work days in the past year.
- e. 3 work days in the past year.

- f. 4-6 work days in the past year.
- g. 7-11 work days in the past year.
- h. 12-20 work days in the past year.
- i. 21-39 work days in the past year.
- j. 40 or more work days in the past year.

65. I was high from drinking while at work.

- a. Never happened to me on a work day.
- b. Has happened, but not in the past year.
- c. Happened on 1 work day in the past year.
- d. 2 work days in the past year.
- e. 3 work days in the past year.

- f. 4-6 work days in the past year.
- g. 7-11 work days in the past year.
- h. 12-20 work days in the past year.
- i. 21-39 work days in the past year.
- j. 40 or more work days in the past year.

66. I drank at work.

- a. Never happened to me on a work day.
- b. Has happened, but not in the past year.
- c. Happened on 1 work day in the past year.
- d. 2 work days in the past year.
- e. 3 work days in the past year.

- f. 4-6 work days in the past year.
- g. 7-11 work days in the past year.
- h. 12-20 work days in the past year.
- i. 21-39 work days in the past year.
- j. 40 or more work days in the past year.

Below is a list of experiences that people have reported, some in connection with drinking. For each experience, please mark one answer to indicate how often, if at all, you had this experience.

Happened 3 or more times in the past year	Happened twice in the past year	Happened once in the past year	Happened but not in the past year	Never Happened
---	---------------------------------------	--------------------------------------	---	-------------------

A.....B.....C.....D.....E

PLEASE TAKE YOUR TIME ON THIS, SO YOUR ANSWERS WILL BE AS ACCURATE AS POSSIBLE.

67. I had an illness connected with my drinking which kept me from duty for a week or longer.

68. I got a lower score on my performance rating because of my drinking.

69. I received a disciplinary action because of a problem caused by my drinking.

70. A physician said I should cut down on drinking.

71. I stayed intoxicated for several days at a time.

72. I was reported or arrested by a police officer (military or civilian) for drinking and driving.

73. I was reported or arrested by a police officer for a drinking incident not related to driving.

74. I was reported or arrested by a police officer for reasons unrelated to drinking.

75. I spent time in jail because of my drinking.

76. My drinking contributed to my getting hurt in an accident.

77. My drinking contributed to an accident where others were hurt or property was damaged.

78. My spouse threatened to leave me because of my drinking.

79. My spouse threatened to leave me for other reasons.

80. My spouse left me because of my drinking.

81. My spouse left me for other reasons.

82. If you've ever spent time in jail because of your drinking, how many days were you in jail the last time this happened?

- a. Was never in jail because of drinking.
- b. 1 day
- c. 2 days

- d. 3-5 days
- e. 6-7 days
- f. More than 7 days.



83. Did your supervisor tell you to cut down on your drinking during the past year?

- a. Yes                                      b. No                                      c. Not applicable

84. Has your drinking ever contributed to damage or loss of Air Force property?

- a. No

YES, and the total value of property lost or damaged due to my drinking was:

- b. Less than \$100  
c. At least \$100 but less than \$500  
d. At least \$500 but less than \$1,000  
e. \$1,000 or more.

85. Did you refer yourself to a treatment program for alcohol abuse during the past year?

- a. Yes                                      b. No                                      c. Not applicable

86. Did your supervisor refer you to a treatment program for alcohol abuse during the past year?

- a. Yes                                      b. No                                      c. Not applicable

Below are some more experiences that people report, some in connection with drinking. For each experience, please indicate how often you had this experience, if at all, in the past year.

Every day or nearly every day	3-4 days a week	Once or twice a week	1-3 days a month	7-11 days in past year	3-6 days in past year	Once or twice in past year	Happened over a year ago	Never Happened
---	-----------------------	----------------------------	---------------------	---------------------------------	--------------------------------	-------------------------------------	--------------------------------	-------------------

A.....B.....C.....D.....E.....F.....G.....H.....I

87. I was drunk

88. I got into a fight where I hit someone when I was drinking.

89. I got into a fight where I hit someone when I was not drinking.

90. I awakened the next day unable to remember what I had done while drinking.

91. I took a drink the first thing when I got up in the morning.

92. My hands shook a lot in the morning after drinking.

93. I could not stop drinking before becoming intoxicated.

94. I was sick because of drinking (nausea, vomiting, severe headaches, etc.)

95. I had the "shakes" because of drinking.

96. I drove a car just after I had 5 or more drinks in a two hour period.

97. Have you ever had professional counseling or treatment, or joined a group (such as AA) to get help for a drinking problem?

- a. Yes, within the past year.  
b. Yes, over a year ago.  
c. Never

98. If you ever had help for a drinking problem, was it from a military program, a civilian program, or both?

- a. A military program  
b. A civilian program  
c. Both  
d. Not applicable



99. Have you ever been in a hospital or infirmary for an illness or accident connected with your drinking?  
If yes, how many days altogether were you hospitalized in the past year?

- |  |                                      |
|--|--------------------------------------|
| a. Has never happened  | e. 3 days in the past year           |
| b. Happened but not in the past year                                 | f. 4-6 days in the past year         |
| c. 1 day in a hospital connected with your drinking in the past year | g. 7-13 days in the past year        |
| d. 2 days in the past year   | h. 14-26 days in the past year       |
|  | i. 27 or more days in the past year. |

100. Have you ever seen a physician as an outpatient for an illness or accident connected with your drinking?  
If yes, how many visits connected with your drinking did you make in the past year?

- |   |
|---|
| a. Never have seen a physician for illness or accident connected with drinking. |
| b. Have visited a physician but not in the past year.                           |
| c. 1 visit to a physician connected with drinking in the past year.             |
| d. 2 visits in the past year.   |
| e. 3 visits in the past year.   |
| f. 4-5 visits in the past year.   |
| g. 6-10 visits in the past year.  |
| h. 11-15 visits in the past year.   |
| i. 16 or more visits in the past year.  |

101. How many Air Force civilian employees (in total) have you directly supervised during the past year (people for whom you prepared performance evaluations)?

- |         |                 |
|---------|-----------------|
| a. None | e. 4-6          |
| b. 1    | f. 7-11         |
| c. 2    | g. 12-20        |
| d. 3    | h. 21-30        |
|         | i. More than 30 |

IF YOU HAVE BEEN A SUPERVISOR OF CIVILIAN EMPLOYEES DURING THE PAST YEAR (IF YOU HAD AT LEAST ONE PERSON WHOSE PERFORMANCE EVALUATION YOU PREPARED), CONTINUE.

IF YOU HAVE NOT BEEN A SUPERVISOR DURING THE PAST YEAR, YOU ARE FINISHED. THANK YOU FOR YOUR COOPERATION.

ANSWER THE FOLLOWING QUESTIONS ABOUT THE CIVILIAN EMPLOYEES YOU HAVE SUPERVISED IN THE PAST YEAR (PEOPLE WHOSE PERFORMANCE EVALUATIONS YOU PREPARED).

102. In your opinion, how many of the people you supervised during the past year had a drinking problem that affected their work?

- |   |                                  |
|---|----------------------------------|
| a. None, ever                           | e. 3 in the past year            |
| b. At least 1, but not in the past year | f. 4 in the past year            |
| c. 1 in the past year                   | g. 5 in the past year            |
| d. 2 in the past year                   | h. 6-10 in the past year         |
|   | i. More than 10 in the past year |

103. How many of the people you supervised during the past year did you tell to cut down on their drinking?

- |   |                                  |
|---|----------------------------------|
| a. None, ever                           | e. 3 in the past year            |
| b. At least 1, but not in the past year | f. 4 in the past year            |
| c. 1 in the past year                   | g. 5 in the past year            |
| d. 2 in the past year                   | h. 6-10 in the past year         |
|   | i. More than 10 in the past year |

104. How many of the people you supervised during the past year did you refer to a treatment program for alcohol abuse?

- |   |                                   |
|---|-----------------------------------|
| a. None, ever                           | e. 3 in the past year             |
| b. At least 1, but not in the past year | f. 4 in the past year             |
| c. 1 in the past year                   | g. 5 in the past year             |
| d. 2 in the past year                   | h. 6-10 in the past year          |
|   | i. More than 10 in the past year. |

105. How many of the people you supervised during the past year did you give lower performance ratings because of alcohol abuse that affected their work?
- |   |                                  |
|---|----------------------------------|
| a. None, ever                           | e. 3 in the past year            |
| b. At least 1, but not in the past year | f. 4 in the past year            |
| c. 1 in the past year                   | g. 5 in the past year            |
| d. 2 in the past year                   | h. 6-10 in the past year         |
|   | i. More than 10 in the past year |
106. For how many of those you supervised during the past year did you take disciplinary action against because of a problem related to their alcohol abuse?
- |   |                                  |
|---|----------------------------------|
| a. None, ever                           | e. 3 in the past year            |
| b. At least 1, but not in the past year | f. 4 in the past year            |
| c. 1 in the past year                   | g. 5 in the past year            |
| d. 2 in the past year                   | h. 6-10 in the past year         |
|   | i. More than 10 in the past year |
107. For the people you supervised during the past year, how many man days (in total including partial days) would you say were lost because of absenteeism due to alcohol abuse?
- |               |               |                        |
|---------------|---------------|------------------------|
| a. None       | d. 3 man days | g. 6 man days          |
| b. 1 man day  | e. 4 man days | h. 7-9 man days        |
| c. 2 man days | f. 5 man days | i. 10 or more man days |
108. For the people you supervised during the past year, how many man days (in total) would you say they worked below their normal level of performance because of drinking or a hangover?
- |               |               |                        |
|---------------|---------------|------------------------|
| a. None       | d. 3 man days | g. 6 man days          |
| b. 1 man day  | e. 4 man days | h. 7-9 man days        |
| c. 2 man days | f. 5 man days | i. 10 or more man days |
109. During the past year, what is the average amount of time you spent dealing with alcohol-related problems of people you supervised?
- Spent no time on these problems
  - 1 day or less
  - 2 days
  - 3 days
  - 4 days
  - 5 days
  - 6 days
  - 7-9 days
  - 10 or more days.

THANK YOU FOR YOUR COOPERATION.

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