

A REPLICATION STUDY TO DETERMINE THE USEFULNESS OF FIVE MMPI
ALCOHOLISM SCALES IN IDENTIFYING ALCOHOLICS

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Thomas Warren Gilchrist

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This study investigated the 5 MMPI alcoholism Scales in their ability to identify alcoholics. First-time D.U.I. offenders constituted the non-alcoholic group, whereas second-time D.U.I. offenders constituted the alcoholic group. A chi square with Yates correction and a contingency coefficient found no significant relationship, which led to a rejection of the null hypothesis. While the MacAndrew Scale exhibited some discrimination ability, the Hampton, Hoyt and Sedlacek, Holmes, and Rosenberg Composite showed little or no discrimination power between alcoholics and non-alcoholics.

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Stephen F. Saus
Approved for the Major Department

James Senell
Approved for the Graduate Council

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Chapter 1

Introduction

Attempts have been made to classify alcoholics through the use of tests and scales. One of the more popular screening devices of alcoholism is the MMPI (Minnesota Multiphasic Personality Inventory). The MMPI is made up of many different subscales which seek to identify abnormalities of the personality. Within the MMPI there are five scales which classify alcoholism; however, at present, there is much debate over the accuracy of these scales.

At this time there is an increased effort to raise public awareness about driving and drinking. Many state and local governments are passing legislation which attempts to stiffen drunk driving laws. In many states, first time D.U.I. offenders, (Driving Under the Influence) will be looking at higher fines, jail time, and mandatory driver license suspensions. With a rise in D.U.I. arrests, more people will be entering the legal system in need of psychological evaluations for the purpose of alcohol diagnosis. One obvious problem is the classification of an alcoholic. Does the MMPI correctly label the problem drinker? By what test criterion is an alcoholic diagnosed as such?

Hoyt and Sedlacek (1958) determined that normals and alcoholics do not show marked differences in mean profiles on the MMPI. The authors, however, did conclude that the scales which they developed, with a cross-validation condition, accurately classified 75 to 80 percent of alcoholics and normals. Rotman and Vestre (1964) achieved somewhat different results; they found that alcoholics scored higher than non-alcoholics on all three scales (Hampton A1, Holmes Am, and Hoyt/Sedlacek Ah) but none of the t values reached an acceptable level of significance. In conclusion, they cited that the three scales, (A1, Am, Ah,) have little or no validity. Whisler and Cantor (1966) determined that the MacAndrew alcoholism scale was, "probably" a good predictor of alcoholic behavior. Vecker, Kish, and Ball (1969) found mixed results; they stated alcoholics scored higher than non-alcoholics on two scales (Ah and Am) but lower on one scale (A1).

In more recent research Holmes, Dungan and McLaughlin (1982) concluded that the MMPI scales for classification of alcoholics indicated questionable validity. As an example they cited the MacAndrew scale. It misclassified 36 of 60 alcoholics as non-alcoholics and 32 of 60 non-alcoholics as alcoholics. At best, they suggest that the scales be used with caution, if at all. Hays and Stacy (1983) critiqued and reanalyzed Holmes, Dungan and McLaughlin (1982) and alleged that they had misunderstood the chi square and

wrongly concluded invalidity.

The most recent publication dealing with the issue of validity among the five MMPI alcoholism scales was another critique and reanalysis by Holmes, Dungan and Davis (1984). They restated their original findings that the MMPI alcoholism scales are of questionable validity.

Many studies have failed to yield results similar to the authors of the alcoholism scales, but to drop them as a useless tool would seem an overreaction. Past studies on validity research reflect poorly defined variables, non-random studies, and ambiguous statistical conclusions. Also, past studies have focused on attempts to determine differences between alcoholics and other groups.

Another debated issue concerns the use of cut-off scores. A cut-off score is a numerical value which serves as a dividing point between groups of alcoholics and non-alcoholics. For example, an alcoholism scale containing 100 items might have a possible cut-off score of 50. An individual who scored above 50 would be classified alcoholic, while an individual who scored below 50 would be classified non-alcoholic. Each scale has a different cut-off which is based on the number of items per scale. Of the five MMPI alcoholism scales, the Hampton (Ha), developed in 1956, is the oldest. This scale has a cut-off of 59 and consists of 125 items. The Holmes scale (HO), developed in 1956, consists of 59 items and has a cut off score of 34.

The Hoyt and Sedlacek scale (H-S) was developed in 1958. It has a cut-off score of 24 and contains 68 items. The MacAndrew scale (MAC), developed in 1965, states a cut-off score also of 24 but consists of 49 items. The Rosenberg Composite scale, the most recent, was developed in 1969. This scale contains 27 items, but did not cite a specific cut-off score. In a previous study, McLaughlin (1980) cited a cut-off score of 12 which will also be implemented in this study. The Rosenberg Composite consists of items from three older scales (Mac, H-S, and Ha). All of the five scales used item analysis techniques in their original development.

As in the previous study, Holmes, Dungan and McLaughlin (1982) raised the question as to the accuracy of classifying individuals as alcoholic/non-alcoholic, based on numerical points. It is the assumption of this study, that the authors of the five alcoholism scales were justified concerning their ability to establish an accurate cut-off score. For the purpose of this study, the original cut-off scores will be implemented. Subjects will be classified as alcoholic and receive the symbol "+", or non-alcoholic designated by the "-" sign. To determine whether the scales are sensitive to alcoholism, this study will use an outpatient population in a replication study.

The purpose of this study is to investigate the responses to MMPI items that may be used in the identification of alcoholics. A sample will be drawn from a

D.U.I. population, with the assumption that the MMPI scales are reliable and valid tools in identifying alcoholics.

Review of Literature

The purpose of the Hoyt and Sedlacek study (1958) was to identify personality characteristics of alcoholics which differentiate alcoholics from normal non-alcoholics and other clinical groups. With the use of a particular alcoholism scale and the Minnesota Multiphasic Personality Inventory (MMPI), under specific conditions, a relatively high percentage of normals, alcoholics, and "clinical" were successfully identified. However, the experiment did not discriminate between alcoholics and a group of psychoneurotics, and mean profiles between alcoholics and normals were quite similar. In conclusion, the authors recommended caution in interpreting results and argued for additional research with better defined groups.

Rotman and Vestre (1964), in their attempt to evaluate the validity of three scales developed from the MMPI (Hampton, Holmes, Hoyt/Sedlacek Scales), provided data in differentiating psychiatric hospital admissions with alcoholic problems from psychiatric hospital admissions without alcoholic problems. Of the three scales evaluated, the means were not significantly different between the alcoholic and the non-alcoholic groups. As a more stringent

definition of alcoholism was applied, two of the three scales resulted in significant mean differences. Basically Rotman and Vestre's study indicated the three MMPI scales have little or no validity within a psychiatric population.

Similar to Rotman and Vestre, MacAndrew and Geertsma (1964) examined three of the alcoholism scales of the MMPI: the Hampton, Holmes, and Hoyt/Sedlacek. They studied groups of diagnosed male alcoholics and male non-alcoholic psychiatric patients. In addition, they studied the common test items which the three scales shared. Their results indicated that alcoholics cannot be differentiated from psychiatric outpatients; therefore, the three MMPI scales are actually a measure of general maladjustment. Regarding test question comparison, there were seven items common to all three scales, pointing to the following assumptions:

1. Alcoholics describe their alcohol intake as excessive rather than moderate.
2. Alcoholics tend to accept the responsibility for past failure and transgressions.
3. Alcoholics are not consistent church-goers and yet they do believe in miracles.

MacAndrew asked the following question: "Can a scale be developed from the MMPI by selecting appropriate questions from the existing 566 items comprising the MMPI, which will successfully differentiate between male non-alcoholic psychiatric patients and male alcoholic

outpatients?" (p. 239). In 1965 MacAndrew published a study concluding that significant differences in MMPI responses do indeed exist between alcoholic and non-alcoholic outpatients. In this study, 81.5% of his sample was correctly classified.

Whisler and Cantor (1966) accepted MacAndrew's MMPI scale from his 1965 study and attempted to determine whether the MacAndrew scale is effective in predicting alcoholics in a chronic, institutionalized population. The setting for Whisler and Cantor's study was a large veteran's inpatient facility as compared to MacAndrew's use of an outpatient setting. No appreciable differences were found in the means and standard deviations between MacAndrew's and Whisler and Cantor's results, indicating that MacAndrew's scale is probably a fairly good prediction of "alcoholic behavior."

Rich and Davis (1967) compared the validity of the MacAndrew scale with three older MMPI alcoholism scales and with a revised alcoholism scale constructed on the basis of the three older scales. Their results supported the claim for the validity of three of the five MMPI alcoholism scales. In addition, the Rich and Davis study indicated the MMPI alcoholism scales are approximately as valid for females as for males.

Uecker, Kish, and Ball (1969) further investigated Rotman and Vestre's conclusion that the three MMPI scales (Hampton, Holmes, Hoyt/Sedlacek) have not proved useful in

differentiating alcoholics from non-alcoholic psychiatric patients. The Uecker et al. study (1969) was basically the same as Rotman and Vestre except that while Rotman and Vestre tested on the average of four days after admittance while Uecker et al. (1969) tested about one month after the admittance. This study resulted in significantly higher scores for the alcoholics as compared to the non-alcoholic psychiatric sample on two of the three scales--namely the Hoyt/Sedlacek and Holmes scales but not the Hampton scale. The results from Uecker et al. (1969) suggested MMPI testing should be delayed until clients adequately recover from symptoms of acute alcoholism and withdrawal, and then the MMPI scales would be a helpful tool for differentiating alcoholics from non-alcoholic psychiatric patients.

Rhodes (1969) replicated MacAndrew's 1965 study. Similar to MacAndrew, Rhodes sought to define alcoholism by a psychometric objective method. While Rhodes' findings closely replicated MacAndrew's they did not replicate Whisler and Cantor's 1966 study. He attributed this discrepancy to the difference in sample make-up (Whisler and Cantor's sample was older, more institutionalized, and lower in socio-economic status). Rhodes concluded his study compared favorably with that on MacAndrew's and considered MacAndrew's suggested cut-off score of 28 as valid.

Vega (1971) asked the question, "Does there exist personality characteristics relatively unique to alcoholism

apart from general psychiatric disturbances?" (p.795). He tested four of the alcoholism scales, (Hoyt and Sedlacek, MacAndrew, Hampton and Holmes scales), with three of them discriminating reasonably well between inpatient alcoholics and control subjects. Vega surmised that while the MacAndrew scale would be the scale of choice for a psychiatric setting, the Holmes and/or Hampton scales would be most useful in a normal setting such as a guidance center employment screening situation. He, however, cautioned therapists against over-reading any empirically derived scales which deal with personality variables. The final analysis of Vega's study suggested that the three alcoholism scales do indeed measure some personality or behavioral characteristics common to persons labeled alcoholic.

Hoffman, Loper, and Kammeier (1974) published a study which further explored personality characteristics and their relationship to alcoholism. The goal was to compare a male pre-alcoholic sample (college-age) with a male classmate-control group in order to determine to what degree the MMPI alcoholism scales may be able to predict alcoholism. Since many colleges routinely require students to take the MMPI, the researchers were able to procure past college MMPI test results for comparison studies. Results indicated the Hampton and Holmes scales as showing significant differences between pre-alcoholics and their later treatment status whereas the MacAndrew scale did not demonstrate increased

maladjustment from the pre-alcoholic stage to the alcoholic stage. The MacAndrew scale revealed significant personality character differences between the pre-alcoholics and their peers. In summary, this study successfully differentiated male college students who later became alcoholics from their peers. It also differentiated the pre-alcoholic condition from the condition at the time of treatment for alcoholism.

Lacher, Berman, Grissell, and Schooff published a paper in 1976 which attempted to extend the MacAndrew alcoholism scale as a general measure of substance abuse. The goal was to use the MMPI as a measure of identification of patients who have a history and/or a potential for alcoholism. The MacAndrew scale produced a personality trait cluster, indicating a general addictive propensity, although in some cases the patient may have been so young that the addictive behavior had yet to be expressed. Generally, the MacAndrew scale was found to measure characteristics associated with various types of substance misuse since the study included alcoholics, heroin addicts, and polydrug users. All three groups scored similarly to one another and the scores were significantly higher than those of matched control groups of psychiatric patients.

Schwartz and Graham (1979) published a study which sought to determine more clearly exactly what the MacAndrew scale measures. The study was in part a response to

speculation that the MacAndrew scale is not specific to alcoholics, but instead measures general addictive personality style. The design of the experiment included a factor analysis of the MacAndrew scale which seemed to correlate increased MacAndrew scores with personality clusters such as shallowness, impulsivity, aggressiveness and hostility, high levels of energy, and problems with concentration and perception. The researchers concluded that the MacAndrew scale is effective because of its sensitivity to the ability (or inability) of persons to function in social and interpersonal settings. On the other hand, Schwartz and Graham pointed out that many MacAndrew items represent extraneous sources of variance which do not contribute to the diagnostic utility of the scale and therefore they have recommended replication studies of their findings.

In an effort to compare personality and behavioral characteristics of bulimic women against alcoholic and drug-addicted women, the MacAndrew scale was used by Halsukami, Owen, Pyle, and Mitchell (1982). While this study was not a test of the MacAndrew scale, the scale did, in fact, indicate significant elevations among the women in treatment for alcoholism and drug abuse as compared to the bulimic women. This study seemed to lend support to the arguments for the MacAndrew scale being specific for testing of alcoholism rather than for general behavioral disturbances.

The validity of the MacAndrew and Rosenberg alcoholism scale was tested by Svanum, Levitt, and McAdoo (1982). While scores of the Rosenberg index did not significantly discriminate between male and female alcoholic and psychiatric patients, scores of male and female alcoholics of the MacAndrew scale were higher than those obtained by psychiatric patients. The results suggest that the MacAndrew scale along with a particular composite scale is a significant predictor for individuals who are at risk for development of alcoholism. The results provide evidence for the utility of the MacAndrew scale in discriminating alcoholics from non-alcoholic psychiatric outpatients.

Schwartz and Graham (1979) found the MacAndrew to be sensitive to impulsivity, high energy levels, interpersonal shallowness and general psychological maladjustments, but it was not found to be sensitive to a general dimension of antisociality. These authors recommended that their findings be replicated. In 1982 Svanum and Hoffman designed a study which 1) re-examined the factor structure of the MacAndrew scale (i.e., personality clusters such as impulsivity, hostility, problems with concentration perception, etc.) and, 2) assessed the psychometric characteristics of the MacAndrew scale. Svanum and Hoffman's results indicate that while the MacAndrew factors have some degree of replicability, they are at best only moderately reliable for clinical use, suggesting once again

that alcoholism is a "remarkable heterogeneous phenomenon" (p. 197). Svanum and Hoffman concluded, as have many other studies, the MacAndrew scale is most useful as a screening measure for alcoholism--a disease of persons with multidimensional characteristics. However, if the MacAndrew scale is "forced to measure behavior and personality dimensions within alcoholic populations or between alcoholics and others, the MacAndrew scale becomes less useful" (p. 197).

MacAndrew (1981) explained the purpose of the MacAndrew scale by reiterating its original purpose:

The MacAndrew scale came into being as the product of an attempt to shed some light on the then-much-debated-question of whether people diagnosed as alcoholics are simply neurotics who-also-happen-to-drink-too-much or whether hitherto undisclosed differences of substantive significance do, in fact, exist between the two patient groups (p. 604).

MacAndrew hypothesized that if differences do exist between true alcoholics and neurotics who ... drink ... much, the differences will stand up under cross-validation. Statistically the MacAndrew scale discriminates between alcoholics and psychiatric patients; however, MacAndrew warned that it is not an all purpose scale to differentiate alcoholics and psychiatric patients. While a specific,

concrete, and unique alcoholic personality does not exist, MacAndrew describes a general alcoholic character orientation based upon MacAndrew scale scores. For instance, high scorers seem to be bold, uninhibited, self-confident, sociable people who resent authority and yet are drawn to religion. These people seem to indicate a reward-seeking and "go" orientation. MacAndrew concluded that for purposes of theory, research, and practice, the search for the alcoholic personality is in vain.

In 1982 a study by Holmes, Dungan, and McLaughlin assessed the validity of the five alcoholism scales of the MMPI. The study tested for the ability of the scales to accurately classify two groups of alcoholics and one group of non-alcoholic psychiatric patients into their respective categories as alcoholic and non-alcoholic. Three factors emerged out of the research:

1. The design of the past research has not been consistent.
2. Of the five MMPI alcoholism scales which all supposedly measure alcoholism, there are only three MMPI items common to all the five tests.
3. In previous tests alcoholics were erroneously dealt with as a homogeneous group. Holmes, Dungan, and McLaughlin noted the heterogeneity of alcoholism in regard to drinking patterns (i.e., continual drinking vs. periodic

drinking) and for the differences in motivation for the treatment.

The Holmes et al. (1982) study divided the alcoholics between voluntary commitments and court commitments. Also, a borderline area in the classification scale between the "statistical" alcoholic and non alcoholic was created. The conclusions drawn in the study pointed to a questionable validity of the scales, although in one analysis the MacAndrew scale seemed valid despite a great number of misclassifications. Holmes et al. (1982) recommended the cut-off point for alcoholism be re-examined, and while the scales should not be discarded, the tests should be used with extreme caution until such time that conclusive evidence for or against their validity is presented.

Hays and Stacy published two articles in 1983 relating to the validity of alcoholism scales. The first (Hays and Stacy, 1983a) article focused on the reliability and validity of the Holmes alcoholism scale, citing three primary goals:

1. Measurement of the internal consistency reliability of the Holmes alcoholism scale.
2. Examination of the Holmes scale's ability to discriminate an alcoholic group from a group of college students.
3. Assessment of the relationship between scores on the Holmes scale and the quantity and frequency of

alcohol use in an college sample.

The experimental design included 39 inpatients at a detoxification center compared with 77 undergraduate university students. A questionnaire containing the 59 Holmes scale items was administered to each participant. The validity of the Holmes scale was tested in two ways: 1) by comparing the Holmes scale scores of the alcoholics with the students and, 2) by examining the relationship between Holmes scores and alcohol use of the college sample. The results of the study indicated the Holmes scale to display a low internal consistency reliability, but a significant ability to discriminate an alcoholic group from a non-alcoholic group (76.3% of the respondents were classified correctly into their appropriate groups of "alcoholic" vs. "college" on the basis of the Holmes scores). In addition there was a modest correlation in the student sample between alcohol use and the Holmes scale, although caution was advised in avoiding any over-generalizations.

The second article by Hays and Stacy, (1983b) refuted Holmes, Dungan, and McLaughlin's 1982 study which reported that the five MMPI alcoholism scales are of questionable validity. Hays and Stacy (1983b) claimed Holmes et al. (1982) "apparently misunderstood the meaning of statistical significance in the tests they performed" (p. 459-460), and Hays and Stacy (1983b) provided an alternate re-analysis of the data (Gamma and Kendall's Tau computations vs. the chi

square parameter), concluding there is an association between patient status and alcoholism scale status for at least the Hampton, Holmes, and Rosenberg scales, with the Holmes and Rosenberg being most effective. In contrast to Holmes' et al. (1982) conclusions, Hays and Stacy (1983b) showed that four of the five MMPI alcoholism scales significantly differentiate alcoholics from non-alcoholic psychiatric patients at a VA hospital. Hays and Stacy, however, caution over-application of the alcoholism scales since they yield a certain percentage of false positives and negatives.

In 1983 Burke published a study which investigated MacAndrew and Cavoir scales as to what characteristics are measured (the Cavoir scale is a heroin addiction scale). The MacAndrew, Burke concluded, measures impulsivity, pressure for action, and the acting-out potential that leads to alcoholism and/or other substance abuse, while it does not significantly tap the dimension of psychological health and general adjustment. Burke's study indicated that MacAndrew scores proved to be a fairly unreliable source for validity in identification of misusers of alcohol and other drugs, concluding that there does not seem to be a common underlying "general addictive propensity" (p. 560) as measured by MacAndrew and Cavoir. Burke added, however, that the MacAndrew scale may be used to help identify potential or actual misusers of alcohol and drugs.

O'Neil, Giacinto, Waid, Roitzach, Miller, and Kilpatrick (1983) correlated behavior, psychological, and historical factors using the MacAndrew scale. The sample consisted of 194 male alcoholic veterans. Generally, a lowered MacAndrew score correlated with persons who were more defensive, repressed, socially-inhibited, and less energetic and optimistic. Increased MacAndrew scores correlated well with persons whose drinking history was developed early in life. Persons with increased MacAndrew scores statistically had a greater affinity for substances with psychotropic effects; drank their liquor with dilutants; suffered employment disruptions from drinking; received some type of alcoholism treatment previously; and experienced legal problems due to drinking. The recurring theme seemed to be that of sensation seeking: the striving to maintain an optimal level of arousal through engaging in a variety of exciting, risky, stimulating, and/or uninhibited behavior. The study concluded that alcoholics differing on the MacAndrew scale will demonstrate different levels of extraversion while displaying the common feature of emotionality. The authors recommended an examination of the MacAndrew scale's construct validity as it relates to sensation seeking and etiological patterns of alcoholism.

The search for a way to differentiate true alcoholics from mere heavy drinkers continued and MacAndrew (1983) found no solid support for alcoholics who shared a common

or unique personality type with heavy drinking non-alcoholics. Studies of common items in the various MMPI alcohol scales were sought, but failed to withstand the cross validation test, suggesting the personality structure of alcoholics might be far less homogeneous than commonly supposed. MacAndrew's recommendation was a taxonomic approach whereby alcoholism is ordered into many subtypes beginning with primary and secondary alcoholics. Primary alcoholics would be characterized by being reward-seeking while secondary alcoholics would be characterized by punishment/avoidant personalities. He suggested that by developing a viable taxonomy of drinkers the question may be answered, "How can true alcoholics be differentiated from mere heavy drinkers?" (p. 73).

As was noted previously, Holmes, Dungan, and McLaughlin (1982) questioned the validity of all five of the MMPI alcoholism scales. Hays and Stacy (1983b) asserted Holmes et al. (1982) were mistaken and that the data actually supported the validity of the scales. Specifically, Hays and Stacy claimed the Holmes et al. (1982) study had misunderstood the nature of the significant results of the chi square analysis. Holmes, Dungan and Davis (1984) responded to Hays and Stacy's critique noting that:

1. The contribution of the scale to the total variance was minimal.

2. Large numbers of patients were misclassified.

The Holmes et al. (1984) article pointed out that according to the basic Linton/Gallo text, (1975) the chi square may effectively be used for comparing expected and observed frequencies. In conclusion, Holmes et al. (1984) asserted confidence in the original statistical interpretations and conclusions, and stood by the original conclusion that the MMPI scales are of questionable validity. Pfoest, Kuncze, Stevens (1984) studied the relationship of the MacAndrew alcoholism scale to personality type and level of emotional distress by correlating MacAndrew scale scores with derived personality profile types and mean elevation of MMPI scales. Although both the levels of psychological distress and the degree of similarity to personality type correlated non-significantly with MacAndrew scores, Type II personalities (characterized by temperamentalness, increased drive, grandiosity) appeared to correspond to MacAndrew's primary alcoholic type (characterized by rapid, strong, emotional arousal and a reward-seeking orientation toward the world). Pfoest et al. (1984) recommended that MacAndrew's classificatory accuracy could be improved by developing differential cut-off points between alcoholic and non-alcoholics depending upon the person's personality profile designation.

Statement of the Problem

In the research thus far, there seems to be no agreement supporting the validity of the five MMPI alcoholism scales. It has been speculated by some MacAndrew (1983) that the scales are not sensitive to personality traits unique to alcoholics, but instead are measures inferring general maladjustment.

Statement of Significance

It is the hope of the author that this research may help clarify controversy over the issue of validity concerning the MMPI alcoholism scales. This study will use as its sample a non-psychiatric population. The research will be more applicable to agencies who screen problem drinkers and alcoholics from a normal population. These results will be useful in providing more tangible evidence for making more accurate recommendations in outpatient settings.

Chapter II

Method

The purpose of this study was to examine validity of five MMPI alcoholism scales. Subjects were drawn from a D.U.I. population. This chapter includes a description of the target population, sampling procedures, the research method and design, and statistical techniques on the data.

Population and Sampling

The data for this research was based on the results of the Minnesota Multiphasic Personality Inventory (MMPI), of subjects who were court ordered for D.U.I. evaluations. Of this population, approximately one-fourth of all D.U.I. offenders were labeled alcoholic and referred for either long term outpatient counseling or an inpatient alcohol treatment center. Criteria used for classification of alcoholism consisted of test results from the MMPI, previous D.U.I.'s, and clinical impressions. Questions asked in the clinical interview include amount and frequency of alcohol used, behavior while under the influence, effects on relationships with others, and when or how long was the last period of abstinence. Also included as discriminating criteria were past arrests involving alcohol, levels of

B.A.C. (Blood Alcohol Content), frequencies of hangovers, blackouts, morning shakes, convulsions, drinking alone, having significant others express a desire for an individual to quit drinking, or relationship and work related problems. The criteria listed are not conclusive, but constitute a working guideline for a clinical interview.

The Alcohol and Drug Services of the Mental Health Center of East Central Kansas provided the population of D.U.I. offenders from the period of January, 1984 to January, 1985. Each court committed subject was administered a battery of tests including the MMPI. The MMPI was administered by the staff of clinical interns or master's level psychologists. Each subject was instructed by an examiner to read the questions and mark the appropriate answer on a separate sheet. If a subject was unable to complete the test battery in a three hour period, he or she was asked to come back the following week to complete the testing. MMPI profiles were hand scored by the examining staff.

To ensure a random sample, a random numbers table was used, Sharp (1979). Each subject of the sample received a number from 1 to 100. Then, using a random numbers table, two samples of 25 subjects each were drawn. All subjects drawn from the population have an equal chance of being included in the sample.

Subjects

Two random samples were drawn from a group of people ordered by the court to undergo a chemical dependency evaluation. All subjects sampled committed the offense of Driving Under the Influence (D.U.I.).

The first group consisted of 25 subjects convicted of a second (D.U.I.) and diagnosed alcoholic by therapists who specialize in chemical dependency counseling. The second group consisted of 25 individuals who also underwent the same evaluation, but had received one (D.U.I.) and were labeled non-alcoholic.

Design

The research consisted of two independent variables: 1) Classification of alcoholic/non-alcoholic according to the criteria previously noted; and 2) Classification of alcoholic/non-alcoholic according to subscales of the MMPI. The subscales used in this study included the Holmes, MacAndrew, Rosenberg, Hampton, and Hoyt-Sedlacek. The type of data chosen were frequency data. A between-subjects design was implemented. Each subject was classified as alcoholic or non-alcoholic using five separate alcohol scales of the MMPI.

The author chose a chi square with Yates corrections,

(Siegel, 1956) as the best statistical analysis of the data. If the five alcoholism scales correctly differentiate alcoholics from non-alcoholics then the scales have successfully shown validity.

Statement of the Hypothesis

The statistical hypothesis evaluated in research are the null (H_0) and the Alternative (H^1) hypothesis Linton and Gallo (1975). The null (H^0) states: there is no statistical evidence indicating the validity of the five MMPI alcoholism scales. The alternative (H^1) states: the five MMPI alcoholism scales did correctly discriminate between subjects classified as alcoholic and non-alcoholic.

Procedure

The study consisted of a random sample of 50 subjects, whose MMPI profiles indicated acceptable validity. Once the samples had been selected, each subject's profile was hand scored using home-made profile plates. The material for the construction of the five alcoholism scale plates consisted of unscored MMPI answer sheets with holes punched out for the appropriate response. Each subject received a numerical score after each of the five scoring plates had been used.

Subjects received the classification of "+" for an

alcoholic label or "-" for a non-alcoholic label. These labels were determined by the implementation of the five MMPI alcoholism scales. Each scale had a designated cut-off which was used to determine appropriate classification.

Statistical design

Since the data were frequency and the design chosen was a between-subjects measure with two independent variables at two levels, the author chose a chi square with Yates correction as the best statistical analysis. The Yates was chosen in view of the fact that more than 20% of the cells had an expected frequency of less than 5.

For this study the .05 level of significance was selected to test the null hypotheses. This may be interpreted as dependent upon whether or not the statistic (sample fact) falls within the established critical region. If the obtained value of chi square is greater than or equal to the tabled value, at the .05 level of significance, chances are that 95 times out of 100 the large obtained value of chi square is not due just to sampling error.

The Contingency Coefficient (C^2)⁴

The contingency coefficient is an index of measurement that is used to determine the degree of relationship that

exists between the independent and dependent variables. The quickest way to test the significance of C is to test the significance of X^2 . If the latter is significant, so is C. The absence of a relationship is denoted by a correlation coefficient of .00 or thereabouts.

Chapter III

Analysis of Data

This section presents the data, the response, and statistical analysis.

Response Analysis

The data consisted of the responses of 50 subjects whose MMPI alcoholism scale scores were analyzed. Twenty-five subjects were labeled alcoholics (Alc), and 25 subjects were labeled non-alcoholic (NAlc).

Statistical Analysis

The chi square with Yates Correction was used to test the null hypothesis which was as follows:

There will be no statistical evidence validating the use of the five MMPI alcoholism scales as discriminating between subjects labeled alcoholic or non-alcoholic.

With regard to the five alcoholism scales, none showed significant ability to differentiate between alcoholics and non-alcoholic samples. Although none of the null hypotheses

were rejected, one scale exhibited more potential as a discriminatory instrument than the remaining four. Within the alcoholic sample, the MacAndrew Alcoholism Scale correctly diagnosed 20 of 25 subjects. However, there appeared to be less discriminatory power within the non-alcoholic sample in which only 11 subjects were correctly diagnosed non-alcoholic.

The Hampton Scale showed the next strongest ability to discriminate between alcoholic and non-alcoholic subjects. This scale correctly diagnosed 4 subjects alcoholic, while misclassifying 21 subjects non-alcoholic. However, the discriminatory power of the non-alcoholic subject was more sensitive, correctly identifying 24 of the 25 subjects.

The Hoyt and Sedlocek Scale exhibited no discrimination, classifying all subjects alcoholic.

The Holmes Scale had little discriminatory power in the sense that it misclassified 24 of 25 subjects incorrectly on the alcoholic scale. However, it did correctly classify 24 of the 25 subjects within the non-alcoholic sample. Therefore, it is concluded that this particular diagnostic instrument is incapable of discriminating between samples of alcoholics and non-alcoholics.

The Rosenberg composite exhibited opposite data in comparison to the Holmes scale, in the sense that it correctly classified 24 of the 25 subjects on the alcohol scale but also misclassified 24 of the 25 non-alcoholic

subjects as alcoholic. Therefore this scale also failed to discriminate between samples labeled alcoholic and non-alcoholic.

All five scales showed little to no discriminatory power between alcoholism and non-alcoholism.

It can be observed from Table 1, that the MacAndrew Alcoholism Scale may have potential for identifying alcoholism, but appeared less sensitive to differentiate between non-alcoholics.

Table 1.

Chi square and contingency coefficient values determined from the responses of alcoholics and non-alcoholics with respect to classification: The MacAndrew Alcoholism Scale.

Subjects Classification	Alcoholic +	Non-alcoholic -	Total
Alc	20* (17.00)**	14 (17.00)	34
Nalc	5* (8.00)**	11 (8.00)	16
Total	25	25	50

* O = observed frequencies $X^2 = 2.29***$
 ** E = expected frequencies df = 1
 *** Significant at .05 level C = 0.044

A chi square value of 2.29 was calculated for Table 1. A value of 3.84 was needed to reject the null hypothesis at the .05 level of significance for 1 degree of freedom (df = 1). Since the obtained value was less than the tabled value, the null hypothesis was retained.

The Hampton Scale identified non-alcoholics but showed no ability to identify alcoholics, as shown in Table 2.

Table 2.

A chi square with Yates correction and contingency coefficient values determined from the responses of alcoholics and non-alcoholics with respect to classification: The Hampton Alcoholism Scale.

Subjects Classification	Alcoholic +	Non-alcoholic -	Total
Alc	4* (2.50)**	1 (2.50)	5
Nalc	21* (22.50)**	24 (22.50)	45
Total	25	25	50

* O = observed frequencies $X^2 = 0.89***$

** E = expected frequencies df = 1

*** Significant at .05 level C = 0.018

The obtained chi square value of 0.89 was calculated for Table 2. The tabled value 3.84 was needed to reject the

all hypotheses at the .05 level of significance for 1 degree of freedom (df = 1). Since the obtained value was less than the tabled value, the null hypothesis was retained.

The Hoyt and Sedlocek Scale identified all subjects as alcoholic, therefore it would appear that this scale was insensitive to alcoholism (see Table 3).

Table 3.

Chi square with Yates Correction and contingency coefficient values determined from the responses of alcoholic and non-alcoholics with respect to classification: the Hoyt and Sedlocek Scale.

Subjects Classification	Alcoholic +	Non-alcoholic -	Total
Alc	25* (25.00)**	25 (25.00)	50
Nalc	0* (0.00)**	0 (0.00)	0
Total	25	25	50

* O = observed frequencies

$\chi^2 = 1.00^{***}$

** E = expected frequencies

df = 1

*** Significant at .05 level

C = 0.012

The obtained chi square value of 1.00 was calculated for Table 3. The tabled value 3.84 was needed to reject the

null hypotheses at the .05 level of significance for 1 degree of freedom ($df = 1$). Since the obtained value was less than the tabled value, the null hypothesis was retained.

The Holmes Scale correctly identified non-alcoholics but was insensitive to alcoholics, as shown in table 4.

Table 4.

Chi square with Yates correction and contingency coefficient values determined from the responses of alcoholics and non-alcoholics with respect to classification: The Holmes Alcoholism Scale.

Subjects Classification	Alcoholic +	Non-alcoholic -	Total
Alc	1* (2.50)**	1 (2.50)	2
Nalc	24 (24.00)**	24 (24.00)	48
Total	25	25	50

* O = observed frequencies $\chi^2 = 0.52***$

** E = expected frequencies $df = 1$

*** Significant at .05 level $C = 0.010$

The obtained chi square value of 0.52 was calculated for Table 4. The tabled value 3.84 was needed to reject the null hypotheses at the .05 level of significance for 1

degree of freedom ($df = 1$). Since the obtained value was less than the tabled value, the null hypothesis was retained.

The Rosenberg Scale classified subjects alcoholic but was insensitive to non-alcoholics, as shown in Table 5.

Table 5.

Chi square with Yates correction and contingency coefficient values determined from the responses of alcoholics and non-alcoholics with respect to classification: The Rosenberg Composite Alcoholism Scale.

Subjects Classification	Alcoholic +	Non-alcoholic -	Total
Alc	24* (24.00)**	24 (24.00)	48
Nalc	1* (2.50)**	1 (2.50)	2
Total	25	25	50

* O = observed frequencies

$\chi^2 = 0.52***$

** E = expected frequencies

$df = 1$

*** Significant at .05 level

$C = 0.010$

The obtained chi square value of 0.29 was calculated for Table 5. The tabled value 3.84 was needed to reject the null hypotheses at the .05 level of significance for 1 degree of freedom ($df = 1$). Since the obtained value was

less than the tabled value, the null hypothesis was retained.

With regard to all 5 scales, it was concluded that the observed frequencies did not significantly differ from the expected frequencies. Thus the null hypotheses was retained for all scales.

Chapter IV

Summary, Conclusions and Recommendations for Further Study

At this point there appears to be no single diagnostic tool available which conclusively defines and labels alcoholism. Therefore alcoholism professionals must rely on their own clinical skills in diagnosing problematic drinking behaviors. This situation is far from ideal and has thus spurred research in the direction of developing diagnostic instruments, in which alcoholism can be detected. This study investigated the usefulness of five MMPI alcoholism scales in identifying alcoholics.

Summary

This study was conducted to determine if five MMPI alcoholism scales have the capacity to differentiate between alcoholic and non-alcoholic individuals. The chi square test was chosen as the best statistical instrument to analyze the results. Of the five scales, none produced significant relationship, which led to acceptance of the null hypothesis. However, the MacAndrew was the best instrument to correctly discriminate between alcoholics and non-alcoholics, whereas The Hampton was a far second. The three other scales (Holmes, Rosenberg, and Hoyt and

Sedlocek) exhibited no meaningful differences between the groups.

Conclusions

This study sought to replicate previous research, cited in Chapter II, in which Holmes et al. (1982) reported that the five MMPI alcoholism scales should be used with extreme caution, if at all. The results of this study add support to questioning their usefulness as diagnostic instruments.

No significant differences were found between subjects labeled alcoholics or non-alcoholics. However, as cited previously, one of the scales was more useful and exhibited greater potential in differentiating between the alcoholic and non-alcoholic groups.

One shortcoming or glaring limitation concerns the definition of an alcoholic. This problem has plagued all past research in the sense that no one can agree on criteria defining alcoholism. Such a limitation could certainly raise questions regarding validity of the control group labeled alcoholic. Therefore this study may have confounding effects which could alter interpretations.

Another limitation concerns the homogeneousness of the sampled population. All subjects sampled were drawn from the state of Kansas therefore generalization from this study to the general population could be biased.

From the results of this study, there is strong support

to continue with caution the use of the five MMPI alcoholism scales. All of the scales failed, in part, to find a significant difference between alcoholics and non-alcoholics. Thus, the question continues whether or not the scales are sensitive to personality traits other than alcoholism. All the scales with the exception of the Hoyt and Sedlocek exhibited some diagnostic power in detecting alcoholics in the alcoholic sample or non-alcoholics in the non-alcoholic sample, but none of the instruments were capable of both.

Recommendations for Further Study

At this time there appears to be continued confusion with the validity of the 5 MMPI Alcoholism Scales. Past studies have sought to combine various scales, but with little success.

Future research with these scales may continue to exhibit confounding effects as long as there is confusion with alcohol terminology. At present it can be very difficult to define an alcoholic or alcoholism but not difficult to view an individual's behavior as alcohol abuse or dependency. Therefore prior to any further research with the 5 MMPI Alcoholism Scales, this terminology problem should be addressed.

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APPENDIX A

Mac Andrew Alcoholism Scale

APPENDIX A

MacAndrew Alcoholism Scale

Item Number	Item	Alcoholic Patients Response
215	I have used alcohol excessively	T
460	I have used alcohol moderately (or not at all) . .	F
156	I have had periods in which I carried on activi- ties without knowing later what I had been doing. .	T
294	I have never been in trouble with the law	F
61	I have not lived the right kind of life	T
140	I like to cook	T
263	I sweat very easily even on cool days	T
224	My parents have often objected to the kind of people I went around with	T
419	I played hooky from school quite often as a youngster	T
529	I would like to wear expensive clothes.	T
56	As a youngster I was suspended from school one or more times for cutting up	T
482	While in trains, buses, etc., I often talk to strangers.	T
488	I pray several times every week	T
413	I deserve severe punishment for my sins	T
251	I have had blank spells in which my activities were interrupted and I did not know what was going on around me	T
34	I have a cough most of the time	T
378	I do not like to see women who smoke	F
120	My table manners are not quite as good at home as when I am out in company	F
243	I have few or no pains.	T
94	I do many things which I regret afterwards (I regret things more or more often than others seem to).	T
6	I like to read newspaper articles on crime.	T
179	I am worried about sex matters.	F
50	My soul sometimes leaves my body.	T
483	Christ performed miracles such as changing water into wine	T
127	I know who is responsible for most of my troubles	T
128	The sight of blood neither frightens me nor makes me sick	T
335	I cannot keep my mind on one thing	F

APPENDIX A (continued)

Item Number	Item	Alcoholic Patients Response
118	In school I was sometimes sent to the principal for cutting up	T
562	The one to whom I was most attached and whom I most admired as a child was a woman. (Mother, sister, aunt, or other woman)	T
356	I have more trouble concentrating than others seem to have	F
57	I am a good mixer	T
116	I enjoy a race or game better when I bet on it	T
446	I enjoy gambling for small stakes	T
186	I frequently notice my hand shakes when I try to do something	T
58	Everything is turning out just like the prophets of the Bible said it would	T
477	If I were in trouble with several friends who were equally to blame, I would rather take the whole blame than to give them away.	T
445	I was fond of excitement when I was young (or in childhood)	T
426	I have at times had to be rough with people who were rude or annoying	T
283	If I were a reporter I would very much like to report sporting news.	T
86	I am certainly lacking in self-confidence	F
507	I have frequently worked under people who seem to have things arranged so that they get credit for good work but are able to pass off mistakes onto those under them	T
500	I readily become one hundred per cent sold on a good idea	T
81	I think I would like the kind of work a forest ranger does	T
27	Evil spirits possess me at times	T
320	Many of my dreams are about sex matters	F
173	I liked school	F
235	I have been quite independent and free from family rule	T
278	I have often felt that strangers were looking at me critically	F
149	I used to keep a diary.	F
309	I seem to make friends about as quickly as others do	T
130	I have never vomited blood or coughed up blood.	F

APPENDIX B

Hoyt and Sedlacek Alcoholism Scale

APPENDIX B

Hoyt and Sedlacek Alcoholism Scale

Item Number	Item	Alcoholic Patients Response
26	I feel that it is certainly best to keep my mouth shut when I'm in trouble	F
39	At times I feel like smashing things	F
46	My judgment is better than it ever was	F
61	I have not lived the right kind of life	T
94	I do many things which I regret afterwards. (I regret more or more often than others seem to) . .	T
95	I go to church most every week	F
100	I have met problems so full of possibilities that I have been unable to make up my mind about them . .	T
102	My hardest battles are with myself	T
127	I know who is responsible for most of my troubles .	T
131	I do not worry about catching diseases	T
140	I like to cook	T
144	I would like to be a soldier	F
145	At times I feel like picking a fist fight with someone	F
155	I am neither gaining nor losing weight	F
215	I have used alcohol excessively	T
219	I think I would like the work of a contractor . . .	T
222	It is not hard for me to ask help from my friends even though I cannot return the favor	T
237	My relatives are nearly all in sympathy for me . .	F
239	I have been disappointed in love	T
264	I am entirely self-confident.	F
287	I have very few fears compared to my friends . . .	F
289	I am always disgusted with the law when a criminal is freed through the arguments of a good lawyer . .	F
292	I am not likely to speak to people until they speak to me	F
294	I have never been in trouble with the law	F
300	There never was a time in my life when I liked to play with dolls	F
322	I worry over money and business	F
327	My mother or father often made me obey even when I thought it was unreasonable	F
337	I feel anxiety about something or someone almost all the time	F
343	I usually have to stop and think before I act even in trifling matters.	F

APPENDIX B (continued)

Item Number	Item	Alcoholic Patients Response
346	I have a habit of counting things that are not important such as bulbs on electric signs, and so forth	F
348	I tend to be on my guard with people who are somewhat more friendly than I had expected	F
351	I get anxious and upset when I have to make a short trip away from home	F
359	Sometimes some unimportant thought will run through my mind and bother me for days	F
361	I am inclined to take things hard	F
365	I feel uneasy indoors	F
366	Even when I am with people I feel lonely much of the time.	F
375	When I am feeling very happy and active someone who is blue or low will spoil it all	F
378	I do not like see women smoke	F
383	People often disappoint me	F
386	I like to keep people guessing what I'm going to do next.	F
387	The only miracles I know are simple tricks that other people play on one another	F
411	It makes me feel like a failure when I hear of the success of someone I know well	F
415	If given the chance I would make a good leader of people	F
420	I have had some very unusual religious experiences	F
421	One or more members of my family is very nervous	F
427	I am embarrassed by dirty stories	T
432	I have strong political opinions	F
433	I used to have imaginary companions	F
436	People usually demand more respect for their own rights than they are willing to allow for others	F
437	It is all right to get around the law if you don't actually break it	T
446	I enjoy gambling for small stakes	T
459	I have one or more bad habits which are so strong that it is no use in fighting against them	F
460	I have used alcohol moderately or not at all	F
465	I have several times had a change of heart about my life work	T
472	I am fascinated by fire	F
473	Whenever possible I avoid being in a crowd	F

APPENDIX B (continued)

Item Number	Item	Alcoholic Patients Response
477	If I were in trouble with several friends who were equally to blame, I would rather take the blame than to give them away	T
483	Christ performed miracles such as changing water into wine	F
503	It is unusual for me to express strong approval or disapproval of the action of others	T
505	I have had periods when I felt so full of pep that sleep did not seem necessary for days at a time	F
513	I think Lincoln was greater than Washington	F
516	Some of my family have quick tempers	F
524	I am not afraid of picking up a disease or germs from door knobs	T
533	I am not bothered by a great deal of belching of gas from my stomach	T
554	If I were an artist I would like to draw children	T
555	I sometimes feel that I am about to go to pieces.	F
558	A large number of people are guilty of bad sexual conduct	F
560	I am greatly bothered by forgetting where I put things	F

APPENDIX C

Holmes Alcoholism Scale

APPENDIX C

Holmes Alcoholism Scale

Item Number	Item	Alcoholic Patients Response
215	I have used alcohol excessively	T
294	I have never been in trouble with the law	F
369	Religion gives me no worry	T
61	I have not lived the right kind of life	T
460	I have used alcohol moderately (or not at all).	F
378	I do not like to see women smoke	F
155	I am neither gaining nor losing weight	F
127	I know who is responsible for most of my troubles	T
46	My judgment is better than it ever was	F
274	My eyesight is as good as it has been in years	F
183	I am against giving money to beggars	F
249	I believe there is a Devil and a Hell in afterlife	F
477	If I were in trouble with several friends who were equally to blame, I would rather take the whole blame than to give them away	T
137	I believe that my home life is as pleasant as that of most people I know	F
348	I tend to be on my guard with people who are somewhat more friendly than I had expected	F
446	I enjoy gambling for small stakes	T
277	At times I have been so entertained by the cleverness of a crook that I have hoped he would get by with it	T
289	I am always disgusted with the law when a criminal is freed through the arguments of a smart lawyer	F
311	During one period when I was a youngster I engaged in petty thievery	T
483	Christ performed miracles such as changing water into wine	F
558	A large number of people are guilty of bad sexual conduct	F
21	At times I have very much wanted to leave home	T
365	I feel uneasy indoors	F
95	I go to church almost every week	F
506	I am a high strung person	T
239	I have been disappointed in love	T
101	I believe women ought to have as much sexual freedom as men	F

APPENDIX C (continued)

Item Number	Item	Alcoholic Patients Response
542	I have never had any black, tarry-looking bowel movements	F
240	I never worry about my looks	F
522	I have no fear of spiders	F
392	A windstorm terrifies me	F
41	I have had periods of days, weeks, or months, when I couldn't "get going"	T
5	I am easily awakened by noise	T
548	I never attend a sexy show if I can avoid it . . .	F
115	I believe in a life hereafter	F
524	I am not afraid of picking up a disease or germs from door knobs	T
199	Children should be taught all the main facts of sex	F
9	I am about as able to work as I ever was	F
287	I have very few fears compared to my friends. . . .	F
170	What others think of me does not bother me	F
472	I am fascinated by fire	F
386	I like to keep people guessing what I'm going to do next	F
26	I feel that it is certainly best to keep my mouth shut when I'm trouble	F
427	I am embarrassed by dirty stories	F
251	I have had blank spells in which my activities were interrupted and I did not know what was going on around me	T
351	I get anxious and upset when I have to make a short trip away from home	F
232	I have been inspired to a program of life based on duty which I have since carefully followed	F
387	The only miracles I know of are simply tricks that people play on one another	F
163	I do not tire quickly	F
98	I believe in the second coming of Christ	F
516	Some of my family have quick tempers	F
382	I wish I could get over worrying about things I have said that my have injured other people's feelings .	T
80	I sometimes tease animals	F
395	The future is too uncertain to for a person to make serious plans	F
343	I usually have to stop and think before I act even in trifling matters	F
481	I can remember "playing sick" to get out of doing something	T

APPENDIX D

Rosenberg Alcoholism Scale

APPENDIX D

Rosenberg Alcoholism Scale

Item Number	Item	Alcoholic Patients Response
61	I have not lived the right kind of life	T
127	I know who is responsible for most of my troubles . . .	T
294	I have never been in trouble with the law	F
378	I do not like to see women smoke	F
446	I enjoy gambling for small stakes	T
477	If I were in trouble with several friends who were equally to blame, I would rather take the whole blame than to give them away	T
26	I feel that it certainly is best to keep my mouth shut when I'm in trouble	F
46	My judgment is better than it ever was	F
94	I do many things which I regret afterwards. (I regret things more or more often than others seem to) . . .	T
95	I go to church almost every week	F
140	I like to cook	T
155	I am neither gaining nor losing weight	F
239	I have been disappointed in love	T
251	I have had blank spells in which my activities were interrupted and I did not know what was going on around me	T
287	I have very few fears compared to my friends	F
289	I am always disgusted with the law when a criminal is freed through the arguments of a smart lawyer	F
343	I usually have to stop and think before I act even in trifling matters	F
348	I tend to be on my guard with people who are somewhat more friendly than I had expected	F
351	I get anxious and upset when I have to make a short trip away from home	F
365	I feel uneasy indoors	F
386	I like to keep people guessing what I'm going to do next	F
387	The only miracles I know of are simple tricks that people play on one another	F
472	I am fascinated by fire	F
516	Some of my family have quick tempers	F
524	I am not afraid of picking up a disease or germs from door knobs	T

APPENDIX D (continued)

Item Number	Item	Alcoholic Patients Response
558	A large number of people are guilty of bad sexual conduct	F
560	I am greatly bothered by forgetting where I put things	F

APPENDIX E

Hampton Alcoholism Scale

APPENDIX E

Hampton Alcoholism Scale

Item Number	Item	Alcoholic Patients Response
555	I sometimes feel that I am about to go to pieces . . .	T
61	I have not lived the right kind of life	T
133	I have never indulged in any unusual sex practices .	F
70	I used to like drop-the-handkerchief	T
42	One or more members of my family is very nervous .	T
230	I hardly ever notice my heart pounding and I am seldom short to breath	F
231	I like to talk about sex	T
12	I enjoy detective or mystery stories	F
413	I deserve severe punishment for my sins	T
362	I am more sensitive than most other people	T
140	I like to cook	T
472	I am fascinated by fire	T
410	I would certainly enjoy beating a crook at his own game	T
294	I have never been in trouble with the law	F
108	There seems to be a fullness in my head or nose most of the time	T
38	During one period when I was a youngster, I engaged in petty thievery	T
395	The future is too uncertain for a person to make serious plans	T
175	I seldom or never have dizzy spells	F
18	I am very seldom troubled by constipation	F
144	I would like to be a soldier	T
500	I readily become one hundred per cent sold on a good idea	T
102	My hardest battles are with myself	T
322	I worry over money and business	T
214	I have never had any breaking out on my skin that has worried me	F
488	I pray several times every week	T
100	I have met problems so full of possibilities that I have been unable to make up my mind about them . . .	T
156	I have had periods in which I carried on activities without knowing later what I had been doing	T
499	I must admit that I have at times been worried beyond reason over something that really did not matter. . .	T
545	Sometimes I have the same dream over and over	T

APPENDIX E (continued)

Item Number	Item	Alcoholic Patients Response
63	I have had no difficulty in starting or holding my bowel movement	F
266	Once a week or oftener I become very excited	T
124	Most people will use somewhat unfair means to gain profit or an advantage rather than to lose it	T
554	If I were an artist I would like to draw children	T
340	Sometimes I become so excited that I find it hard to get to sleep	T
162	I resent having anyone take me in so cleverly that I have had to admit that it was one on me	T
105	Sometimes when I am not feeling well I am cross	F
481	I can remember "playing sick" to get out of something	T
232	I have been inspired to a program of life based on duty which I have since carefully followed	T
127	I know who is responsible for most of my troubles	T
282	Once in a while I feel hate toward members of my family whom I usually love	T
455	I am quite often not in on the gossip and talk of the group I belong to	T
3	I wake up fresh and rested most mornings	F
234	I get mad easily and then get over it soon	T
119	My speech is the same as always (not faster or slower or slurring; no hoarseness)	F
377	At parties I am more likely to sit by myself or with just one other person than to join in with the crowd	T
118	In school I was sometimes sent to the principal for cutting up	T
336	I easily become impatient with people	T
329	I almost never dream	T
561	I very much like horseback riding	F
361	I am inclined to take things hard	T
260	I was a slow learner in school	T
89	It takes a lot of argument to convince most people of the truth	T
442	I have had periods in which I lost sleep over worry	F
176	I do not have a great fear of snakes	F
86	I am certainly lacking in self-confidence	T
254	I like to be with a crowd who plays jokes on one another	F
449	I enjoy social gatherings just to be with people	F
164	I like to study and read about things that I am working at	F

APPENDIX E (continued)

Item Number	Item	Alcoholic Patients Response
215	I have used alcohol excessively	T
143	When I was a child I belonged to a crowd or gang that tried to stick together through thick and thin . . .	T
397	I have sometimes felt that difficulties were not piling up so high, that I could not overcome them . .	T
307	I refuse to play some games because I am not good at them	T
259	I have difficulty in starting to do things	T
498	It is always a good thing to be frank	F
129	Often I can't understand why I have been so cross and grouchy	T
267	When in a group of people I have trouble thinking . .	T
41	I have had periods of days, weeks or months when I couldn't take care of things because I couldn't get going	T
238	I have long periods of such great restlessness that I cannot sit long in a chair	T
468	I am often sorry because I am so cross and grouchy .	F
319	Most people inwardly dislike putting themselves out to help people	T
217	I frequently find myself worrying about something . .	T
417	I am often so annoyed when someone tries to get ahead of me in a line of people that I speak to him about it	T
506	I am a high-strung person	T
310	My sex life is satisfactory	F
271	I do not blame a person for taking advantage of someone who lays himself open to it	T
418	At times I think I am no good at all	T
425	I dream frequently	F
212	My people treat me more like a child than a grown-up	T
94	I do many things which I regret afterwards (I regret things more or more often than others seem to). . . .	T
463	I used to like hopscotch	T
375	When I am feeling very happy and active, someone who is blue or low will spoil it all	T
224	My parents have often objected to the kind of people I went around with	T
79	My feelings are not easily hurt	F
467	I often memorize numbers that are not important (such as automobile licenses, etc.)	T
466	Except by a doctor's order I never take drugs or sleeping powders	F

APPENDIX E (continued)

Item Number	Item	Alcoholic Patients Response
21	At times I have very much wanted to leave home . . .	T
170	What others think of me does not bother me	F
513	I think Lincoln was better than Washington	F
549	I shrink from facing a crisis or difficulty	T
95	I go to church almost every week	F
176	I enjoy children	F
387	The only miracles I know of are simply tricks that people play on one another	F
460	I have used alcohol moderately (or not at all)	F
251	I have had blank spells in which my activities were interrupted and I did not know what was going on around me	T
82	I am easily downed in an argument	T
542	I have never had any black, tarry-looking bowel movements	F
457	I believe that a person should never taste an alcoholic drink	T
411	It makes me feel like a failure when I hear of the success of someone I know well	T
138	Criticism or scolding hurts me terribly	T
370	I hate to have to rush when working	F
541	My skin seems to be unusually sensitive to touch	T
450	I enjoy the excitement of a crowd	F
142	I certainly feel useless at times	T
503	It is unusual for me to express strong approval or disapproval of the actions of others	T
380	When someone says silly or ignorant things about something I know about, I try to set him right	F
207	I enjoy many different kinds of play and recreation	F
166	I am afraid when I look down from a high place	T
429	I like to attend lectures on serious subjects	F
390	I have often felt badly over being misunderstood when trying to keep someone from making a mistake	T
313	The man who provides temptation by leaving valuable property unprotected is about as much to blame for its theft as the one who steals it.	T
117	Most people are honest chiefly through fear of being caught	T
531	People can pretty easily change me even though I thought my mind was already made up on a subject	T
414	I am apt to take disappointments so keenly that I can't put them out of my mind	T

APPENDIX E (continued)

Item Number	Item	Alcoholic Patients Response
365	I feel uneasy indoors	T
171	It makes me uncomfortable to put on a stunt at a party even when others are doing the same sort of things	T
547	I like parties and socials	F
431	I worry quite a bit over possible misfortune	T
13	I work under a great deal of tension	T
145	At times I feel like picking a fist fight with someone	T
56	As a youngster I was suspended from school one or more times for cutting up	T
255	Sometimes at elections I vote for men about whom I know very little	F
152	Most nights I go to sleep without thoughts or ideas bothering me	F
391	I love to go to dances	F
439	It makes me nervous to have to wait	T
521	In a group of people I would not be embarrassed to be called upon to start a discussion or give an opinion about something I know well	F