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Personality Dimensions of Drinking Patterns in Hospitalized Male Alcoholics

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PERSONALITY DIMENSIONS OF DRINKING PATTERNS IN
HOSPITALIZED MALE ALCOHOLICS

by

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Bachelor of Philosophy, University of North Dakota, 1968
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A Dissertation

Submitted to the Graduate Faculty

of the

University of North Dakota

in partial fulfillment of the requirements

for the degree of

Doctor of Philosophy

Grand Forks, North Dakota

December
1974

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This dissertation submitted by Donald J. McCullagh in partial fulfillment of the requirements for the Degree of Doctor of Philosophy from the University of North Dakota is hereby approved by the Faculty Advisory Committee under whom the work has been done.

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PERSONALITY DIMENSIONS OF DRINKING PATTERNS IN HOSPITALIZED
Title MALE ALCOHOLICS

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Date December 3, 1974

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ABSTRACT

Research concerning alcoholism and personality has often been based upon the single syndrome concept of alcoholism. At the theoretical level it has been recognized that different personality patterns exist among alcoholics. However, few researchers have addressed themselves to this area. The purpose of this study was to determine whether a relationship existed between alcoholic drinking patterns and alcoholism severity based on the responses to the Alcohol Use Questionnaire and personality traits as measured by Cattell's Sixteen Personality Factor Questionnaire.

The sample consisted of 101 white males admitted to a midwestern alcoholism treatment center during a three month period in 1974. The alcoholism diagnosis was based on drinking history and was established by the combined judgment of the treatment team. Only subjects who were not overtly psychotic and did not exhibit severe brain damage were included in the study. The subjects were tested after a period of detoxification, before they entered the formal treatment program to minimize the effect of treatment upon testing. A stepwise backward multiple regression procedure and canonical correlation analysis were used to analyze the data. For each alcohol related factor a multiple regression procedure was used with the alcohol related factor as the criterion. The 16 PF scales were used as predictors. A canonical analysis was performed using the 16 PF scales as one set and the alcohol related factors as a second set.

The findings are summarized below:

1. The following personality traits were found to be significantly related to self-enhancing drinking pattern: apprehensiveness, suspiciousness, emotional unstableness, tenseness and experimenting.

2. Only apprehensiveness was found to be significantly related to the obsessive sustained drinking pattern.

3. The following personality traits were found to be related to the alcoholic deterioration drinking pattern: undisciplined self conflict, apprehensiveness and suspiciousness.

4. The following personality traits were found to be related to general alcoholism: apprehensiveness, tenseness, emotional unstableness, undisciplined self conflict, suspiciousness, shyness, and less intelligent.

5. The canonical product-factors were found to be significant at the .01 level and yielded canonical coefficients of .63 and .54 respectively.

6. The following personality predictor variables were found to contribute most to the canonical correlation of Factor I and are listed in descending order: Tenseness, apprehensiveness, emotional unstableness, shyness, humbleness, and suspiciousness. The criterion drinking pattern variables with the heaviest loading on Factor I was alcoholism severity.

7. The following personality predictor variables were found to contribute most to the canonical correlation of Factor II and are listed in descending order: Expedience, experimenting, happy-go-lucky, undisciplined self conflict, forthrightness, suspiciousness and more

intelligent. The criterion variables with the heaviest loadings on Factor II were the self-enhancing drinking pattern and the alcoholic deterioration pattern.

Conclusions

Within the limitations of the present study, the following conclusions were drawn:

1. Alcoholism was multidimensional in terms of drinking patterns and personality traits.
2. The Alcohol Use Questionnaire measured both developmental phases and drinking pattern components of alcoholism.
3. Personality traits were significantly related to the three drinking patterns and alcoholism severity. Personality factors become relatively more important in predicting alcoholism than in predicting whether or not a person drinks.
4. The following personality traits were related to several drinking patterns: apprehensiveness, tenseness, suspiciousness, emotional sensitivity and undisciplined self conflict.
5. At least two alcohol related personality patterns appeared to exist among hospitalized male alcoholics. One pattern could be labelled "inhibited neurotic" and the other labelled "extraverted, undersocialized immature" personality.
6. Alcoholism was mainly a neurotic solution to anxiety, but this behavior has been often mislabelled psychopathic due to its "social nuisance value."

CHAPTER I

INTRODUCTION

Background of the Study

The search for the "alcoholic personality" is, according to many, a blind alley. This conclusion has been reached because several research efforts have led to contradictory results. After two different reviews of psychological test literature in alcoholism, Syme (1957) found that ". . . there is no warrant for concluding that persons of one type are more likely to become alcoholics than another type" (p. 301). The results of psychological test studies have been ambiguous and inconclusive.

However, after reviewing the literature on the "alcoholic personality," Armstrong (1958) concluded:

It would seem premature to abandon the search because of failure to date to determine adequate methods or to discover the appropriate investigative tools. Thus, we feel that the quest for an alcoholic personality or constellation of frequently predominant characteristics in alcoholism has barely begun (p. 46).

Both Armstrong (1958) and Zwerling (1959) believe that a certain constellation of personality traits occur more frequently among alcoholics than among non-alcoholics and that such a constellation might be embedded in a variety of personality structures.

The concept of an "alcoholic personality" has sometimes been discussed as if it must mean that all alcoholics have a total

personality structure in common. This conception may be setting up a straw man, since it ignores all that is known and accepted about human variability, individual differences and the uniqueness of each personality. Therefore, it seems necessary to speak of a pattern of personality traits common to most alcoholics.

There have been many clinical studies of individuals diagnosed as alcoholic and a great deal of speculation derived from the clinical, but empirical studies of alcoholic patients have been few and rather inadequate. Although it is apparent that alcoholic individuals vary widely in drinking behavior, emotional reactions and in the manifestation of other symptoms, empirical research concerning alcoholism has often been based upon the assumption that alcoholism is a single syndrome. Researchers also have failed to adequately specify the dependent variable, have grouped together too many different phenomena under the heading of alcoholism and have failed to take into account significant aspects of the particular sample used. It is particularly striking that researchers have neglected to inquire into their subjects' drinking behavior, since alcoholics are differentiated from other drinkers essentially on the basis of their drinking behavior.

Lisansky (1960) and Sanford (1968) have expressed the need for a meaningful and useful method of differentiating among the alcoholic drinking syndromes which takes into account psychodiagnostic differences related to the individual's life history, behavioral differences relating to where, when and how the individual drinks, and the function which alcohol serves for the individual.

At the theoretical level, it has been recognized that different types of alcoholism may exist. Landis (1945) described three types of

alcoholics: the occupational drinker whose drinking depends on environmental circumstances and opportunities; the essential addict whose drinking becomes an obsession; and the symptomatic drinker--the psychotic or neurotic whose drinking is a symptom of an illness. The former two types Landis refers to as forms of "true" alcoholism. Clinebell (1968) referred to three kinds of alcoholics: the plateau drinker, the periodic alcoholic and the situational drinker. Blum and Blum (1967) also mention two categories: the convinced drinker, a drinker who has no goal of giving up alcohol, but attempts to relieve the symptoms when they become too painful, and the nonconforming drinker who does not conform to socially acceptable drinking behavior. Jellinek (1960) has proposed four phases of alcoholism and five theoretical types which are defined in the Definition of Terms section. However, few researchers have addressed themselves to this general area.

Statement of the Problem

The purpose of this study was to determine whether a relationship existed between alcoholic drinking patterns and alcoholism severity, based on responses to the Alcohol Use Questionnaire (AUQ) (Horn, Wanberg and Foster, 1973), and on personality traits measured by Cattell's Sixteen Personality Factor Questionnaire (16 PF) (Cattell, Eber and Tatsuoka, 1970).

Significance of the Study

Treatment programs for alcoholics generally have been based on the single syndrome concept of alcoholism. However, if alcoholic individuals differ in drinking patterns and personality traits, therapy could be developed around these differences. Such distinctions may

be of value not only in better understanding alcoholism, but also in developing a conceptual framework for planning the treatment of these individuals. Rather than relying on armchair theories, this study is an attempt to give empirical basis to guide us in understanding alcohol related problems.

Research Questions

Specifically, the study sought information concerning the following questions:

1. Do significant relationships exist between personality traits and the self-enhancing drinking pattern?
2. Do significant relationships exist between personality traits and the obsessive-sustained drinking pattern?
3. Do significant relationships exist between personality traits and the alcoholic deterioration pattern?
4. Do significant relationships exist between personality traits and general alcoholism?

Limitations

Conclusions of this study and the degree to which they may be generalized are limited by the following:

1. The reliability and validity of the Sixteen Personality Factor Questionnaire.
2. The reliability and validity of the Alcohol Use Questionnaire (AUQ). The AUQ is a new inventory which is in an early stage of development.
3. The rapport established during testing and the cooperation and honesty of the respondents.

Delimitations

Delimitations of this study include the following:

1. The choice of an inpatient treatment center.
2. The location of the inpatient treatment center in the upper midwest.
3. The period of time covered by the study, Spring 1974.
4. The fact that all subjects were white males who remained for treatment and were not released "against medical advice."
5. The fact that patients who exhibited severe brain damage and/or an overt psychosis were excluded.

Definition of Terms

Alcoholism.--Is operationally defined as the drinking behavior of those individuals who are admitted to the state hospital, on either a voluntary basis or a court committed basis and are so diagnosed by the combined judgment of the treatment team.

Self-enhancing drinking.--Is operationally defined as the AUQ self-enhancing drinking scale score and refers to the use of alcohol to enhance social and psychological adjustment. This is commonly associated with early stage alcoholism.

Obsessive-sustained drinking.--Is operationally defined as the AUQ obsessive-sustained drinking scale score and refers to a psychological preoccupation with alcohol and a sustained, plateau style of drinking as opposed to a binge style of drinking.

Alcoholic deterioration.--Is operationally defined as the AUQ alcoholic deterioration scale score and describes the traditional concept of alcoholism and refers to physical, psychological and social impairment.

General alcoholism.--Is operationally defined as the AUQ general alcoholism scale score and refers to the severity or degree of alcoholism.

Alpha alcoholism.--Is a purely psychological dependence on alcohol to relieve emotional or bodily pain. It is excessive drinking but not compulsive. The major consequences of this drinking pattern are disturbed interpersonal relationships.

Beta alcoholism.--Is characterized by physical complications such as: gastritis, cirrhosis of the liver and polyneuropathy. The major effects to the individual are nutritional damage, lessened life span, low vocational productivity. Also this pattern may result in an unstable family situation. There are no signs of loss of control.

Gamma alcoholism.--This type is the most prevalent in our society. It is characterized by a large increase in tissue tolerance of alcohol, withdrawal symptoms, physical dependence, adaptive cell metabolism, and loss of both physical and psychological control. In gamma alcoholism there is a definite progression from psychological to physical dependence. Social consequences are greatest here.

Delta alcoholism.--Characterized by increased tolerance for alcohol and withdrawal symptoms resulting from cellular metabolism. There is complete inability to abstain, although the drinker is able to control the intake at any given time. This behavior predominates in wine drinking countries.

Epsilon alcoholism.--Is periodic alcoholism. It is characterized by occasional binge drinking with long intervals between bouts. This binge may be as short as a week or as long as a year. This behavior is found in this country and abroad.

The Prealcoholic Symptomatic Phase.--Is marked by a transition from occasional drinking to frequent drinking to relieve tension. The time period of this phase varies considerably.

The Prodromal Phase.--This phase is characterized by the sudden onset of blackouts. Also appearing are the following behavior: (1) surreptitious drinking, (2) preoccupation with alcohol, (3) gulping of drinks, (4) guilt feelings, and (5) avoiding of reference to alcohol.

The Crucial Phase.--Is characterized by loss of both physical and psychological control whereby any consumption of alcohol seems to trigger a chain reaction that continues until the individual is unable to ingest any more alcohol. There may be intermittent periods of abstinence.

The Chronic Phase.--Emotional disorganization, impairment of thinking and ethical deterioration intensify as periods of prolonged intoxication increase. In this phase, the entire system of rationalization fails--resignation occurs and obsessive drinking continues.

Organization of the Study

The remainder of this study is organized as follows: Chapter II contains a review of the literature, which provides an introduction to the extent of drinking practices and problems and theories about the causes of alcoholism: physiological, cultural and psychological. The psychological section covers the theoretical reviews, longitudinal studies and psychometric studies using the Minnesota Multiphasic Inventory and the Sixteen Personality Factor Questionnaire and multi-dimensional studies.

Chapter III includes a description of the inpatient treatment sample, the data collection procedure, the instrumentation and the research design and statistical procedure. Chapter IV contains the analysis of data and discussion of the results. Chapter V contains the summary, conclusions and recommendations for future research.

CHAPTER II

REVIEW OF LITERATURE

The problem of setting limits for this study was compounded by a lack of acceptable working definitions relating to alcoholism and alcohol related problems. Most investigators have reached a point of agreement that a definition of alcoholism must include physiological as well as psycho-social aspects. The salient features of various definitions include unusual alcohol-related behavior, interference with social and economic functioning, impairment of psychological functioning and deterioration of physical health. Two standard definitions are these:

Seeley (1959), quoting the World Health Organization Committee:

Alcoholics are those excessive drinkers whose dependence on alcohol has attained such a degree that it shows in a noticeable mental disturbance or an interference with their bodily and mental health, interpersonal relations, and their smooth social and economic functioning; or who show the prodromal signs of such developments (p. 352).

Keller (1962), editor of the Quarterly Journal of Studies on Alcohol: "Alcoholism is a chronic disease manifested by repeated implicative drinking so as to cause injury to the drinker's health or to his social or economic functioning" (p. 316).

A useful, broad and uncomplicated definition of problem drinking, which includes alcoholism, is reported by Plaut (1967): "Problem drinking is a repetitive use of beverage alcohol causing physical,

psychological, or social harm to the drinker or to others." This definition stresses interference with functioning rather than any specific drinking behavior; it has been used by most survey researchers concerned with problems associated with alcohol and problem related drinking.

Extent of Drinking

Drinking alcoholic beverages is typical behavior in the United States. A recent survey (Cahalan, Cisin, and Crossley, 1969) indicated that 68 per cent of the U. S. population drink at least once a year. The total population is fairly evenly divided between the 47 per cent who do not drink as often as once a month and the 53 per cent who drink once a month or more. Mulford (1964) and American Institute of Public Opinion (1966) reported similar proportions of drinkers and nondrinkers.

Whether a person drinks at all, and how much, depends primarily on sociocultural factors. However, personality traits are useful in explaining some of the variations in the amount and pattern of drinking within subgroups. These include such indicators as alienation, neurotic tendencies, and impulsivity [sic] (Cahalan, Cisin, and Crossley, 1969). The reader should keep in mind that concepts useful in discussing "problem" drinking are not necessarily appropriate for predicting whether the individual drinks or not. Most of the explained variance on whether the individual drinks can be accounted for by such primarily sociocultural variables as sex, age, socioeconomic status, urban, rural and ethnic differences.

Alcohol is the most abused drug in the United States (Chafetz, 1971). An estimated 7 per cent of the adult population manifest the behaviors of alcohol abuse and alcoholism. Among more than 95 million

drinkers are about nine million alcohol abusers and alcoholic individuals.

The most visible victims of alcoholism are found on skid row. Yet they account for only 3 to 5 per cent of the alcoholic population. Most alcoholic individuals are in the nation's working population. Over ten billion dollars is paid each year by industry, government and workers as a result of lost work time, medical expenses, impaired efficiency and accidents incurred by employed persons suffering from alcoholism. Another two billion dollars is spent for health and welfare services for their families.

Public intoxication alone accounts for one-third of all arrests. When alcohol related offenses are considered, the proportion rises to nearly 50 per cent.

Alcohol also plays a major role in half the highway fatalities. Alcohol-related accidents also cause injuries to half-a-million people annually and cost more than a billion dollars in property damage and medical expenses. Thus, after becoming concerned about drug abuse among the young, the public has been forced to become aware that adult use of alcohol is actually the major drug problem in this country.

Causes of Alcoholism

Although numerous theories have been proposed by various scientific disciplines concerned with the problem, the causes of alcoholism are unknown. No single theory has proven adequate to explain the complex behaviors which are termed alcoholism, alcohol addiction or alcohol dependence. Most probably, alcoholism reflects a response to an interaction of physiological, sociocultural and psychological factors by an individual in his environment.

Physiological Factors

The "allergy theory" (Silkworth, 1937) has gained widespread recognition through the "Big Book" (Alcoholics Anonymous, 1955), although the conception of alcoholism as an allergy has not found much support among medical authorities (Jellinek, 1960). Although this theory has been used in briefing patients on their condition, Haggard (1944) criticized the theory as being supported only as an analogy. Robinson and Voegtlin (1952) in a definitive experimental study entirely refuted the allergy hypothesis.

The genetotrophic theory of alcoholism, proposed by Williams (1959) combines the concept of a genetic trait and nutritional deficiency. His theory suggests that, due to an inherited defect of metabolism, some people require unusual amounts of some of the essential vitamins. Since they do not get these in their normal diet, they have a genetically caused nutritional deficiency. In those who become acquainted with alcohol, this results in the development of an abnormal craving for alcohol. In an early line of research, rats were provided with a choice of water or an alcohol solution. Those animals who were fed a deficient diet tended to drink larger proportions of the alcohol solution than their counterparts fed a normal diet. However, Lester and Greenberg (1952) provided their rats with three choices: water, an alcohol solution and a sugar solution. Their nutritionally deprived animals demonstrated no preference for the alcohol solution; they chose the sugar solution. Thus it seemed that the increased alcohol consumption under vitamin-deprived conditions could not adequately explain the cause of alcoholism.

Some workers in the field theorize that alcoholism may be inherited. It has been shown that alcoholism does tend to run in families. In a study of 259 hospitalized alcoholics, Winokur et al. (1970) found that slightly over 40 per cent had parents, usually the father, who were alcoholics. From a review of earlier studies, Irwin (1968) reported a higher incidence, finding that more than half the individuals who became alcoholics have an alcoholic parent. Whether this results from shared genes or a shared environment is not entirely clear. In an early study, Roe (1944) followed the case histories of 36 children who had been taken from severely alcoholic parents and placed in foster homes. The likelihood of their becoming alcoholics was no greater than that of a control group of 25 children of non-alcoholic parents. The evidence thus far for a genetic inheritance of alcoholism is unsatisfactory. The possibility that one may inherit a predisposition for alcoholism or an immunity to it, however, has not been ruled out.

Another major physiological theory of the cause of alcoholism indicates a dysfunction of the endocrine system (Smith, 1949). Similarities between the symptoms seen in alcoholic patients and in patients with endocrine disorders suggest that some failure of the endocrines might be causally related to the onset of alcoholism. However, research of this theory has been severely criticized due to their lack of controls, reasoning from conditions found in advanced alcoholism to assumptions of a glandular disorder in the pre-alcoholic state (Jellinek, 1960). The available information suggests that the endocrine characteristics associated with alcoholism may be a result of chronic heavy drinking rather than a cause.

Cultural Factors

Cultural groups have different rates of alcoholism. Those with the highest reported rates of alcoholism include northern French, Americans, Swedes, Swiss, Poles and northern Russians (Chafetz, 1971). Groups with a relatively low incidence include the Italians, Chinese, southern French, Jews, Greeks, Portuguese and Spaniards.

It should be noted that the lower rates of alcoholism exhibited by some groups cannot be attributed totally to abstinence. Most Mormons and Moslems do not drink and their alcoholism rates are low. But other groups, particularly the Italians, Greeks and Jews, contain very high percentages of drinkers, yet maintain low rates of alcoholism. Ullman (1958) has suggested that the rate of alcoholism is low in groups which have well-established, well-known and widely accepted drinking customs which are consistent with the rest of the culture. In groups with marked ambivalence and no ground rules, the rate tends to be higher.

Four general cultural attitudes can be distinguished (American Medical Association, 1967): (1) the abstinent culture, in which the drinking of alcoholic beverages is regarded as antisocial and/or immoral and which does not recognize a difference between the social drinker and the chronic alcoholic. Where total abstinence is the prevailing attitude, alcoholism is relatively rare; (2) an ambivalence culture, in which change is so rapid that there is conflict between co-existing value systems which are poorly defined. Where marked variability and inconsistency surround the use of alcohol, ambivalence usually predominates and alcoholism is a common problem; (3) the permissive culture in which the attitude toward drinking alcoholic beverages is permissive, but negative toward

intoxication. The incidence of alcoholism among these groups varies, tending to be low in those with strict controls for use and against excesses, and more frequent when this is not the case; and (4) an over-permissive culture in which any type of drinking as well as any consequent behavior and intoxication is accepted. The incidence of alcoholism is high under these conditions.

Bales (1959) proposed three cultural factors which can influence the rate of alcoholism: (1) the degree of stress within a culture; (2) attitudes toward drinking within a culture; and (3) the degree to which the culture provides substitute means of satisfaction. Horton's (1959) study in which he concludes that the key to the universal use of alcohol is its anxiety-reducing capacity, is cited as evidence of his first factor.

Bales (1962) also proposed four cultural functions of alcohol which affect the rate of alcoholism: (1) religious, (2) ceremonial or ritual, (3) hedonistic and (4) utilitarian. Bales suggested in regard to his third factor that more alternatives may be provided by some societies.

The National Institute of Mental Health (1967), after reviewing research on sociological factors, concluded that the lowest prevalence of alcoholism is associated with the following habits and attitudes:

1. The children are exposed to alcohol early in life within a strong family or religious group. Whatever the beverage, it is served in very diluted form and in small quantities, with consequent low blood-alcohol levels.
2. The beverages commonly although not invariably used by the groups are those containing relatively large amounts of non-alcoholic components, which also give low blood-alcohol levels.
3. The beverage is considered mainly as a food and usually consumed with meals, again with consequent low blood-alcohol levels.

4. Parents present a constant example of moderate drinking.
5. No moral importance is attached to drinking. It is considered neither a virtue nor a sin.
6. Drinking is not viewed as a proof of adulthood or virility.
7. Abstinence is socially acceptable. It is no more rude or ungracious to decline a drink than to decline a piece of bread.
8. Excessive drinking or intoxication is not socially acceptable. It is not considered stylish, comical or tolerable.
9. Finally, and perhaps most important, there is wide and usually complete agreement among members of the group on what might be called the ground rules of drinking (p. 28).

Psychological Factors

Man's desire to alter reality is one of the most ancient, persistent and understandable of human needs. In all times and places, people have enjoyed the mood-changing and pleasure giving properties of alcoholic beverages. Psychological research has also attempted to define the causes of alcoholism in terms of psychological needs and traits. Though it is conceded that all alcoholic persons need not all have the same characteristics, it is postulated that in the prealcoholic stage a personality pattern or cluster of characteristics should be discernable and should correlate with a predisposition toward alcoholism. One of the main difficulties in this approach is that the population ordinarily available for study is already in trouble with alcohol. Determining whether the personality traits and needs observed in these people predate the onset of alcoholism or are a consequence of alcoholism is difficult to discern.

Lisansky (1960) cited the paucity of good longitudinal studies of sufficient size to generate data on the personality antecedents of the alcoholic process. In her review, she suggested that the predisposed personality type has: (1) a strong need for dependency, (2) an inadequate defense mechanism, which under certain conditions leads to

(3) an intense dependence-independence conflict. There is also (4) a low degree of tolerance for tension and frustration. However, since her review, there have been three major longitudinal studies focusing on the antecedent personality of alcoholics.

McCord and McCord (1960) compared 29 lower class, male pre-alcoholic adolescents with 158 control subjects who had been part of the Cambridge-Sommerville Youth Study. Records derived from home visits of social workers and interviews with psychiatrists and psychologists were categorized and rated blind. In summarizing their study, they did not find among pre-alcoholics feelings of victimization, the absence of self-confidence, grandiose feelings and dependence which were noted among the adult alcoholics. Yet, both tended toward unrestrained aggressiveness. With respect to dependent behavior, pre-alcoholics tended to be outwardly self-confident, independent, disapproving of their mothers and indifferent toward their siblings. Yet, they showed signs of sex anxiety and hyperactivity. Thus, they tended to deny dependency and also exhibited traits which cast doubt on their self confident behaviors.

Robins, Bates, and O'Neal (1962) studied the case records of several hundred children who had originally been patients in a child guidance clinic. They reported the following antecedent factors to be significantly related to alcoholism in later life: low family status, parental inadequacy, particularly on the part of fathers and antisocial behavior by the children themselves. However, they found no specific antisocial symptom which might have predicted later alcoholism. They concluded that the kind of pathology related to alcoholism is best described as antisocial rather than neurotic behavior.

Jones (1968) also identified similar personality traits as early as junior high from personality ratings in a study of 66 middle class males in the Oakland Growth Study. At junior high, high school and adult age levels, subjects classified as "problem drinkers" were more under-controlled, impulsive and rebellious. She concluded that these personality traits are exhibited before drinking patterns have been established.

Loper, Kammeier and Hoffman (1973) compared 32 hospitalized male alcoholics' college MMPI scores with 148 classmates. They found a pre-alcoholic profile consisting of easy sociability, expansiveness, impulsivity, nonconformity, authority conflict and manifest hostility. They concluded that their results are consistent with the previously reviewed research. They also suggested that the pre-alcoholic personality pattern is one of surgency, subjectivity and romanticism which later gives way to cynicism as conflict with society's demands, roles and norms is experienced.

Kammeier, Hoffman and Loper (1973) in another study investigated MMPI profiles for alcoholics in college and again at the time of treatment. They found moderate test retest correlations, indicative of a relative stability of personality despite the progressive nature of alcoholism. Yet, the changes which occurred centered around the psychopathic deviate, depression, psychasthenia and schizophrenia scales which suggest an increasing internal distress, depression, anxiety and confusion suffered in an attempt to maintain an adequate adjustment.

Hoffman et al. (1973) also analyzed the predictive effectiveness of the various MMPI alcoholism scales. They reported finding

that only the MacAndrew scale, which was developed using a control group including grossly maladjusted individuals, differentiated significantly between the pre-alcoholics and their peers. They concluded that between the time of the pre-alcoholic personality and the time of hospitalization, drinking leads to further life stress which is reflected in an increase in general psycho-social maladjustment.

By the time the alcoholic comes to the attention of treatment centers and the addiction has been established, alcoholic individuals show some common behavioral traits which appear to be more common to alcoholism than to other psychological disturbances. These characteristics include: (1) high level of anxiety in interpersonal relations; (2) emotional immaturity; (3) ambivalence toward authority; (4) low frustration tolerance; (5) grandiosity; (6) low self-esteem, (7) feelings of isolation; (8) perfectionism; (9) guilt; (10) compulsiveness; (11) angry over-dependency; (12) sex role confusion; and (13) an inability to express angry feelings adequately (Clinebell, 1968; Blane, 1970).

The Minnesota Multiphasic Personality Inventory (MMPI) is widely used to assess the similarities of individuals to psychiatric diagnostic groups. One of the most persistent findings among the MMPI studies is an elevated Pd (psychopathic deviate) score (Goss and Morosko, 1969; MacAndrew and Geertsma, 1963). However, this does not mean that a high Pd score is predictive of alcoholism. This is suggestive of alcoholism only when in a psychiatric setting. High Pd scores are also characteristic of heroin addicts and criminals. At most, high Pd scores are suggestive, but not specific, to alcoholism.

The MMPI has also been used in an effort to develop alcoholism scales. Items of the MMPI have been analyzed in terms of the proportion of responses of alcoholics in comparison to various groups. Items which differentiate alcoholic individuals from other persons have been selected on a statistical basis for inclusion in the alcoholism scales. The scales of Hampton (1951), Holmes (1956), and Hoyt and Sedlacek (1958) measure mainly general maladjustment (MacAndrew and Geertsma, 1963). However, the MacAndrew (1965) scale has been found to differentiate between alcoholics and psychiatric out-patients (Rich and Davis, 1969; Uecker, Kish and Ball, 1969; and Uecker, 1970). There is also some evidence that the MacAndrew scale might measure a general addictive process (Kranitz, 1972).

Recently Cattell's 16 PF has been used extensively to assess personality in the study of alcoholism. It has been used to assess the personality of alcoholics (De Palma and Clayton, 1958; Golightly and Reinehr, 1969; and Gross and Carpenter, 1971); to assess pathology as compared with other clinical groups (Fuller, 1966; Golightly and Reinehr, 1969); to compare hospital and prison alcoholics (Ross, 1971, Lind, 1972); and to assess treatment outcome (Soskin, 1970, Hoy, 1969). Finally, the 16 PF has also been used in multidimensional studies of personality of alcoholics (Lawlis and Rubin, 1971, Zelhart, 1972).

Fuller (1966), after comparing the profiles of alcoholics with groups of neurotics, psychopaths, psychotics and narcotic addicts, concluded that alcoholics are most similar to neurotics. Golightly and Reinehr (1969) replicated Fuller's (1966) study and found that the alcoholics' profile resembles neurotic patients more than other diagnostic groups. Fuller concluded that the social implications

associated with drunken behavior have led us to label incorrectly the alcoholic as a psychopath.

In a multidimensional study, Lawlis and Rubin (1971) identified three types of alcoholics which they labelled inhibited neurotic, aggressive neurotic, and sociopathic. The inhibited neurotic group is characterized by emotional unstableness, apprehension, undisciplined self-conflict, and tenseness. The aggressive neurotic group may be characterized as aggressive, tough minded, suspicious, as well as undisciplined. The sociopathic group is described by expedience, shrewdness, and conservatism. However, in a third replication the sociopathic type was not found; however, inhibited and aggressive neurotic and a schizoid type were reproduced. Using the same sample, Zelhart (1972) found that the sociopathic group had the highest frequency of traffic citations and the inhibited group the fewest.

Summary

In summary, there appears to be a lack of acceptable working definitions relating to alcoholism and alcohol-related problems. Whether a person drinks at all, and how much, depends primarily on sociocultural factors. However, personality traits are useful in explaining some of the variations in the amount and pattern of drinking within subgroups. Moreover, personality becomes increasingly more important in explaining heavy drinking.

No single theory has proven adequate to explain the complex behaviors which are termed alcoholism. Alcoholism probably reflects a response to a combination of physiological, sociocultural and psychological factors. The evidence thus far for a genetic inheritance of alcoholism is unsatisfactory. However, the possibility that one

may inherit a predisposition to alcoholism or an immunity to it has not been ruled out. The available information suggests that the endocrine characteristics associated with alcoholism may be a result of chronic heavy drinking rather than a cause.

The research reviewed suggests that the pre-alcoholic personality is one of superficial self confidence and easy sociability; rebelliousness and conflict with authority; impulsivity [sic] and low frustration tolerance; and surgency and subjectivity. By the time the alcoholic individual comes to the attention of treatment centers, drinking has lead to further life stress. Increasing internal distress, anxiety, depression and feelings of victimization along with grandiose feelings are commonly seen.

In comparison to various clinical and pre-alcoholic group profiles, the alcoholic profile appears to be most similar to that of the neurotic group. Although one of the most persistent findings among MMPI studies is an elevated Pd (psychopathic deviate) score, researchers have concluded that drinking behavior has often been mislabelled psychopathic, because of the "social nuisance value" of alcohol abuse. While it has been recognized at the theoretical level that different personality patterns exist among alcoholic individuals, few researchers have addressed themselves to this area. However, the results of a multidimensional study have identified three types of personality which were labelled "inhibited neurotic", "aggressive neurotic" and "sociopathic."

CHAPTER III

METHOD

The Sample

The 106 male subjects in this study comprised both voluntary and court committed admissions to a midwestern state hospital alcoholism treatment center during a three month period in 1974. Only subjects who were not overtly psychotic were included in the study. Those who exhibited severe brain damage were also excluded. Incomplete data was collected on five subjects, leaving 101 in the research sample. The average age was 45 years, ranging from 20 to 75 years. The average educational level was 10 years, ranging from 3 years to 16 years. Forty-four were married, 22 divorced, 10 separated, and 25 single. Forty-five reported that they resided alone, 41 with their spouse, 10 with their parents, 10 with friends and 4 with relatives.

Data Collection Procedure

The alcoholism diagnosis was based on drinking history and was established by the combined judgment of the treatment team. The subjects were tested when they were able to function in an open ward after a period of detoxification. The research instruments were administered to the subjects before they entered the formal treatment program to minimize the effect of treatment upon testing. The subjects were routinely examined by a staff member in a small group situation.

InstrumentationThe Sixteen Personality Factor
Questionnaire (16 PF)

The 16 PF, an 187 item, untimed, self-administered questionnaire, provides a measure of sixteen primary, independent personality traits, derived from factor analytic research. The number of items contributing to a factor varies from ten to thirteen. Three alternatives were provided for each question to increase morale and cooperation and to obtain more accurate answers. To minimize distortion and faking, items were chosen to be as neutral as possible, emphasizing both desirable and undesirable items at both ends of each factor scale.

The reliability of the 16 PF appears to be as high as that generally found in the measurement of personality. Test-retest reliability for a six day period ranged from .58 for factor B, intelligence, to .83 and from .43 for factor B, intelligence, to .85 for a two and one-half month interval (Cattell, Eber and Tatsuoka, 1970). This lower figure for intelligence may be due to items by reminiscence between the testings by the subjects. Split-half reliabilities range from .71 to .93.

Direct validities for the factors range from .35 for factor B, intelligence, to .92. Indirect validities range from .63 to .96. The scales of the 16 PF are listed below:

Factor A (Sociable)--Reserved vs. Outgoing

Factor B (Bright)--Less Intelligent vs. More Intelligent

Factor C (Mature)--Affected by Feelings vs. Emotionally Stable

Factor E (Aggressive)--Humble vs. Assertive

Factor F (Enthusiastic)--Sober vs. Happy-Go-Lucky

- Factor G (Persistent)--Expedient vs. Conscientious
- Factor H (Adventurous)--Shy vs. Venturesome
- Factor I (Effeminate)--Tough-minded vs. Tender-minded
- Factor L (Suspecting)--Trusting vs. Suspicious
- Factor M (Introverted)--Practical vs. Imaginative
- Factor N (Sophisticated)--Forthright vs. Shrewd
- Factor O (Insecure)--Placid vs. Apprehensive
- Factor Q₁ (Radicalism)--Conservative vs. Experimenting
- Factor Q₂ (Self-sufficiency)--Group-dependent vs. Self-sufficient
- Factor Q₃ (High Self-sentiment)--Undisciplined vs. Self-conflict
- Factor Q₄ (Ergic Tension)--Relaxed vs. Tense

The Alcohol Use Questionnaire (AUQ)

The AUQ is an instrument composed of 160 items, specific to alcohol use, which are divided into three logically distinct categories: symptoms, behaviors and benefits. Developed through a series of factor analytic studies, sixteen primary scales, four broad dimensions and a general alcoholism severity scale were identified. The internal consistencies of the primary scales range from .40 to .85, with eleven scales exceeding .70, and those of the broad dimensions from .72 to .92. Test-retest reliabilities of the primary scales range from .66 to .93; those of the broad dimensions range from .80 to .94.

Early research has demonstrated that the mean scores of two samples (N of 524 and 587) are very similar. Also a sample considered by clinical staff to have "severe" alcoholism scored significantly higher on the scales thought to measure severity (Wamberg, Horn and

Foster, 1973). The results of the above studies provide evidence that the AUQ provides a stable and valid measure of drinking behavior and has predictive validity concerning different types of drinking problems.

Research Design and Statistical Procedure

To answer the proposed research questions, several related statistical procedures were utilized. For each alcohol related factor a multiple correlation coefficient was calculated with the alcohol related factor as the criterion. The 16 PF scales were used as predictors. This process allowed three aspects of the relationships to be scrutinized: first, all of the zero-order relationships between the 16 PF variables and the alcohol related factors; second, the multiple correlation was made available for relating the 16 PF to each alcohol factor separately. Finally, a canonical analysis was performed using the 16 PF scales as one set and the alcohol-related factors as a second set.

Canonical correlation is a statistical technique used to determine the interrelationship between two sets of variables; in this case, between the 16 PF scales and alcohol related variables. According to Cooley and Lohnes (1971) and Tatsuoka (1971) a canonical correlation is the maximum correlation between linear functions of the two vector variables. After that pair of linear functions that maximally correlates have been located, there may be additional pairs of functions that maximally correlate, subject to the restriction that the functions in each new pair must be uncorrelated with all previously located functions. That is, each pair of functions is so determined as to maximize the canonical correlation between functions, subject to the

restrictions that they be entirely orthogonal to all previously derived linear combinations. Interest centers on the interpretation of the canonical factors in addition to the canonical correlation coefficient.

The canonical correlation model appears to be a complicated way of expressing the relationship between two measurement batteries. However, it is actually the simplest analytic model, despite the difficulty in interpretation, that can begin to generalize the simultaneous interrelationship between two sets of variables. Cooley and Lohnes (1971) point out that canonical analysis is a useful supplement to, but no substitute for, multiple correlation analysis.

CHAPTER IV

RESULTS AND DISCUSSION

This chapter presents a description and discussion of the results as analyzed by a stepwise backward multiple correlation technique and canonical correlation analysis. The results are presented and analyzed in the same order as the research questions were proposed in Chapter I. All F values and correlations have been interpreted as two-tailed tests since no direction of difference or relationship was a priori predicted. In reading, one should keep in mind that in the following tables, the positive relationship on the 16 PF test always corresponds to the description at the right and the negative relationship to the behavior at the opposite pole, listed at the left.

Table 1 contains the means and standard deviations for the 16 PF scales, the predictor variables. Means and standard deviations for the AUQ scales are found in Table 2. Intercorrelations of the 16 PF scales and the AUQ variables are found in Table 3, Table 4, and Table 5.

The means of the 16 PF indicated that the sample tended to be more affected by feelings, shy, apprehensive and tense than the norm group. On the AUQ scales, the sample tended to score generally lower than the Fort Logan norm group with the exception of the gregarious drinking style scale.

Table 3 indicated that the scales of the 16 PF were relatively independent. Where high correlations were found between the scales,

TABLE 1
 MEANS AND STANDARD DEVIATIONS AND STEN SCORES OF
 16 PF VARIABLES

| Variable | Mean | Standard Deviation | Sten Score |
|--|-------|-----------------------|---------------|
| Reserved vs. Outgoing | 9.80 | 2.83 | 5 |
| Less Intelligent vs. More Intelligent | 5.71 | 1.93 | 5 |
| Affected by Feelings vs. Emotionally Stable | 13.41 | 3.65 | 4 |
| Humble vs. Assertive | 10.68 | 3.45 | 5 |
| Sober vs. Happy-Go-Lucky | 12.36 | 4.14 | 5 |
| Expedient vs. Conscientious | 13.42 | 3.40 | 5 |
| Shy vs. Venturesome | 10.77 | 4.75 | 4 |
| Tough-minded vs. Tender-minded | 9.06 | 3.02 | 6 |
| Trusting vs. Suspicious | 8.48 | 3.15 | 6 |
| Practical vs. Imaginative | 10.96 | 3.11 | 5 |
| Forthright vs. Astute | 10.15 | 2.61 | 6 |
| Self Assured vs. Apprehensive | 12.36 | 4.23 | 7 |
| Conservative vs. Experimenting | 8.43 | 2.95 | 5 |
| Group Dependent vs. Self Sufficient | 10.38 | 3.50 | 6 |
| Undisciplined Self-Conflict vs. Controlled | 13.13 | 2.91 | 5 |
| Relaxed vs. Tense | 13.83 | 4.40 | 7 |

TABLE 2

MEANS AND STANDARD DEVIATIONS OF AUQ VARIABLES

| Variable | Mean | Standard Deviation |
|--------------------------------------|-------|--------------------|
| Social Benefit Drinking | 5.00 | 2.80 |
| Mental Benefit Drinking | 1.31 | 1.38 |
| Gregarious Drinking Style | 4.68 | 2.31 |
| Obsessive-Compulsive Drinking | 2.38 | 2.02 |
| Sustained Drinking Pattern | 3.15 | 2.57 |
| Post-Drinking Worry, Guilt, Fear | 5.24 | 2.68 |
| Drinking to Change Mood | 4.20 | 2.29 |
| Prior Use of External Help to Stop | 3.56 | 2.44 |
| Loss of Control when Drinking | 5.44 | 3.09 |
| Social Role Maladaption | 3.44 | 1.91 |
| Psychoperceptual Withdrawal (DT) | 2.30 | 2.51 |
| Psychophysical Withdrawal (Hangover) | 4.31 | 2.75 |
| Non-Alcoholic Drug Usage | .49 | 1.28 |
| Daily Quantity of Alcohol | 4.53 | 2.90 |
| Drinking Followed Marital Problems | 1.16 | 1.99 |
| Drinking Provokes Marital Conflict | 1.90 | 2.36 |
| Self-Enhancing Drinking | 7.30 | 3.36 |
| Obsessive-Sustained Drinking | 5.40 | 3.88 |
| Anxiety Related to Drinking | 11.55 | 5.42 |
| Alcoholic Deterioration | 13.63 | 7.42 |
| Alcoholic Deterioration (Adjunct) | 8.22 | 7.53 |
| General Alcoholism | 25.62 | 12.69 |

TABLE 3

INTERCORRELATIONS OF THE 16 PF FACTOR SCALES

| | A | B | C | E | F | G | H | I | L | M | N | O | Q ₁ | Q ₂ | Q ₃ | Q ₄ |
|----------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|----------------|----------------|----------------|----------------|
| A | 1.000 | .026 | .154 | .090 | .099 | .116 | .246 | .239 | -.048 | -.138 | .086 | -.231 | .028 | -.208 | .184 | -.186 |
| B | | 1.000 | -.046 | .123 | .233 | .000 | .157 | -.198 | -.040 | .357 | -.073 | -.058 | .025 | -.087 | .008 | .145 |
| C | | | 1.000 | .196 | .087 | .034 | .483 | .136 | -.259 | -.046 | .124 | -.605 | -.124 | -.204 | .336 | -.549 |
| E | | | | 1.000 | .386 | -.077 | .465 | -.070 | .070 | .036 | -.223 | -.236 | .157 | -.380 | -.094 | -.112 |
| F | | | | | 1.000 | -.166 | .461 | -.108 | -.057 | .071 | -.020 | -.143 | .213 | -.352 | -.095 | .019 |
| G | | | | | | 1.000 | .091 | .107 | -.310 | -.137 | .089 | -.075 | -.387 | -.056 | .504 | -.110 |
| H | | | | | | | 1.000 | .150 | -.192 | .025 | -.031 | -.465 | -.040 | -.384 | .312 | -.376 |
| I | | | | | | | | 1.000 | -.028 | -.163 | .068 | -.078 | -.081 | -.018 | .116 | .140 |
| L | | | | | | | | | 1.000 | -.075 | -.167 | .355 | .229 | -.129 | -.430 | .331 |
| M | | | | | | | | | | 1.000 | -.127 | -.121 | -.013 | .314 | -.111 | .068 |
| N | | | | | | | | | | | 1.000 | -.088 | -.083 | -.010 | .127 | -.051 |
| O | | | | | | | | | | | | 1.000 | .130 | .098 | -.422 | .573 |
| Q ₁ | | | | | | | | | | | | | 1.000 | .032 | -.222 | .076 |
| Q ₂ | | | | | | | | | | | | | | 1.000 | -.090 | .100 |
| Q ₃ | | | | | | | | | | | | | | | 1.000 | -.373 |
| Q ₄ | | | | | | | | | | | | | | | | 1.000 |

NOTE: A correlation of .195 is significant at the .05 level. A correlation of .230 is significant at the .01 level.

TABLE 4

INTERCORRELATIONS OF THE DRINKING PATTERNS AND GENERAL ALCOHOLISM SCALES OF THE AUQ

| | Self- Enhancing | Obsessive- Sustained | Alcoholic Deterioration | General Alcoholism |
|-------------------------|--------------------|-------------------------|----------------------------|-----------------------|
| Self-Enhancing | 1.000 | .270 | .305 | .416 |
| Obsessive-Sustained | | 1.000 | .571 | .677 |
| Alcoholic Deterioration | | | 1.000 | .856 |
| General Alcoholism | | | | 1.000 |

NOTE: A correlation of .195 is significant at the .05 level of confidence. A correlation of .230 is significant at the .01 level of significance.

TABLE 5

INTERCORRELATIONS OF THE AUQ DRINKING PATTERNS AND GENERAL
ALCOHOLISM AND THE 16 PF SCALES

| | Self- Enhancing | Obsessive- Sustained | Alcoholic Deterioration | General Alcoholism |
|--|--------------------|-------------------------|----------------------------|-----------------------|
| Reserved vs. Outgoing | -.187 | -.149 | -.144 | -.174 |
| Less Intelligent vs. More Intelligent | -.144 | .174 | .226 | .236 |
| Affected by Feelings vs. Emotionally Stable | -.247 | -.143 | -.228 | -.358 |
| Humble vs. Assertive | -.079 | -.004 | -.003 | -.131 |
| Sober vs. Happy-Go-Lucky | .190 | .058 | .078 | -.006 |
| Expedient vs. Conscientious | -.127 | -.142 | -.204 | -.092 |
| Shy vs. Venturesome | -.087 | -.112 | -.064 | -.268 |
| Tough-Minded vs. Tender-Minded | -.105 | -.133 | -.053 | -.118 |
| Trusting vs. Suspicious | .259 | .114 | .247 | .275 |
| Practical vs. Imaginative | .032 | .064 | .204 | .187 |
| Forthright vs. Astute | -.149 | -.105 | -.124 | -.098 |
| Self-Assured vs. Apprehensive | .280 | .286 | .253 | .419 |
| Conservative vs. Experimenting | .209 | .012 | .174 | .076 |
| Group Dependent vs. Self Sufficient | .073 | .160 | .053 | .119 |
| Undisciplined Self- Conflict vs. Controlled | -.123 | -.220 | -.330 | -.298 |
| Relaxed vs. Tense | .234 | .186 | .201 | .377 |

NOTE: A correlation of .195 is significant at the .05 level.
A correlation of .230 is significant at the .01 level.

the relationships were logical and could be expected (e.g., .573 between Factor O "Apprehensive" and Factor Q₄ "Tense").

The intercorrelation coefficients shown in Table 4 demonstrated that the drinking patterns are relatively independent except for the relationship between obsessive-sustained and alcoholic deterioration. However, progressively higher coefficients between the drinking patterns and the general alcoholism scale were found.

Results

1. Do significant relationships exist between personality traits and the self-enhancing drinking pattern?

To answer this question, a stepwise backward multiple regression procedure, using the 16 PF variables as predictors and self-enhancing drinking pattern score as the criterion, was obtained. The variables are listed in the order in which they were eliminated from the analysis. The zero-order Pearson product-moment correlations between each personality factor and the criterion of self-enhancing drinking are also reported, along with their means, standard deviations and the resulting multiple correlation coefficients.

The self-assured vs. apprehensive trait was found to have the greatest relationship to the criterion of self-enhancing drinking. The following personality traits were found to be related to the criterion at the .05 level of significance and are listed in descending order:

Self-assured vs. Apprehensive
 Trusting vs. Suspicious
 Affected by Feelings vs. Emotionally Stable (negative)
 Relaxed vs. Tense
 Conservative vs. Experimenting

The Self-assured vs. Apprehensive scale was the best predictor of self-enhancing drinking, accounting for about eight per cent of the

total variance. The full model yielded a multiple correlation coefficient of .520 and accounted for about 27 per cent of the total predicted variance. The multiple correlation coefficients, ranging down to .280 were all significant at the .05 level. The above data is summarized in Table 6.

2. Do significant relationships exist between personality traits and the obsessive-sustained drinking pattern?

To answer this question, a stepwise backward multiple regression procedure, using the 16 PF variables as predictors and obsessive-sustained drinking score as the criterion, was obtained. The variables are listed in the order in which they were eliminated from the analysis. The zero-order Pearson product-moment correlations between each personality factor and the criterion of obsessive-sustained drinking are also reported, along with their means, standard deviations, and the resulting multiple correlation coefficient.

Again, the self-assured vs. apprehensive trait was found to have the greatest relationship to the criterion of obsessive-sustained drinking. The following personality variables were found to be related to the criterion at the .05 level of significance and are listed in descending order:

Self-assured vs. Apprehensive
Undisciplined self conflict vs. Controlled (negative)

Again, the Self-assured vs. Apprehensive scale was the best predictor of the obsessive-sustained drinking pattern, accounting for about eight per cent of the total predicted variance. The full model yielded a multiple correlation coefficient of .448 and accounted for approximately 20 per cent of the total predicted variance. Eleven of the

TABLE 6

STEPWISE BACKWARD PROCEDURE USING FACTORS OF THE 16 PF AS PREDICTORS OF
SELF ENHANCING DRINKING

| Step | Eliminated Variable | M | SD | r for Variable vs. Criterion | R for Remaining Variable vs. Criterion | r ² | F Value |
|------|--|-------|------|---------------------------------------|---|----------------|-------------------|
| 1 | None | | | | .520 | .270 | 1.94 ^a |
| 2 | Tough-Minded vs. Tender-Minded | 9.06 | 3.02 | -.105 | .520 | .270 | 2.10 ^a |
| 3 | Relaxed vs. Tense | 13.83 | 4.41 | .234 | .520 | .270 | 2.27 ^a |
| 4 | Expedient vs. Conscientious | 13.42 | 3.40 | -.127 | .520 | .270 | 2.48 ^b |
| 5 | Shy vs. Venturesome | 10.77 | 4.75 | -.087 | .520 | .270 | 2.71 ^b |
| 6 | Affected by Feelings vs. Emotionally Stable | 13.41 | 3.65 | -.247 | .518 | .268 | 2.97 ^b |
| 7 | Practical vs. Imaginative | 10.96 | 3.11 | .032 | .516 | .266 | 3.27 ^b |
| 8 | Conservative vs. Experimenting | 8.43 | 2.95 | .209 | .507 | .257 | 3.50 ^b |
| 9 | Forthright vs. Astute | 10.15 | 2.61 | -.149 | .497 | .247 | 3.78 ^b |
| 10 | Humble vs. Assertive | 10.68 | 3.45 | -.079 | .490 | .240 | 4.20 ^b |
| 11 | Less Intelligent vs. More Intelligent | 5.71 | 1.93 | -.144 | .477 | .227 | 4.61 ^b |
| 12 | Reserved vs. Outgoing | 9.80 | 2.83 | -.187 | .457 | .209 | 5.03 ^b |
| 13 | Undisciplined Self Conflict vs. Controlled | 13.13 | 2.91 | -.123 | .437 | .191 | 5.65 ^b |
| 14 | Group Dependent vs. Self Sufficient | 10.38 | 3.50 | .073 | .403 | .162 | 6.25 ^b |
| 15 | Trusting vs. Suspicious | 8.48 | 3.15 | .259 | .364 | .133 | 7.49 ^b |
| 16 | Sober vs. Happy-Go-Lucky | 12.36 | 4.14 | .190 | .280 | .078 | 8.43 ^b |
| 17 | Self Assured vs. Apprehensive | 12.36 | 4.23 | .280 | | | |

^aSignificant at .05 level.^bSignificant at .01 level.

factors in combination contributed significantly to the multiple correlation coefficient at the .05 level. The above data is summarized in Table 7.

3. Do significant relationships exist between personality traits and the alcoholic deterioration pattern?

To answer this question, a stepwise backward multiple regression procedure, using the 16 PF variables as predictors and the alcoholic deterioration scale as the criterion, was obtained. The variables on Table 8 are listed in the order in which they were eliminated from the analysis. The zero-order Pearson product-moment correlations between each personality factor and the criterion of alcoholic deterioration are also reported, along with their means, standard deviations and the resulting multiple correlation coefficients.

The Undisciplined self conflict vs. Controlled trait was found to have the greatest relationship (negative) to the criterion of alcoholic deterioration. The following personality traits were found to be related to the criterion at the .05 level of significance and are listed in descending order:

- Undisciplined self conflict vs. Controlled (negative)
- Self-assured vs. Apprehensive
- Trusting vs. Suspicious
- Affected by Feelings vs. Emotionally Stable (negative)
- Less Intelligent vs. More Intelligent
- Expedient vs. Conscientious (negative)
- Practical vs. Imaginative
- Relaxed vs. Tense

The Undisciplined self conflict vs. Controlled trait (negative) was found to be the best predictor of alcoholic deterioration, accounting for approximately 11 per cent of the attributable variance. The full model yielded a multiple correlation coefficient of .487 and

TABLE 7

STEPWISE BACKWARD PROCEDURE USING FACTORS OF THE 16 PF AS PREDICTORS OF
OBSESSIVE-SUSTAINED DRINKING

| Step | Eliminated Variable | M | SD | r for Variable vs. Criterion | R for Remaining Variables vs. Criterion | r ² | F Value |
|------|--|-------|------|---------------------------------------|--|----------------|-------------------|
| 1 | None | | | | .448 | .201 | 1.32 |
| 2 | Shy vs. Venturesome | 10.77 | 4.75 | -.112 | .448 | .201 | 1.43 |
| 3 | Undisciplined Self Conflict vs. Controlled | 13.13 | 2.91 | -.220 | .448 | .200 | 1.54 |
| 4 | Reserved vs. Outgoing | 9.80 | 2.82 | -.149 | .447 | .199 | 1.67 |
| 5 | Relaxed vs. Tense | 13.83 | 4.41 | .186 | .445 | .198 | 1.81 |
| 6 | Trusting vs. Suspicious | 8.48 | 3.15 | .114 | .444 | .197 | 1.99 ^a |
| 7 | Forthright vs. Astute | 10.15 | 2.61 | -.105 | .441 | .195 | 2.17 ^a |
| 8 | Tough-Minded vs. Tender-Minded | 9.06 | 3.02 | -.133 | .437 | .191 | 2.39 ^a |
| 9 | Practical vs. Imaginative | 10.96 | 3.10 | .064 | .432 | .186 | 2.64 ^a |
| 10 | Affected by Feelings vs. Emotionally Stable | 13.41 | 3.65 | -.143 | .424 | .180 | 2.91 ^b |
| 11 | Humble vs. Assertive | 10.68 | 3.45 | -.004 | .415 | .172 | 3.26 ^b |
| 12 | Conservative vs. Experimenting | 8.43 | 2.95 | .012 | .402 | .161 | 3.66 ^b |
| 13 | Expedient vs. Conscientious | 13.42 | 3.40 | -.142 | .391 | .153 | 4.34 ^b |
| 14 | Sober vs. Happy-Go-Lucky | 12.36 | 4.14 | .058 | .374 | .140 | 5.27 ^b |
| 15 | Group Dependent vs. Self Sufficient | 10.38 | 3.50 | .160 | .344 | .118 | 6.56 ^b |
| 16 | Less Intelligent vs. More Intelligent | 5.71 | 1.93 | .174 | .286 | .082 | 8.79 ^b |
| 17 | Self Assured vs. Apprehensive | 12.36 | 4.23 | .286 | | | |

^aSignificant at .05 level.

^bSignificant at .01 level.

accounted for about 24 per cent of the total predicted variance. Fourteen of the personality traits in combination contributed significantly to the multiple correlation coefficient at the .05 level. The above data is summarized in Table 8.

4. Do significant relationships exist between personality traits and general alcoholism?

To answer this question, a stepwise backward multiple regression procedure, using the 16 PF variables as predictors and the general alcoholism scale as criterion, was obtained. The variables are listed on Table 9 in the order in which they were eliminated from the analysis. The zero-order Pearson product-moment correlations between each personality factor and the criterion of general alcoholism were also reported, along with their means, standard deviations, and the resulting multiple correlation coefficient.

Again, the self-assured vs. apprehensive trait was found to have the greatest relationship to the criterion of general alcoholism. The following personality traits were found to be related to the criterion at the .05 level of significance and are listed in descending order:

Self-assured vs. Apprehensive
 Relaxed vs. Tense
 Affected by Feelings vs. Emotionally Stable (negative)
 Undisciplined self conflict vs. Controlled (negative)
 Trusting vs. Suspicious
 Shy vs. Venturesome (negative)
 Less Intelligent vs. More Intelligent

Again, the Self-assured vs. Apprehensive trait was the best predictor of general alcoholism, accounting for about 18 per cent of the total attributable variance. The full model yielded a multiple correlation coefficient of .562 and accounted for approximately 32 per cent of the total predicted variance. All personality traits in combination

TABLE 8

STEPWISE BACKWARD PROCEDURE USING FACTORS OF THE 16 PF AS PREDICTORS OF
ALCOHOLIC DETERIORATION

| Step | Eliminated Variable | M | SD | r for Variable vs. Criterion | R for Remaining Variables vs. Criterion | r ² | F Value |
|------|--|-------|------|---------------------------------------|--|----------------|--------------------|
| 1 | None | | | | .487 | .237 | 1.63 |
| 2 | Group Dependent vs. Self Sufficient | 10.38 | 3.50 | .053 | .487 | .237 | 1.76 |
| 3 | Sober vs. Happy-Go-Lucky | 12.36 | 4.14 | .078 | .487 | .237 | 1.91 ^a |
| 4 | Expedient vs. Conscientious | 13.42 | 3.40 | -.204 | .486 | .237 | 2.07 ^a |
| 5 | Forthright vs. Astute | 10.15 | 2.61 | -.124 | .486 | .236 | 2.26 ^a |
| 6 | Relaxed vs. Tense | 13.83 | 4.41 | .201 | .483 | .234 | 2.47 ^a |
| 7 | Affected by Feelings vs. Emotionally Stable | 13.41 | 3.65 | -.228 | .481 | .231 | 2.70 ^b |
| 8 | Tough-Minded vs. Tender-Minded | 9.06 | 3.02 | -.053 | .478 | .228 | 2.99 ^b |
| 9 | Reserved vs. Outgoing | 9.80 | 2.83 | -.144 | .473 | .223 | 3.31 ^b |
| 10 | Humble vs. Assertive | 10.68 | 3.45 | -.003 | .467 | .218 | 3.70 ^b |
| 11 | Shy vs. Venturesome | 10.77 | 4.75 | -.064 | .462 | .214 | 4.26 ^b |
| 12 | Conservative vs. Experimenting | 8.43 | 2.95 | .174 | .455 | .207 | 4.96 ^b |
| 13 | Trusting vs. Suspicious | 8.48 | 3.15 | .247 | .441 | .195 | 5.81 ^b |
| 14 | Practical vs. Imaginative | 10.96 | 3.11 | .204 | .425 | .181 | 7.14 ^b |
| 15 | Self Assured vs. Apprehensive | 12.36 | 4.23 | .253 | .402 | .161 | 9.42 ^b |
| 16 | Less Intelligent vs. More Intelligent | 5.71 | 1.93 | .226 | .330 | .109 | 12.07 ^b |
| 17 | Undisciplined Self Conflict vs. Controlled | 13.13 | 2.91 | -.330 | | | |

^aSignificant at the .05 level.

^bSignificant at the .01 level.

contributed significantly to the multiple correlation coefficient at the .05 level. The above data is summarized in Table 9.

To further analyze the relationship between personality traits and alcoholic drinking patterns, a canonical correlation analysis was performed between the 16 PF predictors and the three drinking patterns and general alcoholism. Significant correlations were determined by the probability associated with each canonical correlation. The product factors for the sixteen predictor and four criterion variables were then interpreted for the significant canonical correlation coefficients to determine which variables were contributing the most to the correlation. The product factors represent the correlation coefficients between the original variables and the canonical variates. The coefficients, which can be interpreted like factor loadings, demonstrate the nature of the canonical relationship. The correlation matrix provides evidence regarding the direction of the relationship between personality traits and the drinking pattern variables.

Of four possible canonical variates, two were found to be significant at the .01 level. The correlations of the original variables with the two significant canonical variates are demonstrated in Table 10. The resulting product-factor can be interpreted similar to a factor analysis (Veldman, 1967). Factor I was found to be significant at the .01 level and yields a canonical correlation coefficient of .63. The following predictor variables were found to contribute most to the canonical correlation and are listed in descending order:

Relaxed vs. Tense
Self-assured vs. Apprehensive
Affected by Feelings vs. Emotionally Stable (negative)
Shy vs. Venturesome (negative)
Humble vs. Assertive (negative)
Trusting vs. Suspicious

TABLE 9

STEPWISE BACKWARD PROCEDURE USING FACTORS OF THE 16 PF AS PREDICTORS OF
GENERAL ALCOHOLISM

| Step | Eliminated Variable | M | SD | r for Variable vs. Criterion | R for Remaining Variables vs. Criterion | r^2 | F Value |
|------|--|-------|------|---------------------------------------|--|-------|--------------------|
| 1 | None | | | | .562 | .316 | 2.43 ^a |
| 2 | Conservative vs. Experimenting | 8.43 | 2.95 | .076 | .562 | .316 | 2.62 ^a |
| 3 | Tough-Minded vs. Tender-Minded | 9.06 | 3.02 | -.118 | .562 | .316 | 2.84 ^a |
| 4 | Forthright vs. Astute | 10.15 | 2.61 | -.098 | .562 | .316 | 3.09 ^a |
| 5 | Group Dependent vs. Self Sufficient | 10.38 | 3.50 | .119 | .561 | .315 | 3.37 ^a |
| 6 | Affected by Feelings vs. Emotionally Stable | 13.41 | 3.65 | -.358 | .560 | .314 | 3.70 ^a |
| 7 | Relaxed vs. Tense | 13.83 | 4.41 | .377 | .559 | .312 | 4.09 ^a |
| 8 | Reserved vs. Outgoing | 9.80 | 2.83 | -.174 | .557 | .310 | 4.54 ^a |
| 9 | Expedient vs. Conscientious | 13.42 | 3.40 | -.092 | .555 | .308 | 5.11 ^a |
| 10 | Undisciplined Self Conflict vs. Controlled | 13.13 | 2.91 | -.298 | .553 | .306 | 5.85 ^a |
| 11 | Humble vs. Assertive | 10.68 | 3.45 | -.131 | .550 | .303 | 6.80 ^a |
| 12 | Sober vs. Happy-Go-Lucky | 12.36 | 4.14 | -.006 | .548 | .300 | 8.15 ^a |
| 13 | Shy vs. Venturesome | 10.77 | 4.75 | -.268 | .538 | .290 | 9.78 ^a |
| 14 | Trusting vs. Suspicious | 8.48 | 3.15 | .275 | .518 | .269 | 11.88 ^a |
| 15 | Practical vs. Imaginative | 10.96 | 3.10 | .187 | .494 | .244 | 15.81 ^a |
| 16 | Less Intelligent vs. More Intelligent | 5.71 | 1.93 | .236 | .419 | .176 | 21.13 ^a |
| 17 | Self Assured vs. Apprehensive | 12.36 | 4.23 | .419 | | | |

^aSignificant at the .01 level.

TABLE 10

CORRELATIONS OF ORIGINAL VARIABLES WITH CANONICAL VARIATES

| | Product Factors | |
|---|-----------------|-------|
| | <u>16 PF</u> | |
| Reserved vs. Outgoing | -.235 | -.286 |
| Less Intelligent vs. More Intelligent | .255 | .301 |
| Affected by Feelings vs. Emotionally Stable | -.650 | -.140 |
| Humble vs. Assertive | -.397 | .188 |
| Sober vs. Happy-Go-Lucky | -.140 | .491 |
| Expedient vs. Conscientious | .121 | -.538 |
| Shy vs. Venturesome | -.644 | .277 |
| Tough-Minded vs. Tender-Minded | -.215 | -.079 |
| Trusting vs. Suspicious | .389 | .374 |
| Practical vs. Imaginative | .179 | .141 |
| Forthright vs. Astute | -.056 | -.338 |
| Self Assured vs. Apprehensive | .725 | .194 |
| Conservative vs. Experimenting | -.037 | .530 |
| Group Dependent vs. Self Sufficient | .199 | .050 |
| Undisciplined Self Conflict vs. Controlled | -.234 | -.406 |
| Relaxed vs. Tense | .728 | .043 |
| | <u>AUQ</u> | |
| Self-Enhancing (Drinking) | .494 | .694 |
| Obsessive-Sustained (Drinking) | .374 | .433 |
| Alcoholic Deterioration | .381 | .649 |
| General Alcoholism | .785 | .397 |
| Roots | .397 | .296 |
| Canonical <u>rs</u> | .630 | .544 |
| Probability | .001 | .017 |

The criterion variable with the heaviest loading on Factor I was general alcoholism.

Factor II was found to be significant at the .01 level; it yielded a canonical correlation coefficient of .54. The following predictor variables were found to contribute most to the canonical correlation of Factor II and are listed in descending order:

Expedient vs. Conscientious (negative)
 Conservative vs. Experimenting
 Sober vs. Happy-Go-Lucky
 Undisciplined self conflict vs. Controlled (negative)
 Forthright vs. Astute (negative)
 Trusting vs. Suspicious
 Less Intelligent vs. More Intelligent

The criterion variables with the heaviest loadings on Factor II were the self-enhancing drinking pattern and alcoholic deterioration pattern.

Discussion

This section contains an interpretation of the findings of the present study. Also a discussion of the relationship between these findings and the results of previous research is included.

The self-enhancing drinking pattern attempts to describe the perceived benefits of alcohol use in the area of personal and social adjustment. It includes drinking to enhance sociability, to relax and overcome shyness and to improve cognitive functioning and alertness. This pattern of drinking was most closely related to the following personality dimensions:

1. apprehensiveness, emotional sensitivity, feelings of inadequacy and self-depreciation
2. suspiciousness, preoccupation with ego, dogmatism

3. affected by feelings, low frustration tolerance, dissatisfaction
4. tenseness, impatience and general anxiety

The obsessive-sustained drinking pattern attempts to measure the preoccupation and sustained use of alcohol in a life style. It includes sneaking drinks, thinking constantly about drinking and keeping alcohol close at hand. This pattern of drinking was most closely related to apprehensiveness, emotional sensitivity, feelings of inadequacy and self-depreciation.

The alcoholic deterioration drinking pattern attempts to describe the traditional concept of alcoholism--impairment in physical, psychological and social functioning due to alcohol abuse. It includes loss of behavioral control, prolonged unemployment, lack of involvement with family, physical withdrawal symptoms, and the psycho-perceptual symptoms of delirium tremens. This drinking pattern was closely related to the following personality characteristics:

1. undisciplined self-conflict
2. apprehensiveness, emotional sensitivity, feelings of inadequacy and self-depreciation
3. suspiciousness, preoccupation with ego, dogmatism

The general alcoholism scale attempts to measure the degree or severity of alcoholism that exists. The degree of alcoholism was found to be most closely related to the following personality characteristics:

1. apprehensiveness, emotional sensitivity, feelings of inadequacy and self-depreciation
2. tenseness, impatience and general anxiety
3. affected by feelings, low frustration tolerance
4. undisciplined self conflict

5. suspicious, preoccupation with ego, dogmatism
6. shyness, cautiousness, feelings of inferiority

Two significant alcohol-related personality factors were obtained from the canonical analysis. Among the alcohol-related factors, the degree of alcoholism loaded most highly on Factor I. The following personality characteristics loaded most highly on the predictor variables on Factor I:

1. tenseness, impatience and general anxiety
2. apprehensiveness, emotional sensitivity, feelings of inadequacy and self-depreciation
3. affected by feelings, low frustration tolerance
4. shyness, cautiousness, and feelings of inferiority
5. humbleness, submissiveness and dependence
6. suspiciousness, preoccupation with ego and dogmatism

Among the alcohol-related factors, self-enhancing drinking and traditional alcoholism loaded most highly on Factor II. Among the personality characteristics the following traits were most highly related:

1. expedient, evasive of rules and obligations, weaker superego strength
2. experimenting, skeptical
3. happy-go-lucky, impulsive
4. undisciplined self conflict
5. forthright, genuine but socially clumsy, lacking self insight, sentimental, unsophisticated
6. suspicious, preoccupied with ego, dogmatism
7. more intelligent

The three drinking patterns were found to be relatively independent except for the relationship between the obsessive-sustained

and the alcoholic deterioration drinking pattern. This finding seems to suggest the existence of various patterns of alcoholism. However, each drinking pattern was found to be more closely related to alcoholism severity than to the other drinking patterns. Therefore, both development aspects and pattern components appear to be involved.

Another general finding of significance was that personality traits are significantly related to alcoholism severity. Cahalan, Cisin and Crossley (1969), in The Survey of American Drinking Practices, found that whether or not a person drinks, and how much, depends primarily on socio-cultural factors. They hypothesized and also found some support for this idea that psychological factors are more important in explaining heavy drinking than in explaining drinking per se. The results of the present study also add support to this conclusion that all 16 PF scales were found to be significantly related to alcoholism severity.

Another general finding is that similar personality traits were related to several of the alcohol-related factors. These traits were apprehensiveness, tenseness, suspiciousness, emotional sensitivity and undisciplined self conflict. These characteristics are also frequently mentioned in the theoretical literature (Lisansky, 1960, Clinebell, 1968, and Blane, 1970). Moreover, these traits are similar to those identified in the literature by using various types of measuring instruments and methods of data collection.

Using life history data, McCord and McCord (1960), Robins, Bates and O'Neal (1962), and Jones (1968) have identified personality characteristics similar to those found in the present study. These results also were found to be supportive of MMPI research previously done by

MacAndrew (1965) and MacAndrew and Geerstma (1964, 1965) and Kammeier et al. (1973). Data on the 16 PF reported by Cattell also produced characteristics similar to those found in this study. In comparison with the Fuller (1966) sample, the present study yielded a similar profile, although somewhat less extreme.

Factor I of this study yielded a type which was similar to that identified by Lawlis and Rubin (1971) as inhibited neurotic. Factor II appears to have some elements (i.e., suspiciousness and expedience) contained in both the aggressive neurotic and the sociopathic group of Lawlis and Rubin. Additionally, the results of the present study yielded the following personality traits: experimenting, happy-go-lucky, undisciplined self conflict and unsophisticated. Since empathy and loyalty were not detected and since unsophisticatedness was noted, a sociopathic label does not appear to be a proper label for the second factor. Factor II appears to be better characterized as an extraverted, undersocialized, immature personality. Both MacAndrew and Geertsma (1965) and Fuller (1966) came to similar conclusions. MacAndrew and Geertsma felt that the items on the psychopathic deviate scale of the MMPI may indicate dissatisfaction with family and an admission of social inadequacy rather than an anti-social personality. Fuller (1966) concluded that an alcoholic may be mislabelled psychopathic because of the "social nuisance value" of alcohol abuse, when actually most drinking is an attempt at relief-seeking or comfort-seeking to reduce anxiety.

CHAPTER V

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

Summary

Research concerning alcoholism and personality has often been based upon the single syndrome concept of alcoholism. At the theoretical level it has been recognized that different personality patterns exist among alcoholics. There have been many clinical studies of individuals diagnosed as alcoholic, but empirical studies of alcoholic patients have been few and rather inadequate. Researchers have grouped together too many different phenomena under the heading of alcoholism.

The purpose of this study was to determine whether a significant relationship existed between alcoholic drinking patterns, based on responses to the Alcohol Use Questionnaire and personality traits, measured by Cattell's Sixteen Personality Factor Questionnaire. Specifically, the study sought information concerning the following questions:

1. Do significant relationships exist between personality traits and the self-enhancing drinking pattern?
2. Do significant relationships exist between personality traits and the obsessive-sustained drinking pattern?
3. Do significant relationships exist between personality traits and the alcoholic deterioration drinking pattern?

4. Do significant relationships exist between personality traits and the degree of general alcoholism?

The research sample consisted of 101 white males admitted to a midwestern alcoholism treatment center during a three month period in 1974. The alcoholism diagnosis was based on drinking history and was established by the combined judgment of the treatment team. Only subjects who were not overtly psychotic and did not exhibit severe brain damage were included in the study. The subjects were tested after a period of detoxification, before they entered the formal treatment program to minimize the effect of treatment upon testing. A stepwise backward multiple regression procedure and a canonical correlation analysis were used to analyze the data. For each alcohol-related factor a multiple regression procedure was used with the alcoholic related factor as the criterion. The 16 PF scales were used as predictors. A canonical analysis was performed using the 16 PF scales as one set and the alcohol-related factors as a second set.

The findings are summarized below:

The following personality traits were found to be significantly related to self-enhancing drinking at the .01 level and are listed in descending order: apprehensiveness, suspiciousness, emotional instability, tenseness and experimenting. The full model yielded a multiple correlation coefficient of .520; thirteen personality traits in combination contributed significantly to the multiple correlation coefficient at the .01 level.

Only apprehensiveness was found to be significantly related to the obsessive-sustained drinking pattern at the .01 level; the full model yielded a multiple correlation coefficient of .448. Seven of the

factors in combination contributed significantly to the multiple correlation coefficient at the .01 level.

The following personality traits were found to be related to the alcoholic deterioration drinking pattern at the .01 level and are listed in descending order: undisciplined self conflict, apprehensiveness and suspiciousness. The full model yielded a multiple correlation coefficient of .487. Eleven of the personality traits in combination contributed significantly to the multiple correlation at the .01 level.

The following personality traits were found to be related to general alcoholism at the .01 level and are listed in descending order: Apprehensiveness, tenseness, emotional unstableness, undisciplined self conflict, suspiciousness, shyness, and less intelligent. The full model yielded a multiple correlation coefficient of .562. All personality traits in combination contributed significantly to the multiple correlation at the .01 level.

The canonical product-factors were found to be significant at the .01 level and yielded canonical coefficients of .63 and .54 respectively.

The following personality predictor variables were found to contribute most to the canonical correlation of Factor I and are listed in descending order: Tenseness, apprehensiveness, emotional unstableness, shyness, humbleness, and suspiciousness. The criterion drinking pattern variables with the heaviest loading on Factor I was general alcoholism.

The following personality predictor variables were found to contribute most to the canonical correlation of Factor II and are listed in descending order: Expedience, experimenting, happy-go-

lucky, undisciplined self conflict, forthrightness, suspiciousness, and more intelligent. The criterion variables with the heaviest loadings on Factor II were the self-enhancing drinking pattern and the alcoholic deterioration pattern.

Conclusions

Within the limitations of the present study, the following conclusions were drawn:

1. Alcoholism was multidimensional in terms of drinking patterns and personality traits.

2. The Alcohol Use Questionnaire measured both developmental phases and drinking pattern components of alcoholism.

3. Personality traits were significantly related to the three drinking patterns and alcoholism severity. Personality factors become relatively more important in predicting alcoholism than in predicting whether or not a person drinks.

4. The following personality traits were related to several drinking patterns: apprehensiveness, tenseness, suspiciousness, emotional sensitivity and undisciplined self conflict.

5. At least two alcohol related personality patterns appeared to exist among hospitalized male alcoholics. One pattern could be labelled "inhibited neurotic" and the other labelled "extraverted, undersocialized immature" personality.

6. Alcoholism was mainly a neurotic solution to anxiety, but this behavior has been often mislabelled psychopathic, due to its "social nuisance value."

Recommendations

1. Because the multiple correlation coefficient tends to be situation specific and shrinks when applied to other samples, it is recommended that this study be replicated at other inpatient and outpatient alcoholism treatment centers. Another study is recommended to determine whether sex differences and age differences exist in alcohol-related personalities.

2. Because alcoholism was found to be mainly a neurotic solution to anxiety, protracted supportive psychotherapy, which attempts to structure successful experiences, and behavioral therapy relaxation techniques seem especially applicable. A reality-oriented therapeutic community approach seems to be appropriate for the extraverted, under-socialized immature alcohol-related personality.

SELECTED REFERENCES

- Alcoholics Anonymous. Alcoholics anonymous. New York: Alcoholics Anonymous Publications, 1955.
- American Institute of Public Opinion. Gallup political index; political, social and economic trends. Report. Princeton, N. J., 1966.
- American Medical Association. Manual on alcoholism. Chicago: 1967.
- Armstrong, J. D. The search for the alcoholic personality. Annals of the American Academy of Political and Social Science, 1958, 135, 40-47.
- Bales, R. F. Cultural differences in rates of alcoholism. In R. G. McCarthy (Ed.), Drinking and intoxication. New York: Free Press, 1959. Pp. 263-277.
- Bales, R. F. Attitudes toward drinking in the Irish culture. In D. J. Pittman and C. R. Snyder (Eds.), Society, culture and drinking patterns. New York: Wiley, 1962.
- Blane, H. T. The personality of the alcoholic. In M. E. Chafetz, H. T. Blane and M. J. Hill (Eds.), Frontiers of alcoholism. New York: Science House, 1970. Pp. 16-28.
- Blum, E. M., & Blum, R. H. Alcoholism: Modern psychological approaches to treatment. San Francisco: Jossey-Bass Inc., 1967.
- Cahalan, D., Cisin, I. H., & Crossley, H. M. American drinking practices: A national survey of drinking behavior and attitudes. New Brunswick: Rutgers Center of Alcohol Studies, 1969.
- Cattell, R. B., Eber, H. W., & Tatsuoka, M. M. Handbook for the 16 PF. Champaign, Illinois: Institute for Personality and Ability Testing, 1970.
- Chafetz, M. E. First special report to the U.S. Congress on alcohol and health. Department of Health, Education and Welfare. No. (HSM) 72-9099. Washington, D.C.: U.S. Government Printing Office, 1971.
- Clinebell, Howard J., Jr. Understanding and counseling the alcoholic. New York: Abingdon Press, 1968.
- Cooley, W. W., & Lohnes, P. R. Multivariate procedures for the behavioral sciences. New York: Wiley, 1971.

- De Palma, N., & Clayton, H. D. Scores of alcoholics on the Sixteen Personality Factor Questionnaire. Journal of Clinical Psychology, 1958, 14, 390-392.
- Fuller, G. B. Research in alcoholism with the 16 PF test. (IPAT Informational Bulletin No. 12). Champaign, Illinois: Institute for Personality and Ability Testing, 1966.
- Golightly, C., & Reinehr, R. C. 16 PF profiles of hospitalized alcoholic patients: Replication and extension. Psychological Reports, 1969, 24, 543-545.
- Goss, A., & Morosko, T. Alcoholism and clinical symptoms. Journal of Abnormal Psychology, 1969, 74, 682-684.
- Gross, W. F., & Carpenter, L. L. Reality or fiction. Psychological Reports, 1971, 28, 375-378.
- Haggard, H. W. Critique of the allergic nature of alcohol addiction. Quarterly Journal of Studies on Alcohol, 1944, 5, 233-241.
- Hampton, P. J. A psychometric study of drinkers. Journal of Consulting Psychology, 1951, 15, 501-504.
- Hoffman, H., Loper, R. G., & Kammeier, M. L. The effectiveness of MMPI alcoholism scales in identifying future alcoholics, 1973. Unpublished manuscript.
- Holmes, W. O. The development of an empirical MMPI scale for alcoholism. Quarterly Journal of Studies on Alcohol, 1956, 17, 263-281.
- Horn, J., Wanberg, E., & Foster, F. Scales of the Alcohol Use Questionnaire: A Users Manual. Fort Logan Mental Health Center, 3520 West Oxford, Denver, Colorado, 1973. (Mimeographed.)
- Horton, D. Primitive societies. In R. G. McCarthy (Ed.), Drinking and intoxication. New York: Free Press, 1959. Pp. 251-262.
- Hoy, R. M. The personality of inpatient alcoholics in relation to group psychotherapy, as measured by the 16 PF. Quarterly Journal of Studies on Alcohol, 1969, 30, 401-407.
- Hoyt, D. B., & Sedlacek, G. M. Differentiating alcoholics from normals and abnormals with the MMPI. Journal of Clinical Psychology, 1958, 14, 69-74.
- Irwin, T. Attacking alcoholism as a disease. Today's Health, 1968, 46, 21-23, 72-74.
- Jellinek, E. M. The disease concept of alcoholism. Highland Park, New Jersey: Hillhouse, Press, 1960.

- Jones, M. C. Personality correlates and antecedents of drinking patterns in adult males. Journal of Consulting and Clinical Psychology, 1968, 32, 2-12.
- Kammeier, M. L., Hoffman, H., & Loper, R. G. Personality characteristics of alcoholics as college freshmen and at time of treatment. Quarterly Journal of Studies on Alcohol, 1973, 34, 390-399.
- Keller, M. The definition of alcoholism and the estimation of its prevalence. In D. J. Pittman and R. C. Snyder (Eds.), Society, culture and drinking patterns. New York: Wiley, 1962.
- Kranitz, I. Alcoholics, heroin addicts and nonaddicts: Comparisons on the MacAndrew alcohol scale of the MMPI. Quarterly Journal of Studies on Alcohol, 1972, 33, 807-809.
- Landis, C. Theories of the alcoholic personality. Quarterly Journal of Studies on Alcohol, 1945, 6, 129-143.
- Lawlis, G. F., & Rubin, S. E. 16 PF study of personality patterns in alcoholics. Quarterly Journal of Studies on Alcohol, 1971, 32, 318-327.
- Lester, D., & Greenberg, B. I. Nutrition and the etiology of alcoholism. Quarterly Journal of Studies on Alcohol, 1952, 13, 553-560.
- Lind, C. W. 16 PF screening instrument for alcoholics. Journal of Clinical Psychology, 1972, 28, 548-549.
- Lisansky, E. S. The etiology of alcoholism: The role of psychological predisposition. Quarterly Journal of Studies on Alcohol, 1960, 21, 314-343.
- Loper, R. G., Kammeier, M. L., & Hoffman, H. MMPI characteristics of college freshman males who later became alcoholics. Journal of Abnormal Psychology, 1973, 82, 159-162.
- MacAndrew, C. The differentiation of male alcoholic outpatients from non-alcoholic psychiatric outpatients by means of the MMPI. Quarterly Journal of Studies on Alcohol, 1965, 26, 238-246.
- MacAndrew, C., & Geertsma, R. H. An analysis of responses of alcoholics to scale 4 of the MMPI. Quarterly Journal of Studies on Alcohol, 1963, 24, 23-38.
- MacAndrew, C., & Geertsma, R. H. A critique of alcoholism scales derived from the MMPI. Quarterly Journal of Studies on Alcohol, 1964, 25, 69-76.
- McCord, W., & McCord, J. Origins of alcoholism. Stanford, California: Stanford University, Press, 1960.

- Mulford, H. A. Drinking and deviant drinking, U.S.A., 1963. Quarterly Journal of Studies on Alcohol, 1964, 25, 634-650.
- National Institute of Mental Health. Alcohol and alcoholism. Washington, D.C.: U.S. Department of Health, Education and Welfare, 1967.
- Plaut, T. Alcohol problems: A report to the nation by the cooperative commission on the study of alcoholism. New York: Oxford University Press, 1967.
- Rich, I. C., & Davis, H. G. Concurrent validity of MMPI alcoholism scales. Journal of Clinical Psychology, 1969, 25, 425-426.
- Robins, I. N., Bates, W. M., & O'Neal, P. Adult drinking patterns of former problem children. In D. J. Pittman and C. R. Snyder (Eds.), Society, culture and drinking patterns. New York: Wiley, 1962. Pp. 395-412.
- Robinson, M. W., & Voegtlin, W. K. Investigations of an allergic factor in alcohol addiction. Quarterly Journal of Studies on Alcohol, 1952, 13, 196-200.
- Roe, A. The adult adjustment of children of alcoholic parents raised in foster homes. Quarterly Journal of Studies on Alcohol, 1944, 5, 378-392.
- Ross, C. F. J. Comparison of hospital and prison alcoholics. British Journal of Psychiatry, 1971, 118, 75-78.
- Sanford, N. Personality and patterns of alcohol consumption. Journal of Consulting and Clinical Psychology, 1968, 32, 13-17.
- Seeley, J. R. The W.H.O. definition of alcoholism. Quarterly Journal of Studies on Alcohol, 1959, 20, 352-356.
- Silkworth, W. D. Alcoholism as a manifestation of allergy. Medical Record, 1937, 145, 249-251.
- Smith, J. J. A medical approach to problem drinking. Quarterly Journal of Studies on Alcohol, 1949, 10, 251-257.
- Soskin, R. A. Personality and attitude change after two alcoholism treatment programs. Quarterly Journal of Studies on Alcohol, 1970, 31, 920-931.
- Sutherland, E. H., Schroeder, H. G., & Tordella, C. L. Personality traits and the alcoholic: A critique of existing studies. Quarterly Journal of Studies on Alcohol, 1950, 11, 547-561.
- Syme, I. Personality characteristics and the alcoholic: A critique of current studies. Quarterly Journal of Studies on Alcohol, 1957, 18, 288-302.

- Tatsuoka, M. M. Multivariate analysis in educational and psychological research. New York: Wiley, 1971.
- Uecker, A. E. Differentiating male alcoholics from other psychiatric inpatients. Quarterly Journal of Studies on Alcohol, 1970, 31, 379-383.
- Uecker, A. E., Kish, G. B., & Ball, M. E. Differentiation of alcoholism from general psychopathology by means of two MMPI scales. Journal of Clinical Psychology, 1969, 25, 287-289.
- Ullman, A. D. Sociocultural backgrounds of alcoholism. Annals of the American Academy of Political and Social Sciences, 1958, 135, 48-54.
- Veldman, D. J. Fortran programming for the behavioral sciences. New York: Holt, Rinehart & Winston, 1967.
- Williams, R. J. Alcoholism: The nutritional approach. Austin, Texas: University of Texas Press, 1959.
- Winokur, G., Reich, T., Rimmer, J., & Pitts, F. N., Jr. Alcoholism III: Diagnosis and familial psychiatric illness in 259 alcoholic probands. Archives of General Psychiatry, 1970, 23, 104-111.
- World Health Organization. Expert Committee on Mental Health, Alcoholism Subcommittee. Second Report. World Health Organization Technical Report Series No. 48, 1952.
- Zelhart, P. F. Types of alcoholics and their relationship to traffic violations. Quarterly Journal of Studies on Alcohol, 1972, 33, 811-813.
- Zwerling, I. Psychiatric findings in an interdisciplinary study of forty-six alcoholic patients. Quarterly Journal of Studies on Alcohol, 1959, 20, 543-554.