Alcoholism subspecies and their relationship to cigarette and caffeine consumption

1988

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ALCOHOLISM SUBSPECIES AND THEIR RELATIONSHIP TO CIGARETTE AND CAFFEINE CONSUMPTION

BY

JOHN F. CRAWLEY
B.A., University of Central Florida, 1983

THESIS
Submitted in partial fulfillment of the requirements for the Master of Science degree in Psychology in the Graduate Studies Program of the College of Arts and Sciences University of Central Florida Orlando, Florida

Summer Term 1988
ABSTRACT

The relationships between types of alcoholism and cigarette and caffeine consumption were studied using the classification system of Reactive and Essential Alcoholism. The subjects were 155 Alcoholics Anonymous members. Information was collected on a number of population demographics including gender, religious preference, length of sobriety, educational level, and ethnic group membership. A correlational design was used and the data collection technique was a self-administered questionnaire. Hypotheses under study were: (1) Essential Alcoholics are more likely to be high frequency cigarette smokers than Reactive Alcoholics; (2) Essential Alcoholics are more likely to be high frequency caffeine consumers than Reactive Alcoholics. No significant correlations were found when the research hypotheses were examined.
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INTRODUCTION

The etiology of alcoholism has remained obscure although a large amount of theoretical literature in alcoholism research has dealt with the etiology, types of alcoholism and treatment of alcoholics. Increasingly, researchers have recognized that alcoholism is an interaction of psychological, physiological and cultural factors. The positions taken by researchers have ranged from a purely psychological to a purely physical perspective for viewing the illness. Researchers are now widely accepting that alcoholism is an interaction of cultural, psychological and physiological factors (Madsen, 1977).

The developments in alcoholism research are similar in many ways to those that have occurred in schizophrenia research. In schizophrenia research, much work has been aimed at separating nosological entities, each with specific etiological factors, course, symptoms, and outcome. Two of the dimensions of schizophrenia, process and reactive, are similar to a theoretical classification system of alcoholism formulated by Knight (1937). Knight's position recognized that the interplay of many factors may result in the formation of more than one species of alcoholism. In order to more fully examine the system, a
review of the Reactive-Process continuum in schizophrenia research will prove fruitful.

The separation of Reactive and Process subtypes of schizophrenia is based on a psychological postulation that there are sequential steps of growth that are encountered by individuals and that each step contains a central problem that must be dealt with before the next step can be completed on the developmental continuum (Kantor & Winder, 1961). The process, or typical schizophrenia, is thought to be a disorder of gradual onset in which prodromal signs of the illness are present early in life. There is poor premorbid social, sexual, and economic adjustment. There are relative absences of precipitating factors, also a failure to interact well with peers, withdrawal and other aspects of regression are evident. When an acute break occurs, the patient tends to progressively deteriorate and prognosis is poor. The Reactive Schizophrenic shows a relative lack of prodromal symptoms and there are adequate social, sexual, and economic adjustments prior to the onset of the illness. The prognosis for the reactive is relatively good (Becker, 1956; Chapman & Baxter, 1961; Garmezy & Rodnick, 1959; Sugerman, Reilly, & Albahary, 1965; Zimet & Fine, 1959).
Zigler and Phillips (1961; 1962) have asserted that the process-reactive distinction can be reduced to a dimension of social maturity and that this dimension is applicable to all forms of psychopathology rather than to schizophrenia alone. Their measure of social maturity is defined in terms of age, intelligence, education, occupation, employment history, and marital history.

Their research with schizophrenics indicated that social maturity is a more significant variable in determining outcome in a psychiatric disorder than the treatment received. They also found that patients in the low social maturity group had both a greater length of institutionalization and a greater likelihood of rehospitalization than patients in the high social maturity group (Zigler & Phillips, 1961; 1962).

Zigler and Phillips' method of viewing schizophrenia is similar to Knight's classification of Reactive-Essential Alcoholism. In an intensive psychoanalytic study of 30 patients, Knight separated alcoholics into reactive and essential categories in the following manner: essentials drink no matter what the environmental influences; the reactive drinks heavily because of environmental influences (Knight, 1937).
Knight applied the term essential to patients for whom there was little evidence of psychosexual development past the oral stage. These patients had never been able to support themselves, usually began drinking in their late teens and generally were found to have poor prognoses (Knight, 1937).

He defined reactive alcoholism as a type in which there was evidence of further psychosexual development past the oral stage and in which the patient is more responsible between drinking bouts. In addition, reactive alcoholics generally had more education and tended to be more self-supporting than the essential type. The prognosis was also better for the reactive than the essential group (Knight, 1937).

Knight's system for viewing alcoholism is supported by later research by Jellinek (1952; 1960) which was elaborated on by Fox (1957) and Madsen (1977). The system created by Jellinek uses a classification of the degree of addiction to alcohol as evidenced by craving and loss of control (Jellinek, 1960). Two of the types, the Alpha and the Gamma, were considered the common American subtypes. Alpha alcoholism was defined as a psychological continual dependence on alcohol to relieve bodily or emotional pain (Jellinek, 1960). Gamma alcoholism was defined as the
species of alcoholism with the following conditions: (1) acquired tissue tolerance; (2) adaptive cell metabolism; and (3) withdrawal symptoms and loss of control. There is a definite progression from psychological to physical dependence in Gamma alcoholism (Jellinek, 1960). Loss of control was conceptualized as the inability to abstain from drinking, while the other symptoms were conceptualized as indicators of physiological dependence on alcohol.

Jellinek recognized that a progression may take place from Alpha to Gamma Alcoholism, but considered them as discrete types because this progression does not occur in all cases. Jellinek's research indicated that Gamma alcoholism was the dominant type of alcoholism in Alcoholics Anonymous (A.A.). He estimated the number of Alpha alcoholics in A.A. to be 10-15% and noted that they conformed to the group norms of Alcoholics Anonymous as a whole (Jellinek, 1960).

Madsen (1977) recognized that in both Alpha and Gamma alcoholism the individual has sought a chemical means to reduce the stress and anxiety of his condition and defined alcoholism as a stress disease. A number of other researchers have identified stress as a factor in alcoholism including Catanzaro (1967), Edwards (1966), and Landis and Boles (1950). Edwards recognized that the overdrinker responding to environmental stress has a better chance of recovery than the alcoholic who drinks to ease
internally generated malaise, while Landis and Boles recognized that some alcoholics are neurotic, some psychotic and some show no characteristic behavior different from normal behavior other than alcoholism.

A typology by Fox (1957) appears useful in examining a proposed linkage between type of alcoholism and other addictive behaviors. Fox subdivides the Gamma type into Primary and Secondary subspecies. The Primary subspecies is characterized by emotional swings, poor premorbid social and sexual functioning, and early age of onset of alcoholism which is almost always recognizable after five years of drinking. The Secondary subspecies is characterized by slipping into pathological drinking through some kind of habituation process. The Secondary may go through a period of 15 to 50 years of social drinking before the onset of the disease. The onset of Secondary Alcoholism is generally so slow that the drinker suffers no great trauma from its appearance (Madsen, 1977). Jellinek (1960) supported Fox's modification when he observed that some drinkers reported that their psychological and physiological reactions to alcohol were usual from the first. The distinction between early and late appearing alcoholism has been made by others, including Tintera and Lovell (1949) and Knight (1937).
Madsen (1977) indicated that genetics are a major factor in primary alcoholism and indicated that the primary inherits a predisposition to breakdowns in the nervous and metabolic systems and not alcoholism itself (Madsen, 1977). Madsen also identified the primary as appearing to go through biological cycles where an organic imbalance creates elations and depressions which cannot be explained by the current psychosocial situation (Madsen, 1977). Knight's classification system, according to Madsen, would include the Gamma secondary and the Alpha categories in the reactive category, while the Gamma primary subspecies would correspond to the essential category.

The resemblance of process schizophrenia and essential alcoholism can be established. Both show a failure of development early in life. Due to this persistent inadequacy of personality, the drift to overt illness is insidious with no precipitating events noted. In both disorders, a lack of social competence is evident in the late teens and this prevents the individual from playing a self-supporting role in the community.

Reactive schizophrenia and reactive alcoholism are similar in that personality, for both syndromes, may be normal or nearly so, with no evidence of overt abnormality until some precipitating stressor occurs. In both, acceptable levels of social competence are seen. The
individuals are older at the time of onset. They are better educated, hold jobs for longer periods of time and are more frequently married.

Rudie and McGaughran (1961) developed an instrument to distinguish between the two types of alcoholism. This questionnaire was based largely on Knight's descriptions of the two types and contains 55 scorable items and 14 filler items in eight areas: (1) economic dependence; (2) emotional dependency; (3) application to reality tasks; (4) relationship to friends; (5) character traits; (6) gastrointestinal symptoms; (7) multiform oral gratifications; and (8) willingness to imbibe anything with the desired pharmacological effect. They found that reactive alcoholics, when compared with essential alcoholics, showed a higher degree of defensiveness with a greater reliance on intellectualization. The reactive alcoholics also scored higher on overall achievement, educational accomplishments and occupational accomplishments, when compared to essential alcoholics.

Although Rudie and McGraughran were not examining social competence, their results suggested that type of alcoholism may be determined by variables similar to those constituting Zigler and Phillips' social competence scale (Sugerman, Reilly, & Albahary, 1965). Sugarman, Reilly and Albahary (1965) later used this scale to examine social
competence and found that the Rudie-McGraughran scale predicts social competence with the essential alcoholics showing less social competence than the reactive alcoholics. The Rudie-McGraughran Scale served to further strengthen Knight's typology; but the instrument itself had a number of flaws. One major flaw was its lack of standardization. A later scale developed by MacAndrew overcame this lack of standardization. This scale is currently included on the Minnesota Multiphasic Personality Inventory, as one of the research scales. The MacAndrew Addiction Scale is a 49-item scale that has been cross validated many times and with many different populations (Burke & Marcus, 1977; DeGrott & Adamson, 1973; Rhodes, 1969). In a known alcoholic population, MacAndrew indicates that those who score less than a 24 on the scale are Reactive Alcoholics, while those who score 24 or above are Primary Alcoholics. His research indicated that 15% of a known alcoholic population will score below 24 on the scale. It is interesting to note that this percentage corresponds to Jellinek's estimate of Alpha Alcoholics in Alcoholics Anonymous.

MacAndrew indicated that the Scale can be administered as a subscale on the Minnesota Multiphasic Personality Inventory or it can be given as a separate test, with no
significant differences in the score (MacAndrew, 1981; Duckworth, 1983).

The Scale is a stable measurement and scores do not change, even after successful treatment of alcoholism (Duckworth, 1983; Huber & Danahy, 1975; Rohan, 1972; Layon, Primo, Terrel & Weiner, 1972). MacAndrew (1981) that the scores are not related to age or sex and that they appear to measure a fundamental character dimension.

In the treatment of alcoholism in Alcoholics Anonymous, relapse is a common occurrence and often takes the form of addiction to a different substance. This is such a common occurrence that treatment centers for alcoholism are increasingly teaching clients the concept of cross addiction. Within A.A., abstinence from all mood altering drugs is encouraged (Anonymous, 1975).

The group norms of Alcoholics Anonymous encourage abstinence from all mood altering drugs although the use of two drugs seem to be accepted, these being caffeine and nicotine in the form of caffeinated beverages and cigarettes, respectively. The Diagnostic and Statistical Manual of Mental Disorders (1980) classifies both of these as substances that produce dependence or organic disorders.
Madsen (1977) makes the observation that essential alcoholics are more likely to be high level caffeine and nicotine consumers than reactive alcoholics. He makes this observation informally based on his own participation at open A.A. meetings. The purpose of the present research was to examine the relationship between type of alcoholism and the tendency to engage in accepted addictive behaviors. It was proposed that positive relationships exist among scores on the MacAndrews Scale and the number of cigarettes smoked and the amount of caffeine consumed. The conceptual hypotheses studied were: (1) Essential alcoholics are more likely to be high frequency cigarette smokers than reactive alcoholics; (2) Essential alcoholics are more likely to be high frequency caffeine consumers than reactive alcoholics. The experimental hypotheses were: (1) Members of Alcoholics Anonymous who score 24 or more on the MacAndrews Scale are more likely to smoke 25 or more cigarettes a day than alcoholics who score less than 24 on the MacAndrews Scale; (2) Alcoholics Anonymous members who score 24 or more on the MacAndrews Scale are more likely to drink 64 or more ounces of caffeinated beverages a day than alcoholics who score low on the MacAndrews Scale.
METHOD

Subjects

The population under study, Alcoholics Anonymous (A.A.) members in Florida's Orange and Seminole counties, was sampled by using a current monthly list of A.A. meetings in the Orlando metropolitan area, which was distributed by the Intergroup Office of Alcoholics Anonymous. The actual members who attended the meetings remained anonymous. The meetings, rather than individuals, were randomly sampled in the following manner: each meeting was assigned a number and then a table of random numbers was employed to pick the actual meetings from which individual subjects were sampled. The sample size was 155 alcoholics from 34 separate meetings in Orange and Seminole counties. The subjects consisted of 87 males and 68 females. Of these 155 respondents, 138 were while, 5 were black, 2 were Spanish, 1 was American Indian and 9 considered themselves to belong in the category labeled other. In terms of religious preference, 86 of the respondents belonged to an identified religious denomination, while 69 of the respondents belonged to no religious organization or considered themselves to belong in the category labeled other. Educationally, 12 of the respondents completed their education at the junior high
school level, 48 at the high school level, 53 completed 1-2 years of college and 42 completed 3 or more years of college.

Operational definitions of variables under study were as follows:

Caffeine consumption: The average amount of caffeine consumed in a 24-hour period. For the purpose of this study, an 8 oz. cup of coffee or tea and a 12 oz. caffeinated soft drink were considered as equal. Questions were: (1) "How many 8 ounce cups of caffeinated tea or coffee do you drink in an average 24-hour period," and (2) "How many 12 ounce caffeinated soft drinks do you drink in a 24-hour period?" Addition of these answers was used to assign them to a level. High frequency caffeine consumption was 64 ounces or more of caffeinated beverages a day. Low frequency level caffeine consumption is less than 64 ounces of caffeinated beverages a day. These level descriptions were from research by Hock and Zeuben (1958).

Cigarette smoking: The number of cigarettes smoked in an average 24-hour period. Levels were: (1) non-smoker, 0 cigarettes a day; (2) Low frequency smoker, 1 to 15 cigarettes a day; (3) Medium frequency smoker, 16 to 24 cigarettes a day; and (4) High frequency smoker, 25 or more cigarettes a day. Levels were measured by the questionnaire item: "How many cigarettes do you smoke in a
24-hour period?" The possible responses were consistent with the levels cited above.

Sex: The biological gender of the respondent. The questionnaire item, "What is your gender?" had two choices, male and female.

Ethnic Group: The ethnic or racial group to which the respondent believed he belonged. The levels were White, Black, Spanish, Asian-American, American Indian, Other and were measured by the questionnaire item: "What do you consider to be your main racial/ethnic group?"

Alcoholism: Subjects were considered alcoholic by virtue of membership in Alcoholics Anonymous. The questionnaire item, "Are you a member of Alcoholics Anonymous?" was answered yes or no.

Educational Level: The highest level of formal schooling a respondent had achieved, measured by the questionnaire item: "What is the highest grade of education you have completed?" Levels were Grammar School (6 years), Junior High (7th to 9th), Senior High (10th to 12th), college (1-2 yrs) and (3-4 yrs), and more than four years of college.

Type of Alcoholism: The type of alcoholism was determined by the respondent's score on the MacAndrew Scale. The scale consists of 49 scorable items. The items were scored either one or zero, depending on whether a
symptom was present or not. Alcoholics who scored less than 24 on the scale were considered Reactive Alcoholics, while those scoring 24 or above were considered Essential Alcoholics.

Procedure

The experimenter attended the meetings chosen at random sampling and introduced himself to the group in the following manner: "My name is John, and I am an Alcoholic. I am also a Psychology graduate student at the University of Central Florida. I am doing a research project to examine the relationship between Alcoholism and nicotine and caffeine consumption. This research is sponsored by the Psychology Department at U.C.F., under the supervision of Burton Blau, Ph.D. I would appreciate volunteers to complete the anonymous questionnaires to help me in this research. I will make the results of this research available to all who take part in it." An informed consent (Appendix A) was attached to the questionnaire and was signed prior to the subjects' participation in the study. The experimenter then distributed the packet to all interested members at each group. This procedure was followed for each group in this study.
RESULTS

This research was a correlational design. The demographic data collected on the subjects are presented in Table 1. The research hypotheses were tested using the Pearson Product Moment correlation coefficient and all correlations are presented in Table 2.

The sample of Alcoholics Anonymous (A.A.) members consisted of 155 respondents, 56.1% (87) of whom were male and 43.9% (68) of whom were female. Of the 155 respondents, 89% (138) were white, 3.2% (5) were black, 1.3% (2) were Hispanic, .6% (1) were American Indian, and 5.8% (9) considered themselves to belong in the category labeled other.

Educationally, 7.7% (12) completed their education at the junior high school level (7-9 yrs.), 31% (48) completed their education at the high school level (10-12 yrs.), 34.2% (53) completed 1-2 yrs. of college, 16.8% (26) completed 3-4 yrs. of college and 10.3% (16) completed 5-8 yrs. of college.

In terms of religious preference, 28.4% (44) were Catholic, 20% (31) were Protestant, 3.9% (6) were Jewish, .6% (1) Mormon, 2.6% (4) were Unitarian, 21.9% (34) professed no religious faith and 22.6% (35) considered themselves to belong in the category labeled other.
## TABLE 1

**Population Demographics**

<table>
<thead>
<tr>
<th>Gender</th>
<th>N</th>
<th>%</th>
<th>A.A. Membership</th>
<th>N</th>
<th>%</th>
</tr>
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<tbody>
<tr>
<td>Male</td>
<td>87</td>
<td>56.1</td>
<td>Yes</td>
<td>155</td>
<td>100</td>
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<tr>
<td>Female</td>
<td>68</td>
<td>43.9</td>
<td>No</td>
<td>0</td>
<td>0</td>
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</table>

<table>
<thead>
<tr>
<th>Education</th>
<th>N</th>
<th>%</th>
<th>Religion</th>
<th>N</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>7-9 yrs.</td>
<td>12</td>
<td>7.7</td>
<td>Catholic</td>
<td>44</td>
<td>28.4</td>
</tr>
<tr>
<td>10-12 yrs.</td>
<td>48</td>
<td>31.0</td>
<td>Protestant</td>
<td>31</td>
<td>20.0</td>
</tr>
<tr>
<td>1-2 yrs. coll.</td>
<td>53</td>
<td>34.2</td>
<td>Jewish</td>
<td>6</td>
<td>3.9</td>
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<tr>
<td>3-4 yrs. coll.</td>
<td>26</td>
<td>16.8</td>
<td>Mormon</td>
<td>1</td>
<td>.6</td>
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<tr>
<td>5-8 yrs. coll.</td>
<td>16</td>
<td>10.3</td>
<td>None</td>
<td>34</td>
<td>21.9</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Unitarian</td>
<td>4</td>
<td>2.6</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Other</td>
<td>35</td>
<td>22.6</td>
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<table>
<thead>
<tr>
<th>Sobriety</th>
<th>N</th>
<th>%</th>
<th>Cigarette Use</th>
<th>N</th>
<th>%</th>
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<tr>
<td>less than 3</td>
<td></td>
<td></td>
<td>Nonsmoker</td>
<td>29</td>
<td>18.7</td>
</tr>
<tr>
<td>months</td>
<td>13</td>
<td>8.4</td>
<td>1-15 cigarettes</td>
<td>16</td>
<td>10.3</td>
</tr>
<tr>
<td>3-5 months</td>
<td>13</td>
<td>8.4</td>
<td>16-24 cigarettes</td>
<td>46</td>
<td>29.7</td>
</tr>
<tr>
<td>6-8 months</td>
<td>17</td>
<td>11.0</td>
<td>25 or more</td>
<td>64</td>
<td>41.3</td>
</tr>
<tr>
<td>9-11 months</td>
<td>14</td>
<td>9.0</td>
<td></td>
<td></td>
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<tr>
<td>1-2 yrs.</td>
<td>41</td>
<td>26.5</td>
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<tr>
<td>3-4 yrs.</td>
<td>22</td>
<td>14.2</td>
<td></td>
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</tr>
<tr>
<td>5-6 yrs.</td>
<td>11</td>
<td>7.1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7 or more yrs.</td>
<td>24</td>
<td>15.5</td>
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<table>
<thead>
<tr>
<th>Caffeine use</th>
<th>N</th>
<th>%</th>
<th>Alcoholism Type</th>
<th>N</th>
<th>%</th>
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<tr>
<td>64 or less</td>
<td></td>
<td></td>
<td>Reactive</td>
<td>41</td>
<td>26.5</td>
</tr>
<tr>
<td>ounces</td>
<td>117</td>
<td>75.5</td>
<td>Essential</td>
<td>114</td>
<td>75.5</td>
</tr>
<tr>
<td>More than 64</td>
<td>38</td>
<td>24.5</td>
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TABLE 2
Correlational Matrix

<table>
<thead>
<tr>
<th></th>
<th>Educational Level</th>
<th>Religion</th>
<th>Caffeine Use</th>
<th>Cigarette Use</th>
<th>Type of Alcoholism</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gender</td>
<td>.0102</td>
<td>.0565</td>
<td>.2965**</td>
<td>.1924*</td>
<td>.0195</td>
</tr>
<tr>
<td>Educational Level</td>
<td>.0731</td>
<td>.0108</td>
<td>.1679</td>
<td>-.3244**</td>
<td></td>
</tr>
<tr>
<td>Religion</td>
<td></td>
<td>.0945</td>
<td>.0148</td>
<td>.0089</td>
<td></td>
</tr>
<tr>
<td>Caffeine Use</td>
<td></td>
<td></td>
<td>.2028*</td>
<td>.0237</td>
<td></td>
</tr>
<tr>
<td>Cigarette Use</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

* p < .01
** p < .001

* Raw Score on MacAndrews Alcoholism Scale
The length of sobriety ranged from 1 month to more than 7 yrs. with 8.4% (13) having less than 3 months of sobriety, 8.4% (13) had 3-5 months, 11% (17) had 5-8 months, 9% (14) and 9-11 months, 26.5% (41) had 1-2 yrs. of sobriety, 14.2% (22) had 3-4 yrs. of sobriety, 7.1% (11) had 5-6 yrs. of sobriety and 15.5% (24) had 7 or more yrs. of sobriety.

Of the 155 respondents, 18.7% (29) were non-smokers, 10.3% (16) smoked from 1 to 15 cigarettes a day, 29.7% (46) smoked from 16 to 24 cigarettes a day and 41.3% (64) smoked 25 or more cigarettes a day. This condensed into 58.7% (91) who were low frequency smokers and 41.3% (64) who were high frequency smokers. In terms of caffeine consumption, 75.5% (117) consumed less than 64 ounces of caffeinated beverages a day and 24.5% (38) consumed 64 or more ounces of caffeinated beverages a day. When type of alcoholism was examined, 26.5% (41) were found to be Reactive Alcoholics by scoring 23 or less on the MacAndrew scale and 73.5% (114) were found to be Essential alcoholics, scoring 24 or more on the MacAndrew Scale.

A correlational matrix revealed the following correlations: Gender correlated with caffeine consumption (.2965 p < .001) and with cigarette consumption (.1924 p < .01). Education correlated with score on the MacAndrew scale (-.3244 p < .001) and cigarette smoking correlated
with caffeine consumption (.2028 p < .01). No significant correlations were found between type of alcoholism and caffeine consumption (.0237) and type of alcoholism and cigarette consumption (.1213).
DISCUSSION

The experimental hypotheses were: (1) Members of Alcoholics Anonymous who score 24 or more on the MacAndrews Scale are more likely to smoke 25 or more cigarettes a day than alcoholics who score less than 24 on the MacAndrews scale; and (2) Alcoholics Anonymous members who score 24 or more on the MacAndrews scale. These hypotheses are more likely to drink 64 or more ounces of caffeinated beverages a day than alcoholics who score less than 24 on the MacAndrews scale were not supported by the results of the Pearson Product-Moment Correlation coefficients.

Madsen's informal observation that essential alcoholics are more likely to be high level cigarette and caffeine consumers is not supported by the data. The results of this investigation demonstrated no significant correlations between type of alcoholism and caffeine consumption and type of alcoholism and cigarette consumption. There are a number of possible explanations for the lack of these expected correlations. The reasons fall into two categories, one being methodological, the second being theoretical.

There were a number of methodological problems with the present research design. A major problem was the design of the questionnaire. Due to the lack of interval
and ratio scales of measurement, higher level statistical analyses, such as multiple regression analysis, could not be performed. This limited the research to correlational measures which did not accurately measure the interrelationships among the variables.

A second methodological problem had to do with the calibration of the MacAndrew scale. MacAndrew (1981) estimated the number of Reactive Alcoholics in Alcoholics Anonymous to be 15%. In the present study, 26.5% of the subjects were found to be Reactive Alcoholics. This difference of 11.5% indicates that the scale calibrations may be somewhat different than when MacAndrew originally developed the scale in 1965. This difference could influence the results by negating any significant correlations. Also, female alcoholics have been infrequently studied using the MacAndrew scale. This lack of research on female alcoholics points to the possibility that the characteristics of the 68 females who scored high on the MacAndrew scale may have been very different than those of the 87 males who scored high on the scale. This gender difference may obscure any significant correlations in the present study. In order to examine whether this gender difference may have affected the outcome of this study, t-tests were computed to examine the effects of gender differences on cigarette and caffeine consumption.
No significant differences were found for the effect of gender on the research variables. The results of the t-tests indicated that gender differences were not a major factor in the failure of the present research to support the research hypotheses.

Another possible explanation for the lack of findings has to do with demographic changes in Alcoholics Anonymous itself and in the population of clients that are found in treatment centers. At the time of Knight's original research, Alcoholics Anonymous was comprised of mostly male alcoholics who were usually in the chronic stage of the disease. Treatment centers were where much of the research on alcoholism were done and these again were frequently inhabited by chronic, male alcoholics. It was not until 1954, when the American Medical Association recognized alcoholism as a disease, that changes in this demographic trend began to occur and these changes slowly have been occurring since that time. Today treatment centers and Alcoholics Anonymous itself are becoming more heterogeneous in their population characteristics. It is very possible that the MacAndrew scale distinction between reactive and essential alcoholism is applicable to male alcoholics who are in the chronic stage of the disease but does not apply to the large majority of alcoholics who are in the beginning and middle phases of the illness. It is also
noted that the distinctions made by Madsen were based on mostly male alcoholics during the 1950's and 1960's. It is entirely possible that these were again mostly alcoholics in the chronic stages of the illness. Clearly the chronicity of the illness and the changes in the population demographics of the population under study must be taken into account as possible causes for the lack of significant findings in the present study.

It is evident that there are a number of theoretical and methodological considerations that were realized from this study. It is believed that to more accurately examine the hypotheses that were explored in this study that the above cited methodological and theoretical issues need to be addressed and further research conducted.
APPENDIX A

CONSENT FOR PARTICIPATION IN PSYCHOLOGICAL RESEARCH
Consent For Participation In Psychological Research

You are being asked to participate in a research project conducted by clinical psychology graduate student, John Crawley, at the University of Central Florida, under the supervision of Dr. Burton Blau. This investigation is designed to explore the relationship between alcoholism and caffeine and nicotine consumption.

All who participate will be asked to complete a questionnaire which will require approximately 20 minutes of time. The questionnaire is designed to assess how type of alcoholism relates to caffeine and nicotine consumption.

No individual will be personally identified in this project. Please do not write your name on the questionnaire. The consent forms will be maintained separately from the questionnaires. All information will be confidential and only the experimenter and three faculty members at the University of Central Florida will have access to the data.

Following your participation, the experimenter will provide a more complete description of the research. In addition, a copy of this research project will be available for your inspection at the University of Central Florida library under the author's name.

You can terminate your participation in this study at any time and will suffer no negative consequences if you choose to do so.

________________________________________  _______________________________________
Signature                                      Date
APPENDIX B

MacANDREW ADDICTION SCALE
MacAndrew Addition Scale

This inventory is designed to assess type of alcoholism. Please read each statement carefully and decide if it is true as applied to you or false as applied to you. Please circle the T if the statement is true or mostly true as applied to you. If a statement is false or not usually true, please circle the F. Please respond to every statement. Begin now with statement 1.

1. T F I like to read newspaper articles on crime.
2. T F Evil spirits possess me at times.
3. T F I have a cough most of the time.
4. T F My soul sometimes leaves my body.
5. T F As a youngster I was suspended from school one or more times for cutting up.
6. T F I am a good mixer.
7. T F Everything is turning out just like the prophets of the bible said it would.
8. T F I have lived the right kind of life.
9. T F I think I would like the kind of work a forest ranger does.
10. T F I do many things which I regret afterwards (regret things more or more often than others do).
11. T F I enjoy a race or game better when I bet on it.
12. T F In school I was sometimes sent to the principal for cutting up.
13. T F I know who is responsible for most of my troubles.
14. T F The sight of blood neither frightens me nor makes me sick.
15. T F I like to cook.
16. T F I have had periods in which I carried on activities without knowing later what I had been doing.
17. T F I frequently notice that my hand shakes when I try to do something.
18. T F My parents often objected to the kind of people I went around with.
19. T F I have been quite independent and free from family rule.
20. T F I have few or no pains.
21. T F I have had blank spells in which my activities were interrupted and I did not know what was going on around me.
<table>
<thead>
<tr>
<th></th>
<th></th>
<th>Statement</th>
<th></th>
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<tbody>
<tr>
<td>22.</td>
<td>T</td>
<td>I sweat very easily even on cool days.</td>
<td></td>
</tr>
<tr>
<td>23.</td>
<td>T</td>
<td>If I were a reporter I would very much like to report sporting news.</td>
<td></td>
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<tr>
<td>24.</td>
<td>T</td>
<td>I seem to make friends about as quickly as others do.</td>
<td></td>
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<tr>
<td>25.</td>
<td>T</td>
<td>I enjoy gambling for small stakes.</td>
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<tr>
<td>26.</td>
<td>T</td>
<td>While in trains, busses, etc., I often talk to strangers.</td>
<td></td>
</tr>
<tr>
<td>27.</td>
<td>T</td>
<td>I deserve punishment for my sins.</td>
<td></td>
</tr>
<tr>
<td>28.</td>
<td>T</td>
<td>I played hockey from school often as a youngster.</td>
<td></td>
</tr>
<tr>
<td>29.</td>
<td>T</td>
<td>I have at times had to be rough with people who were rude or annoying.</td>
<td></td>
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<tr>
<td>30.</td>
<td>T</td>
<td>I was fond of excitement when I was young (or in childhood).</td>
<td></td>
</tr>
<tr>
<td>31.</td>
<td>T</td>
<td>If I were in trouble with several friends who were equally to blame, I</td>
<td></td>
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<tr>
<td></td>
<td></td>
<td>would rather take the whole blame than to give them away.</td>
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<tr>
<td>32.</td>
<td>T</td>
<td>Christ performed miracles such as changing water into wine.</td>
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</tr>
<tr>
<td>33.</td>
<td>T</td>
<td>I pray several times each week.</td>
<td></td>
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<tr>
<td>34.</td>
<td>T</td>
<td>I readily become 100 per cent sold on a good idea.</td>
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<tr>
<td>35.</td>
<td>T</td>
<td>I have frequently worked with people who seem to have things arranged</td>
<td></td>
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<tr>
<td></td>
<td></td>
<td>so they get credit for good work but are able to pass off mistakes</td>
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<td></td>
<td></td>
<td>onto those under them.</td>
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<tr>
<td>36.</td>
<td>T</td>
<td>I would like to wear expensive clothes.</td>
<td></td>
</tr>
<tr>
<td>37.</td>
<td>T</td>
<td>The one to whom I was most attached and whom I most admired as a child</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>was a woman.</td>
<td></td>
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<tr>
<td>38.</td>
<td>T</td>
<td>I am certainly lacking in self-confidence.</td>
<td></td>
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<tr>
<td>39.</td>
<td>T</td>
<td>My table manners are not quite as good at home as when I am out in</td>
<td></td>
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<tr>
<td></td>
<td></td>
<td>company.</td>
<td></td>
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<tr>
<td>40.</td>
<td>T</td>
<td>I have vomited blood or coughed up blood.</td>
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<td>41.</td>
<td>T</td>
<td>I used to keep a diary.</td>
<td></td>
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<tr>
<td>42.</td>
<td>T</td>
<td>I like school.</td>
<td></td>
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<td>43.</td>
<td>T</td>
<td>I am worried about sex matters.</td>
<td></td>
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<tr>
<td>44.</td>
<td>T</td>
<td>I have often felt that strangers were looking at me critically.</td>
<td></td>
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<tr>
<td>45.</td>
<td>T</td>
<td>I have never been in trouble with the law.</td>
<td></td>
</tr>
<tr>
<td>46.</td>
<td>T</td>
<td>Many of my dreams are about sex matters.</td>
<td></td>
</tr>
<tr>
<td>47.</td>
<td>T</td>
<td>I cannot keep my mind on one thing.</td>
<td></td>
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</table>
48. T  F  I have more trouble concentrating than others seem to have.
49. T  F  I do not like to see women smoke.

The following questions are designed to gain information on a number of demographic variables and also information on cigarette and caffeine consumption. Please read each item carefully and then circle the letter that corresponds to the answer that best describes your response.

1. What is your gender?
   A. Male  B. Female

2. What do you consider to be your main racial/ethnic group?
   A. White  D. Asian-American
   B. Black  E. American Indian
   C. Spanish  F. Other

3. Are you a member of Alcoholics Anonymous?
   A. Yes  B. No

4. How long have you been a member of Alcoholics Anonymous?
   A. less than 3 months  E. 1 to 2 years
   B. 3 to 5 months  F. 3 to 4 years
   C. 6 to 8 months  G. 5 to 6 years
   D. 9 to 11 months  H. 7 or more yrs.

5. What is the highest level of education that you have completed?
   A. Grammar school (6 yrs.)  D. College (1-2 yrs.)
   B. Junior High School  E. College (3-4 yrs.)
   (7-9 yrs.)  F. College (5-8 yrs.)
   C. Senior High School  G. Other
   (10-12 yrs.)

6. To which religious denomination do you consider yourself to belong?
   A. Catholic  E. Unitarian
   B. Protestant  F. None
   C. Jewish  G. Other
   D. Mormon
7. How many 8 ounce cups of caffeinated tea or coffee do you drink in an average 24-hour period?
   A. 0  
   B. 1  
   C. 2  
   D. 3  
   E. 4  
   F. 5  
   G. 6  
   H. 7  
   I. 8 or more

8. How many 12 ounce caffeinated soft drinks do you drink in a 24-hour period?
   A. 0  
   B. 1  
   C. 2  
   D. 3  
   E. 4  
   F. 5  
   G. 6 or more

9. How many cigarettes do you smoke in a 24-hour period?
   A. 0  
   B. 1 to 15  
   C. 16 to 24  
   D. 25 or more
REFERENCES


