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## **A Comparative Study of the Experiential Characteristics of a Group of Alcoholic and Non-Alcoholic Subjects**

Hugh C. Davis Jr.  
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Dr. G.R. Pascal, Major Professor

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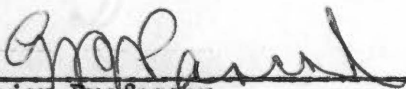
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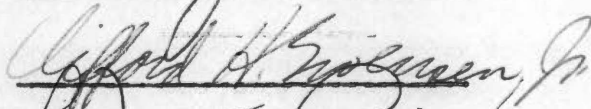
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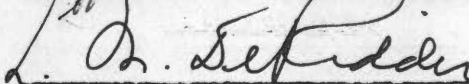
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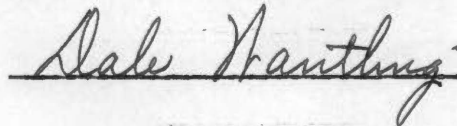
  
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We have read this thesis and  
recommend its acceptance:


  
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Accepted for the Council:

  
Dean of the Graduate School

A COMPARATIVE STUDY OF THE EXPERIMENTAL CHARACTERISTICS OF A  
GROUP OF ALCOHOLIC AND NON-ALCOHOLIC SUBJECTS

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A THESIS

Submitted to  
The Graduate Council  
of  
The University of Tennessee  
in  
Partial Fulfillment of the Requirements  
for the degree of  
Doctor of Philosophy

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by

Hugh C. Davis, Jr.

June, 1959



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Hugh C. Davis, Jr.

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## CHAPTER I

### INTRODUCTION

Alcoholism is studied and discussed from numerous frames of reference, ranging from the legal to the chemical. Even the definition of alcoholism is not firmly established (2). The literature is replete with studies (1) of a chemical, therapeutic, or social nature. At the present stage of knowledge one is at a loss to explain why, of two given persons, one can drink temperately throughout his life and the other becomes a chronic, addictive alcoholic. Lacking is the systematic knowledge necessary to consistently disrupt alcoholic process. Clinics, hospitals, churches, and AA all obtain "cures" with alcoholics but all are unable to explain why one person responds to their treatment and another does not. Obviously lacking are a sufficient body of facts and principles relating to alcoholism that have predictive value. If these were present, better understanding of the etiology of alcoholism would be known. Bacon (2) is led to conclude that:

Although much of the work on alcoholism during the past seventy-five years has been of distinct value, the value is in large part to be described in rather negative terms, e.g.,—the diseases of alcoholism, rather than being caused directly by alcohol, are nutritional deficiency diseases; alcoholism as such is not inheritable; alcohol is not a stimulant but a depressant.

Who or what is an alcoholic is not agreed upon. Definitions range from psychoanalytical (3), sociological (4), and behavioral (5) to chemical (6). On this point of definition Blackburn (3) giving a chairman's report for an alcohol research committee notes ". . . that failure to define groups and numerous definitions of alcoholism make for confusing

literature on the subject."

Aware of the lack of agreement and confusion in the field of alcoholism, a research project on alcoholism was begun by Dr. G. R. Pascal of the University of Tennessee Psychological Service Center, using grants made available by the Tennessee Alcohol Commission. This project to date has been in progress for two years and has engaged in making an extensive behavioral investigation of alcoholism. Problems of definition, identification of independent variables, covariate behavior, test performance and alcoholic types have all been studied and reported (24).

This particular study resulted from the author's having worked with the Tennessee Research program. The author felt that a comparative behavioral investigation of a small number of skid-row alcoholics and non-alcoholics would (1) facilitate a better understanding of what kinds of behavior covary with alcoholism, and (2) generate hypotheses about the nature of alcoholism, and (3) utilize methodological procedures suited to the study and analysis of gross human behavior.

#### Statement of the Problem

The problem in this investigation is a behavioral comparison of a group of alcoholics and non-alcoholics. The primary purpose of these comparisons is to generate hypotheses about covariate factors related to alcoholism and secondly to gain understanding about the etiology of the alcoholic process. Three steps were involved in carrying out these purposes: (1) defining alcoholism behaviorally, (2) ascertaining current

functioning of the subjects, (3) ascertaining early learning experiences. Alcoholism is the dependent variable--criterion--of this investigation. A quantifiable behavioral drinking scale developed by Jenkins and Davis (15) yielded scores which defined the criterion. The U-T Deprivation Scale was used to assess aspects of the subjects' current functioning, thus permitting identification of gross behaviors covarying with the criterion. The Pascal-Jenkins Behavioral Scales were employed to determine if differential early experiences could account for the formation of alcoholism by operating as independent variables. Lothrop (18) has done a study comparable to the present one. He investigated the behavioral characteristics of intractable duodenal ulcer cases. As with the present study, he made behavioral comparisons of ulcer cases and controls, identifying covariate behavior with the dependent variable (ulcer) and other behaviors (exercise, employment, etc.) which he judged to be independent variables rendering the ulcer intractable to cure. His design is essentially that of the present one, barring modification of certain procedures.

## CHAPTER II

### REVIEW OF THE LITERATURE

In this review of the literature most attention will be given to those works thought to have a bearing on the present study. Only passing comment is made to the conclusions reached by investigations of chemical, genetic, physiological and cultural factors, not because the findings lack merit but rather they lack any direct relationship with the present study.

In a general review of the research on alcoholism, Bacon (2) has commented that the value of the work must be stated in essentially negative terms, that is, we know what it is not. Blackburn (3) indicates in his comments some possible explanations for Bacon's comments. He (Blackburn) states: "We are disturbed by the fact that the literature on alcoholism is sometimes confusing because groups of people studied are often not sufficiently carefully defined . . . and the literature is confusing because of so many different definitions of alcoholism." Pascal (24) directing an alcohol research project expresses the need, not for a specific approach, but rather for adherence to scientific methodology, regardless of the level of investigation. This approach involves, he notes, the specifications of a dependent variable (alcoholism) and the identification and/or manipulation of independent variables covarying with the dependent variable. This procedure involves control measures.

The commonest approach to definition (at the human level) is that of labeling an individual alcoholic when he is in a hospital, jail,



or other institution because either he, his family, or society has placed him there for using alcoholic beverages. An additional step to this definition is often that of a psychiatric diagnosis of addiction, alcoholism, made by psychiatrists, psychologists, and others. Bacon (2) in discussing the definitional problem and attempting to delimit and specify, comments: "Interestingly the most generally accepted definition of alcoholism is a sociological one." He describes the definition in the following manner:

. . . it is based upon the concept of increasing and persistent deviation from the behavioral norm of a given socio-cultural milieu by one of the members of that milieu. The norm refers to drinking behaviors; the deviation, along with other characteristics, is in the direction of more frequent and heavier consumption. To this basic concept is added the psychological concept of the growing loss of rational individual control over the intake of alcohol following the initial drink . . . .

This definition has been issued by the World Health Organization (8) which states that it (definition) has been developed on a socio-individual behavior level, "irrespective of the etiological factors leading to such behavior." Jenkins and Davis (15 and Appendix A) developed a behavioral definition of alcoholism, which in certain respects implements concepts inherent in the WHO definition. They specified a priority a number of behavioral variables as amount, rate, frequency, and others, and tested these out repeatedly on a group of "skid-row" alcoholics and controls. They established by this method a quantitative eight point forced-choice drinking scale with lower limits. They note that the scale has cross-cultural generality as it focuses directly on drinking behaviors. Their work seemingly is an effort in a desirable direction in that it allows exact specification of alcoholism. A drawback to the

scale is that it must, practically at least, rely on verbal report and the consequent pitfalls (7, 17) encountered. Nonetheless the authors find the scale has adequate validity when insistence on behavioral, rather than judgemental, data are obtained from the subject. Jellenik (12) developed a definition of alcoholism by observing alcoholics "in action" and utilizing their descriptions of their drinking. His data concerned specific behaviors manifest by "arrested" cases of alcoholism. These behaviors are gulping, morning drinks, types of rationalization, protecting supply, to name a few. His work is that of an empirical description of the stages involved in the process of becoming alcoholic. His stages lack quantification, though it could be assumed that the more manifest behaviors present, the closer an individual approximates that of an alcoholic.

Many divergent views exist on alcoholism. Menninger (21) states that "alcoholism expresses the unconscious wish to die and that the alcoholic is a chronic suicide." Fenichel (10) views an alcoholic as possessing specific oral frustrations from childhood and that these frustrations are manifest in later life in alcoholism. Williams (35) views alcoholism as genetically determined through unique deficiencies in appetite-governing mechanisms. Wilkins (34) thinks alcoholism belongs to the deprivational and stress diseases, adding, ". . . when one remembers that deprivation and stress exist in a psychological as well as a nutritional and/or endocrinological sphere." Sherfy (28) concludes that alcoholism is not a single entity or disease but a symptom associated with several ills and syndromes. These views are felt to be representative of different approaches to the study of alcoholism and

represent further it is felt the diversity of thought and speculation existent.

Diethelm (6), as section chairman reporting on psychiatric research, reviews the findings generated from different levels of research. At the psychopathological level he concludes that ". . . considerable confusion exists in the literature about the significance of underlying psychopathology and character structure of chronic alcoholics." Sherfy's study (6) reveals how chronic alcoholism is related to psychopathology. She studied 161 chronic alcoholics (patients in hospital for treatment of alcoholism) and concludes that forty percent of the patients suffered from well-defined psychiatric illnesses. The breakdown of illnesses are: paranoid schizophrenic (8%), manic-depressive reactions (7%), asocial psychopathic personalities (7%), psychoneurotic types (9%), and cortical damage (3%). Sixty percent of the patients did not fall into any of the standard diagnostic categories. Her major conclusion could well be that all types and descriptions of people drink alcoholic beverages and some find themselves in a hospital as a result of it, and that chance may have it that a person who is in a hospital for drinking may have a psychiatric illness, type unspecified, Swensen and Davis (29) studied twenty "skid-row" alcoholics who all scored within an alcoholic range on the Jenkins-Davis Alcoholism Scale. Statistical analysis of sixteen behavioral variables yielded five behavioral types of skid-row alcoholics, which would appear to demonstrate essentially the same as Sherfy, that is, that individuals of different personality types exhibit alcoholic behavior. Neither of these studies investigates what, if any, relationship holds between increasing numbers of alcoholic

drinking behavior and independent variables. Kaldegg (16) concludes from a study of twenty-one alcoholic addicts of above average social background and intellect that "no uniformity of alcoholic personality was found." Button (4) studied the psychodynamics of eighty-seven male alcoholics in a state hospital. He divided his investigation into ten parts, ranging from manner of relating to test situation (behavioral evaluation) to patients' self-perceptions, defense mechanisms, interpersonal relationships, and so on. He concluded that a ". . . first impression (behavioral) of the patients discloses a remarkably wide variety of ways alcoholics use to relate to others . . . There does not seem to be any typical alcoholic manner of relating anymore than there is a typical 'human' manner of relating." He continues by describing them as "likeable" and "pleasant" to work with. He notes the "vast majority perceive themselves as inadequate, inferior and impotent men." After these remarks he states the intention of his work is to explore the origin of this "unhappy self-perception." He finds that seventy-nine percent are either under or over-controllers (expressed by ratio of Immediate Gratification of needs to Delayed Gratification), with about twice as many being under-controllers. The most commonly found defense mechanism is an hysterical one, twenty-five percent of the patients showing this. He also notes that "Almost universally male alcoholics are characterized by incomplete and attenuated masculine identifications." On the level of interpersonal relationships he finds that all eighty-seven patients have "poor and unsatisfying relationships with people . . . and in their reactions to others lies the seeds of their eventual rejection." Button's concluding remarks are made on why

alcoholics drink. He postulates fourteen reasons, ranging from conflict over passive and aggressive needs, to excuses, to sedation. He states "although these men all were diagnosed alcoholism without psychosis, they are very sick men . . . and the alcoholic syndrome results in a chronic condition of psychological maladjustment." Considerable attention has been given to Button's work as it seems representative of a not uncommon approach of investigation on alcoholism. The work is based primarily on psychological test behavior and secondarily on gross behavior. Such a study is an effort at identifying causative and covariate factors related to alcoholism, yet absent in such a study are control subjects, and valid instruments.

Mathias' investigation (20) of the personality structure of alcoholics did incorporate control features and gives validity to his findings. Using psychological test results of chronic alcoholics, Alcoholic Anonymous members, neurotic, and normal subjects, he found that the difference between chronic alcoholics and the AA members lies in their method of handling aggression. The chronic cases showed strong self-aggressive trends, low verbal productivity, and high dysphoric elements. The AA members showed low self aggression, high verbal and hypomanic trends with paranoid symptom formation.

Myerson (22) reports on a study of 101 destitute male alcoholics from the skid-row section of Boston. This study was an effort at rehabilitation of these men and continued over a period of three years. At the beginning of the program all the alcoholics had "slipped into the isolated life of skid-row from which they could not extricate themselves." The drinking habits of these men are described by their use

of bay rum, vanilla extract, and muscatels as "luxuries." Myerson notes that for ". . . the hardy, even rubbing alcohol could be used if taken with crackers or grass to prevent vomiting." He describes their drinking as ". . . the steadiest hand prepared the drinks and also had the duty of bottle-feeding his companions." Myerson places primary emphasis on the totally inadequate interpersonal relationships these men conducted. He considers their failure was not only in their drinking but also in their total inability to view their interpersonal relationships as reasonable men. The men are described as placing themselves over and over again in situations where only rejection could result and that they became enmeshed in what appeared to be an endless cycle of drinking and isolation. Of the 101 men in this three year study twelve were able to restore themselves to their families and live away from the hospital. Fifty-four showed "improvement" in drinking habits, but required hospitalization. The remainder showed no significant changes. Myerson summarizes his three year observations as follows: "The skid-row alcoholic is a failure in interpersonal relationships. The theme of the failure is that these men cannot give. They can only take, from a supplier or protector, who is usually a woman. She is loved only insofar as she tries to fulfill their insatiable demands." This work suffers from the same short-comings as others in that no controls were used, which is another way of saying any other group may well exhibit these same behaviors and inabilityes of giving that he observes. Nonetheless he is specifying a possible important variable in alcoholics--that of giving and taking in a behavioral sense.



At the level of animal experimentation, studies of the acquisition and loss of alcohol usage have been done. Masserman and Yum (19), Conger (5), and Weiss (33) have all investigated conditions under which animals acquire the "alcoholic habit." Masserman and Yum demonstrated that under normal conditions cats prefer milk over alcohol but when "frightened" by an air blast and given mild alcohol injections (five percent solution) they developed a preference for the alcohol solution. This preference was lost after repeated non-punishment trials. Conger, elaborating the design of Masserman and using rats found essentially the same results and concluded that alcohol possibly produces a differentially greater decrease in a learned drive, as fear, while having little effect upon primary drives as hunger. Weiss was unable to find significant differences among preferences of rats when the experimental group was assumed to possess a conflict in primary drives of hunger and exploratory behavior. If anything, she concludes that alcohol increases fear. Her study assumes a conflict to exist and the experimental group received alcohol injections to resolve this conflict. She concludes that alcohol seems to increase fear. Her conclusion is based on the fact that the five experimental animals defected a median of one times with the control animals a median of zero. Other measures of latency such as leaving the wall of the open field, latency of eating food, etc., were not significant for the two groups. There also arises the question of the physio-chemical effects of alcohol on the gastro-intestinal tracts of rats. If alcohol increases defecation, the findings are artifacts of the procedures. The control animals did not defecate, indicating apparently that no conflict existed for them. Her study would

seem to lack the precise features of design and control exhibited by the replicated results of Masserman, et al.

These studies done with animals, while not definitive and not easily generalized to human beings, do possess features of exactness and control not so easily applied at the human level. They do indicate that what humans judge as punishing stimuli can operate to generate alcohol preference in animals and also that alcoholic behavior, avoidance of punishing stimuli, freezing, etc., are reduced in frequency and magnitude by alcohol intake. A further finding from animal research is that alcohol preference and covariate behaviors are reduced through repeated exposure to the conditioning situation when punishment is no longer a part of the situation.

Pursuing the "psychological approach" the U-T Research Project specified and quantified alcohol drinking behavior which served as the dependent variable (24). Having defined alcoholism, the psychological characteristics of a group of alcoholics and controls were studied by means of behavioral case histories. The two groups were rated on a scale of environmental deprivation (24). Also the two groups performance was obtained on a test of concept formation using variations of the double alternation problem (24). The research revealed significant differences between the two groups on both environmental deprivation and the concept formation test. Pascal concludes that "Members of our experimental population of alcoholics (workhouse) are exceedingly deprived individuals. They are receiving none of the life satisfactions deemed necessary for psychological survival in our culture." A further conclusion is that the higher incidence of alcoholic drinking behaviors



covaries with increased deprivation. He tentatively concludes that alcoholics' performance on a test of concept formation is "strikingly" similar to the performance of twenty-one hospitalized psychotics and is significantly different from matched controls. These conclusions from this research appear based on adequate methodological procedures but as the author notes, replication of these findings is needed.

Other studies reporting on behavioral findings have been done. O'Hollaren and Wellman (23) asked in questionnaire form 738 former patients treated for alcoholism the rate of their social drinking as compared to that of their friends, the quantity of social drinks as compared with friends, and the degree of intoxication in social drinking as compared with their friends. Sixty percent of those reporting (724 reporting) stated they drank faster than their friends. Sixty-four percent reported drinking more than their friends and fifty-seven percent said they became more intoxicated. These same investigators found that eighty-five percent of the alcoholics were either a youngest, oldest or only child. Ullman (20) compared a group of addictive drinkers with a group of non-addictive drinkers with regard to their recall of the first drinking experience. The addictive drinkers consisted of 143 inmates of a county workhouse and the non-addictive drinkers were 250 male students at Tufts College. He found that the addictive drinkers were more likely than the non-addictive ones to remember their first drink, to have become somewhat intoxicated on that occasion, to have drunk alcoholic beverages not at home or with persons of their families, and to have drunk at a later age. Both the data of Ullman and O'Hollaren support the idea that alcoholics are pre-disposed (O'Hollaren usage)

toward alcohol. Their findings are contradictory to those of Jellinek (12). The above studies would have added weight, it is felt, if matching of alcoholics and controls on age, education, and socio-economic background had been done. This matching would have corrected for sub-cultural differences in the experiential backgrounds of O'Hollaren workhouse alcoholics and Tufts College students. Also it is well known that a fairly high positive correlation exists between judges agreement of socially desirable answers and the way persons answer questions (7).

A study in some respects comparable to the present one is that done by Feeney, et al (9). The investigation was the result of her wondering why, she notes, that court referred alcoholics and inmates of a workhouse were not able to utilize clinic facilities as did voluntary patients. The purpose of the study was ". . . to learn more about the alcoholics who frequent the jails." A specific hypotheses was formulated, asking if significant differences exist between alcoholics sentenced to the workhouse and the alcoholics who accept continued outpatient treatment, and if these differences exist, in what areas do they lie? Fifty workhouse alcoholics and fifty outpatient alcoholics were studied. The data cover, she states, "a fairly wide range of characteristics, from simply identifying facts to complex variables." These data were age, race, religion, marital status, sibling status, alcoholism in parents, intelligence, formal education, occupation and work history, military service, history of alcoholism, arrest record, medical history, alcoholic reactions and diagnostic classification. The conclusion of the study was that differences do exist. She states: "A marked contrast was seen between the clinic group and the workhouse

group in the areas of intelligence, education, occupation, work regularity, marital history, number of siblings, medical history, arrest record, present social resources, motivation. Some differences existed in racial origin, religious affiliation, military service, psychiatric diagnosis and past adjustment. On the other hand there were no significant differences in respect to age, parental drinking or drinking history." This study was not reported because of its findings, interesting in themselves, but rather because of the approach, that is one in which areas of behavioral functioning were assessed which afford a basis for generating further hypotheses about alcoholism. Feeney's study tells little about how alcoholics are different from non-alcoholics but does reveal differences in alcoholic populations. Interestingly no differences were significant with regard to drinking behaviors as such.

It seems common among the studies reported, as well as existing viewpoints, that not much agreement exists among researchers. A basic reason which seems to account in part for this is the lack of methodologically sound principles of investigation, one of the more common errors being the lack of adequate controls. Also the earlier mentioned failure of investigators to specify populations and to identify the criterion in only vague, general ways seems another common problem.

### CHAPTER III

#### DESIGN AND PROCEDURES

The general design of this study is a matched-pair comparison of nine alcoholic subjects with nine non-alcoholic control subjects.

(Hereinafter alcoholic, non-alcoholic, and subjects are designated as A, NA, and Ss.) The comparisons made are of selected current behaviors emitted by the Ss and of selected stimuli during the first decade of the Ss' lives.

#### Population

A total of eighteen white male human Ss were selected for study, nine As and nine NAs. The two groups, A and NA respectively, were matched by pairs on their age and educational level, and on the social class background of their parents; the latter as measured by four status characteristics listed by Warner, et al (31). The groups were selected to be significantly different on a scale of alcoholism as measured by Jenkins and Davis (15). Table I shows the nine pairs matched on their age and educational level and social class of their parents. The largest age differential between pairs is five years. The total range of age for all pairs goes from the youngest of twenty-two years to the oldest of fifty years with a mean age of 31.9 plus. The educational level of all pairs ranges from a low of five grades of education through a high of twelve grades with two NAs having taken courses in business colleges. The average overall education of the Ss is 9.8 plus grades

TABLE I

MATCHING CHARACTERISTICS OF THE A AND NA Ss  
(NAs #6 AND 9 HAD BUSINESS COLLEGE COURSES)

Pairs	Age (yrs)		Education (Grades)		Socio-Econ background (ratings)	
	A	NA	A	NA	A	NA
1	23	22	12	11	2	3
2	25	24	8	8	3	2
3	26	26	12	12	3	2
4	30	28	6	5	3	3
5	31	33	10	12	2	2
6	33	35	12	12	3	3
7	36	33	9	8	2	1
8	38	37	7	10	3	2
9	45	50	12	12	2	2
$\bar{X}$	31.9	32.0	9.8	10.0	2.6	2.2
R	23-45	22-50	6-12	5-12	2-3	1-3

completed with the NAs tending to have slightly higher educations. The social class level of the parents varies from below average to average, using the above four status characteristics: (1) occupation, (2) source of income, (3) house type, (4) dwelling area. The numbers 1, 2, 3, given in the table under social class indicate above average, average, and below average respectively. (Actually Warner uses seven points with four being average and three points above or below average indicating degree. So sensitive a measure was not felt necessary for the purpose of the present matching.) In descriptive terms the typical class level of a pair of Ss' parents was below average. The father, if present, tended to be a laborer or semi-skilled individual, whose income was confined to weekly wages, usually hourly; and who lived in a four room house, needing paint, in an area with broken or no sidewalks, pavement in disrepair, and so forth. An exception tended to be Pair 7, more especially the NA whose father was a dental supply salesman on a base salary plus commission. He was purchasing a seven room house in an above average neighborhood. A total of six mothers worked, three in each group. Otherwise the Ss parents' social class level markedly resembled each other as inspection of the Table shows. The As were at the time of this study all skid-row inmates of an East Tennessee County Workhouse. Their offenses were either directly or indirectly associated with alcohol intoxication. The NAs all worked in heavy industry at either skilled or semi-skilled jobs. All Ss were volunteers chosen for two principle reasons: (1) they expressed a willingness to participate in the study and (2) they met the requirements of the criterion.

## Case History

Each S participated in a standard clinical interview ranging in time from six to eighteen hours, the average being about seven hours. The Experimenter (E) recorded the interview material and later organized and typed the material into a behavioral case history following scales developed by Pascal and Jenkins (26). Only portions of the Pascal-Jenkins Scales were used in the present work. A sample history is given in Appendix B. The data in the history are based on critical incident techniques developed by Flanagan (11). The reader will note that the history has two major divisions: Scale A Cross-sectional behaviors (dependent variables); and Scale B Longitudinal Behaviors (independent variables). Behavioral subdivisions are given under the major division. The histories contain both qualitative and quantitative aspects of behavior. The qualitative data are confined primarily to the longitudinal history of the Ss. In all instances Ss had greater difficulty giving critical incidents of their early lives than their current functioning. Often only early memories or fragments of data could be obtained. No assumption is made regarding the validity of all the data given by a S though certain checks were available. First, during the interviews, many points were covered several times, permitting a reliability check. Secondly with progressive interviewing, the E became reasonably "sophisticated" with the lives of skid-row persons and factory workers. A further check, and one considered the most basic, was insistence where possible on behavior. Eliciting behavior was more difficult than eliciting judgements but judgements frequently proved



"less than an accurate appraisal" of the S' condition. The interview techniques were essentially those utilized by Kinsey, et al (17), in their studies. While errors and inaccuracies exist, the data nonetheless are judged to have sufficient validity for the purposes of this study.

### Scales

In order to make the behavioral comparisons on the two groups of Ss, a number of behavioral scales are utilized. These scales all require ratings to be assigned to aspects of a S' behavior to stimulus dimensions eliciting the behavior. The data used for making the ratings are all obtained from the aforementioned verbal reports. The scales themselves sample two properties of the Ss, current functioning and the nature of the environment, stimulus categories, during the Ss' first ten years of life.

#### Current Functioning

Behavioral Drinking Scale. This scale is used to assess the Ss' current drinking behavior, which is the criterion of this study. The scale was developed by Jenkins and Davis (15) and is composed of eight variables: amount consumed, variety, rate of drinking, time between drinking periods, immediate behavioral changes with onset of drinking, after-effects of drinking, conditions of drinking, and long-range consequences of drinking. A S is rated 1 or 0 depending upon whether his behavior falls within lower limits for each variable. The higher the score, the greater behavioral involvement with alcohol. A maximum score of eight is obtainable.



Behavioral Categories. Four major behavioral categories are rated to assess the Ss' current functioning other than alcohol drinking behavior. These categories are: Occupation, Physical Habits, Non-Occupational Activities and Interpersonal Relations. Each of these categories is composed of differing numbers of variables, fifty-six in all. Given in Appendix C are the categories and the variables composing each. Rating these variables is the same as for the Behavioral Drinking Scale, that is, a 1 or 0 is assigned indicating a S's behavior to be "poor" or "good" respectively. Two methods were employed by the judges in assigning a 1 or 0. In all instances where exact quantitative values existed as average numbers of hours of sleep, a 0—"good"—rating was given to the values lying on the side of the grand median approximating "expected". That is, a grand median value for the two groups was obtained for each variable having quantitative values. The judges then chose which side of the median appeared to be the "expected", appropriate side, and rated 0 accordingly. This procedure worked on all variables related to current behavior as they were exclusively unidimensional, with a "good" and "poor" side. For example the Ss slept either "too little" or average with no S sleeping "too much". In many instances quantifiable data were not present in the history and the judges then relied upon what data were available. In some instances only the S' judgement was present, as "I usually eat alone", or "I see my brother very seldom". A 1 or 0 was assigned in all of these cases, the rating being based on the judges inference from such statements. Through adherence to assigning consistently a 1 to the poor side of a variable, an overall, global rating was obtained for each S. This global rating is

the sum of the number of 1's assigned a S on the fifty-six variables of current functioning. A S with a high overall rating is one who functions poorly relative to the four behavioral categories.

U-T Deprivation Scale. This scale was developed by Pascal and Jenkins (26) and is composed of sixteen behavioral variables given in Appendix D. These sixteen variables subsume numerous of the fifty-six variables of the above four behavioral categories. Ratings on this scale follow the same 0 or 1 rating procedure utilized for evaluating all current functioning as discussed in the foregoing paragraph.

#### Stimulus Categories of the First Decade

Pascal-Jenkins Behavioral Scale. This scale is a portion of the Pascal-Jenkins Behavioral Scales (26). This portion is given in Appendix E. Examination of the scale reveals that differing numbers of behavioral variables are given for each major variable. The use made herein of the scale is to treat each major variable, grandparents, mother, father, etc., as a stimulus and rate these stimuli for their behavior during the Ss' first decade of life. As in all other instances, the data used for ratings were obtained from the case histories. The method of rating differs from all the ratings on current functioning. Following the procedures listed by Pascal and Jenkins in their manual, a three point rating system is used; 1, 2, 3, indicating poor, intermediate and good. A zero indicates that a particular stimulus was not present. Overall sums were obtained for each S as in the case of current functioning; but, in contrast to current functioning ratings, a high rating for early stimulus categories indicates good, appropriate

behavior while a high rating for current behavior indicates poor, inappropriate behavior. In their manual Pascal and Jenkins (26) comment on the variables used in these scales:

The variables used in these scales are, at present, necessarily loose and, in some instances ambiguous. They represent a first approximation of life history variables couched in behavioral terms. They are potentially, objectively measurable. However, it will be clear to the reader their assessment in the present form of this scale involves a large dose of clinical judgement. Therefore, the scales should not be used by individuals without training and experience in clinical interviews.

Agreement of the judges. A Spearman Rho rank correlation was used to compute reliability coefficients for the two independent judges' ratings. The reliability was generally quite good for all ratings. Agreement ranges from a high of  $r_s = .98$  to a low of  $.76$ . In Appendix F is given a Table of the  $r_s$  obtained for ratings of the four behavioral categories of current behavior, and for the stimulus categories of the Ss' early life.

No data problem. The problem of absence of data for the Ss occurs only for the comparisons during the first ten years of life. No instances occurred for current behavior when insufficient data existed. The problem of differing amounts of no data was handled by counting the frequency of no data entries that occurred in each stimulus category for the As and NAs and evaluating the frequencies statistically. For example, there are sixteen opportunities for no data entries on the stimulus category of mother for a given S, or 144 opportunities for each group. In this particular instance, fourteen no data entries were made for the As and eleven for the NAs. In Appendix G is given the frequency of no data entries by stimulus category and a  $X^2$  probability indicating

significance levels. Note significant difference exists for grandparents only.

Statistics. The statistics used throughout this study are all non-parametric, excluding the  $r_s$  and the  $X^2$  used for evaluating judges agreements and no data entries respectively. The typical statistics employed are the Binomial Expansion and Arrangement Technique given by Jenkins (14). The particular statistic used is given with all tables and groups of data.

## CHAPTER IV

### RESULTS OF CRITERION AND CURRENT FUNCTIONING

The purpose of this chapter is to present and analyze the two groups' behavior on the criterion, and other current behavior.

#### Criterion Results

Drinking Behavior. The two groups were rated on their alcohol drinking behavior using a Behavioral Drinking Scale. Table II gives the scale results showing the mean scores and the ranges for the As and their matched NAs. A mean of 7.2 for the As and a mean of .7 for the NAs point clearly to individuals who are quite opposed to each other regarding their alcohol consumption. Using the Arrangement Technique (14) a P value of .00002 one-sided is obtained, indicating distinctly different groups regarding the criterion of alcohol consumption.

The patterning of the Ss' scoring on the different variables of the scale are presented in Table III. From the Table, one can determine the drinking behavior that the two groups exhibit, S by S, or as a group. Note that no NA scores on items 1, 2, 3, 6, and 7, i.e., amount, variety, rate, conditions, and after effects. In other words all NAs, if they drink, drink limited amounts and varieties of alcohols, at relatively slow rates and then only in selected places with selected people and do not consistently experience marked after-effects. Actually only four of the NAs (1, 4, 7, 9) drink alcoholic beverages. NA 1, though he drinks, fails to exhibit any behavior of sufficient frequency or magnitude to score on the scale. In marked contrast are the As, eight of whom drink

TABLE II

SCORES OF ALCOHOLICS AND NON-ALCOHOLICS ON AN  
EIGHT POINT BEHAVIORAL DRINKING SCALE

Pairs	A	NA
1	6	0
2	5	0
3	7	0
4	8	3
5	8	0
6	7	0
7	8	2
8	8	1
9	8	0
$\bar{X}$	7.22	.67
R	5-8	0-3
P =	.00002	

TABLE III

DISTRIBUTION OF Ss SCORING ON EIGHT  
VARIABLES ON A SCALE OF ALCOHOLISM

Variables	Number of Ss Scoring	
	A	NA
1. Amount	8	0
2. Variety	6	0
3. Rate	9	0
4. Time between periods	9	2
5. Behavioral changes	9	3
6. Conditions	6	0
7. After-effects	9	0
8. Consequences	9	1
Median	9	0
R	6-9	0-3

large amounts, and all of them drinking rapidly, frequently, and with marked immediate behavioral changes. Also, each S experiences marked after-effects consistently and has had social and legal difficulties resultant of his drinking. The lowest score obtained for the As is 5.

One A fails to drink regularly in large enough quantities to score. He also drinks only limited varieties and discriminates places of drinking sufficiently not to score. He exhibits, in other words, behavior that is the "least alcoholic" of the As but that nonetheless is sufficient to be considered alcoholic. Further examination of Table III shows that the variables on which the NAs score are 4, 5, 8, i.e., frequency of drinking, immediate behavioral change and long range consequences. NA 4 scores on the three above variables, becoming immediately more talkative with his first drink and drinking an average of two to three times per week with a male peer. In the past this S had had three arrests for drinking though actually his fighting precipitated the arrests. The two other NAs, 7 and 8, exhibit immediate behavioral change with drinking and NA 7 also drinks two to three times per week. His drinking is done at home and confined nearly exclusively to beer.

A relationship existing in the data of Table III is that As score less frequently on conditions of drinking and varieties of alcohol imbibed, while no NAs score on these two variables. In instances where NAs score on the scale variables (4, 5, 8), note that every A scores on these variables. The implication is that these variables may possibly be the "first alcoholic behaviors" manifest, with the last manifest behavior being drinking anything anywhere.



Current Functioning

Behavioral Categories. Both groups were rated on four behavioral categories: Occupational, Interpersonal, Physical Habits, and Non-Occupational Activities. Each category is composed of a number of variables, fifty-six in all, which are rated 1 or 0, indicating poor or good respectively.

Table IV presents the ratings of the two groups on three occupational variables. Inspection of the total ratings shows them to be non-overlapping distributions irrespective of pairs. As the data are given nine events exceed nine events, with  $P = .00002$  using the Arrangement Technique. Actually only two of the three variables uniformly separate the two groups, work income and frequency of work. The greatest number of months worked by an A in the past twelve months was five and a few days. These were not consecutive months but total months. Income as may be expected was uniformly low for the As, with the greatest amount being \$1300 in the past twelve months, and the least being less than \$50. Efficiency while working failed to discriminate significantly between the two groups with about equal numbers in each group being judged inefficient. Actually five of the As had within the past year received several opportunities for continuous employment and were complimented by superiors for whom they worked. One A in particular was held in high esteem for the rapidity and excellence of painting and requests were made routinely by public officials for this man's services. NAs 4 and 5 have received poor ratings for efficiency at their jobs. They are slow workers, and have received reprimands for their inefficiency. Table IV indicates that the two groups are different with

TABLE IV

ONE (POOR) RATINGS ASSIGNED ALCOHOLICS AND NON-ALCOHOLICS  
ON THREE OCCUPATIONAL VARIABLES

	Mos working last 12 mos 1= 5.5 mos	Income past year 1 = \$1550	Efficiency 1=dischrge, etc.	Total Poor Ratings
Pairs	A NA	A NA	A NA	A NA
1	1 0	1 0	0 0	2 0
2	1 0	1 0	1 0	3 0
3	1 0	1 0	0 0	2 0
4	1 0	1 0	1 1	3 1
5	1 0	1 0	1 1	3 1
6	1 0	1 0	0 0	2 0
7	1 0	1 0	0 0	2 0
8	1 0	1 0	0 0	2 0
9	1 0	1 0	0 1	2 1
Med.				2 0
R				2-3 0-1
P =				.00002

regard to working behavior but only in that the As are erratic workers and consequently have low incomes. As far as job efficiency is concerned, there seems to be no significant difference.

Table V presents the combined ratings for the two groups on Physical Habits. Inspection of the overall ratings of the nine physical habits shows the two groups to be significantly different with a  $P = .007$ , two-sided. Note that there is an average difference of about 3 : 1. Further examination shows that certain habits are primary contributors to this difference, as indicated by the  $P$  value for each habit. In the case of sleep, based on three variables, numbers of hours of sleep nightly, frequency of dreams, and awakening at night, the groups are quite different. For the A group note that only three Ss fail to score the highest summed ranking (3), and then only by a point. These three As each failed to dream significantly more than the NAs. In other words, the As sleep significantly fewer hours per night, dream significantly more and awaken at night more frequently than their matched partners.

Eating behavior is significant for the two groups at the .01 level. This habit is based on five variables: average number of meals per day, amount eaten, rate of eating, preference for eating alone, and physical complaints from eating. While the summed ratings for eating significantly separate the groups, only three variables contribute uniformly to this difference, these being average number of meals, amount eaten, and preference for eating alone. Actually the As tend to eat more slowly and have approximately an equal number of complaints from eating as the NAs. The As tend to exhibit significantly more solitary eating habits, eat on an average of two meals a day, and then eat less

TABLE V

COMBINED "ONE", (POOR), RATINGS ASSIGNED ALCOHOLICS AND NON-ALCOHOLICS  
ON NINE PHYSICAL HABITS. (SPECIFIC VARIABLES IN APPENDIX)

No. of Variables Pairs	Sleep		Eat- ing		Elim- nation		Clean- ness		Drink- ing		Smok- ing		Sex		Exer- cise		Health		Total Poor Rtgs.	
	3		5		4		3		3		2		5		2		3			
	A	NA	A	NA	A	NA	A	NA	A	NA	A	NA	A	NA	A	NA	A	NA	A	NA
1	2	0	3	2	2	1	3	0	2	0	0	2	2	1	2	2	3	0	19	8
2	3	0	4	2	2	0	3	1	1	1	0	1	2	0	1	1	2	1	18	7
3	3	0	5	3	2	2	2	0	2	0	1	0	2	0	1	0	2	0	20	5
4	3	0	5	0	2	3	3	1	2	0	2	0	3	0	1	0	3	1	25	5
5	2	1	2	1	1	0	3	1	2	0	0	1	3	0	1	1	0	1	14	6
6	3	0	2	2	0	0	0	0	1	1	0	0	2	1	1	0	0	0	9	4
7	2	1	2	0	1	2	3	0	2	0	1	2	3	0	2	0	3	0	19	5
8	3	0	3	1	0	3	3	1	2	0	1	1	3	1	1	1	1	0	17	8
9	3	1	4	3	1	0	3	2	2	0	1	0	2	1	1	1	1	2	18	10
Median	3	0	3	2	1	1	3	1	2	0	1	1	2	0	2	0	2	0	18	6
P =	.002		.001		.10		.002		.037		.10		.002		.10		.10		.007	

in quantity than the NAs.

As the summed ratings under cleanliness indicate, the two groups pull significantly apart. The As uniformly exhibit less personal cleanliness behavior than the NAs with the exception of NA 9 who seldom brushes his teeth and changes clothes no more frequently than twice a week.

The groups differ significantly with regard to drinking liquids other than alcohol as indicated in the Table. Three variables were rated: amount daily, variety, and rate. Uniformly the As drink more rapidly and tend to drink greater quantities of fewer liquids than the NAs. The As tend to confine their drinking to soda pop, water, and coffee, all of which are drunk rapidly while the NAs tend to drink milk, tea, soda pop, coffee, juices and so on at a slower rate. A generalization effect of alcohol drinking behavior to other drinking appears present in the case of the As.

The sexual behavior of the two groups differs significantly with a  $P = .002$ . This behavior is rated on frequency of contact, type of partner, autoerotic behavior, and verbal reports (cf Appendix). The variable contributing uniformly to the difference is frequency of contact, and either sexual contact with males or unsatisfactory sexual experiences are additional variables tending to be significant. Actually four As report sexual contacts with males while no NAs do. All NAs have a higher frequency of sexual contact than their matched partner. For both groups, frequency covaries with increased age, dropping as age increases. For the NAs scoring poor ratings on sexual behavior, three ratings were for reports of periodic dissatisfaction in sexual relations

and one for masturbation. No NA reported current sexual contacts with males.

The groups fail to differ significantly on habits of elimination, smoking, exercise, and general health. A NA is as likely as an A to have eliminative problems, smoke more, take frequent medication, and exercise infrequently. Of nine physical habits, the groups differ significantly on five.

Table VI presents the comparative ratings assigned the two groups on fourteen variables of interpersonal relationships. As in the previous Tables inspectional analysis of total ratings shows the two groups to be non-overlapping distributions with the As receiving a greater number of poor ratings. The average difference is by a factor of about 5 : 1. A P value of .00002 is obtained by the Arrangement Technique. Note that out of a possible maximum of fourteen poor ratings the NAs receive a median score of two while the As receive a median score of ten. It is obvious that the As are behaving toward people in a consistently different manner from the NAs.

Further examination of the Table shows those persons on whom the groups' behavior was rated. Note that the ratings for each person (Mother, et al) are based on a number of variables, these given below the person. In the Appendix are given the specific variables and how the Ss behave on these variables. Two variables were rated on Mother: hours S spends per week if Mother present, or writing, calling or other contact if Mother away from S' locale; and outstanding behavior toward Mother when S is in her presence. The two groups tend to significantly differ,  $P = .062$ , with the As receiving more poor ratings. No significant

TABLE VI

COMBINED "ONE", (POOR), RATINGS ASSIGNED ALCOHOLICS AND NON-ALCOHOLICS ON INTERPERSONAL RELATIONSHIPS WITH SIGNIFICANT PEOPLE. (N REFERS TO STIMULUS ABSENCE. SPECIFIC VARIABLES IN APPENDIX)

No. of Variables Pairs	Mother		Father		Siblings		Wife		Children		Peers		Total Poor Ratings	
	2		2		2		3		2		3		A	NA
	A	NA	A	NA	A	NA	A	NA	A	NA	A	NA		
1	1	0	N	0	2	1	2	0	2	0	3	1	10	2
2	2	0	2	0	2	0	2	1	N	0	3	1	11	2
3	2	N	1	0	1	N	2	1	N	N	3	0	9	1
4	2	N	1	1	N	1	2	0	N	1	3	0	8	3
5	1	0	N	N	2	1	2	0	2	0	3	0	10	1
6	1	1	1	1	2	0	2	1	2	0	3	0	11	3
7	2	1	N	N	N	0	2	0	N	0	3	1	7	2
8	2	1	N	N	2	0	2	0	2	0	2	2	10	3
9	N	N	N	N	2	1	2	1	2	0	3	3	9	5
Median	2	.5	1	0	2	0	2	0	2	0	3	0	10	2
P =	.062		.10		.016		.002		.031		.037		.00002	

difference exists for time spent with Mothers but the groups are significantly different in their behavior toward their Mothers. All As exhibit toward their Mothers frequent crying, protracted periods of silence, not answering her questions, and excessive daytime sleeping. These same behaviors are absent in the NAs when with their Mothers. Frequent behavior for the NAs is giving their Mothers money, talking with them, and so on.

The Ss behaviors toward their Fathers is not significant. As Table VI shows, five As' Fathers and four NAs' Fathers are dead. Of those living, the two groups do not exhibit significantly different behavior, either in time spent with Fathers or differing amounts of talking, fighting, crying, and so on.

For the groups' behavior regarding their siblings, the differences are significant. Of As who have sibs (all but two) only one has what is judged a good response. The other As tend to physically avoid their sibs (seeing them no more frequently than once a month to less than once a year) and, if and when they are in their presence, they either argue and fight or sit passively and non-interactively. The NAs have more frequent contact (weekly with at least one sib) with their sibs than the As and with one exception they do not display argumentative or passive, non-interactive behavior to the degree of the As.

As is frequently reported (22) and expected for the skid-row type alcoholic, marriage is a failure. All As have been married, but all presently are divorced or separated. Contacts with their ex-wives in most instances are rare, and are characterized by crying or fighting in combination typically with being intoxicated. For all practical



purposes the groups are totally different regarding their behavior toward their wives. (All Ss are or were married.) As may be anticipated, for those As having children, the latter are exposed to either neglect or avoidant behavior by their fathers. In the case of four As, some contact is had with their children at which time they exhibit verbalizing of remorse, guilt and promises, mixed with crying when intoxicated. These behaviors are absent in the NAs.

Behavior toward peers differs significantly for the groups as indicated in Table VII. Three variables were rated, peers of both sexes, hours per week with peers, and outstanding behavior toward peers. With only one exception, the As are rated poor on all counts. That is, they spend less time with peers than the NAs, contact with less frequency female peers, and exhibit different behaviors toward their peers than the NAs. Characteristically the As have less contact with either males or females unless drinking and again unless drinking they tend to be non-verbal in their peers presence. Incidents of either fighting, crying, or perverse sexuality are present for all As when drinking. This behavior is not present for the NAs with the exception of two, NA 9 and 8. NA 9 has a "behavioral policy" of "don't bother with people outside the family, but if I must be around them, don't say anything." NA 8 frequents only male peers, typically avoiding females as is the case with the As. He is given to fighting and other aggressive behaviors as are the As. He nonetheless spends significantly more time with male peers than the As.

In brief, the two groups behave quite differently toward people as the overall ratings indicate. The As received a median of ten poor

TABLE VII

"ONE", (POOR), RATINGS ASSIGNED ALCOHOLICS AND NON-ALCOHOLICS ON SIX  
NON-OCCUPATIONAL ACTIVITY VARIABLES

Pairs	Hobbies 1=None		Sports 1=None		Reading, TV cards, etc. 1=12hrs/wk		Chores 1=2hr/wk		Church 1=1/no		Organi- zations 1=no attend		Total Poor Ratings	
	A	NA	A	NA	A	NA	A	NA	A	NA	A	NA	A	NA
1	1	1	1	1	0	0	1	0	1	0	1	1	5	3
2	1	0	1	1	0	1	1	0	1	0	1	0	5	2
3	1	1	1	0	1	1	1	0	1	0	1	0	6	2
4	1	0	1	0	1	0	1	0	1	1	1	1	6	2
5	1	0	1	0	1	1	1	0	1	0	1	0	6	1
6	1	0	1	0	0	0	1	0	1	0	1	0	5	0
7	1	1	1	1	1	1	1	0	1	0	1	0	6	3
8	1	1	1	1	0	1	1	0	0	1	1	1	5	5
9	1	0	1	1	0	0	1	0	1	0	1	1	5	2
Median	1	0	1	1	0	1	1	0	1	0	1	0	5	2
P =	.10		.10		.10		.002		.055		.10		.011	

ratings while the NAs have a median of two. The Arrangement Technique gives a  $P = .00002$  that these differences are chance. The differences are ones of both frequency and magnitude, in that the As tend to have absolutely less "human contact" than the NAs and when they do have contact, they typically respond more intensely in such ways as fighting, crying, excessive silence and so on. Of note is the lack of difference in the groups behavior toward their Father. Though the sample for Fathers is much too limited for generalizing, both groups show signs of avoidance of Father, though in his presence, they tend not to act in extreme ways.

The fourth behavioral category rated is given in Table VII. The behavior rated is frequency of participation on six non-occupational variables. Note that total poor ratings for the two groups is significantly different with a  $P = .002$  using the Binomial Expansion. The As received a median total rating of five out of a maximum of six, while the NAs received a median of two with the highest number of poor ratings being five. Note that only two of the six variables rated are significant, hours spent in doing chores and frequency of church participation. On both these variables the NAs participate more. All NAs spend more than two hours per week in doing chores, whether at home or for friends. No As spend over two hours in such activity, whether at their homes or in jail or so forth. (Chores do not include work on the job. For the As, while in jail, forced work is not construed as chores. Rather chores are construed as working off the job without direct force or supervision.) With the exception of two, the NAs attend church at

least once per month. No A attends church as frequently as once per month. The groups are not significantly different on the other four variables, though the NAs tend to participate more in sports, belong to more organizations and have hobbies. One group is as likely to read, view TV, or play cards as frequently as the other, but, to repeat, the NAs attend church and assume the responsibility of chores with significantly greater frequency.

In Table VIII are the two groups scores on the U-T Deprivation Scale. A  $P = .00002$  indicates highly significant difference for the two groups. Note that the As experience greater amounts of deprivation over the NAs by a factor of 3 : 1. Examination of the sixteen variables composing this Scale (cf Appendix) reveals the nature of this deprivation. These groups tend to score on this scale as did ulcer cases studied by Lothrop (18). He found that post-operative success or failure of ulcer cases significantly covaried with low or high deprivation scores respectively, though not by so great a factor as do the As.

TABLE VIII

ONE (POOR) RATINGS ASSIGNED ALCOHOLICS AND NON-ALCOHOLICS ON  
THE U-T DEPRIVATION SCALE. MAXIMUM DEPRIVATION IS 16.

Pairs	A	NA
1	11	5
2	11	5
3	8	1
4	16	5
5	14	2
6	13	2
7	13	3
8	15	4
9	15	5
Med	13	4
R	8-16	1-5
P =		.00002

## CHAPTER V

### RESULTS OF SELECTED STIMULI DURING SUBJECTS' FIRST DECADE OF LIFE

The purpose of this chapter is to present and analyze selected stimuli occurring in the first decade of life for all Ss. These selected stimuli were identified and organized into a Rating Scale by Pascal and Jenkins, and discussed in Chapter III. The Scale requires ratings to be made on "significant" persons (stimuli) in the Ss' first ten years of life. Six stimulus classes were rated: grandparents, mother, father (or surrogates), siblings, and peers of same and opposite sex.

In contrast to the preceding Chapter IV on current behaviors, this chapter focuses on the nature of stimuli the Ss encountered during their early lives. Again attention is directed toward the frequency--intensity aspects of the stimulus, such as with what frequency did a S' Father play ball with the S, or take him riding, or hold him on his lap, or how hard (intensity) did the Father whip the S, or how drunk did the father get, if and when he imbibed. In short this chapter is aimed at identification and specification of early learning situations in alcoholics and non-alcoholics.

As the ratings differ for the data herein from that on current behavior, a brief restatement follows on the method of rating. For the ratings on the stimulus variables in this chapter, a 0, 1, 2, or 3 was assigned to each variable, indicating Not Present, Poor, Average or Good respectively. ND indicates No Data. The ratings for current behavior

variables were 0 or 1 indicating good and poor. In brief a higher rating for current behavior indicates poor, while a higher rating on stimuli during first decade indicates good. A total of eighty-two variables were rated for each of the eighteen Ss, making a grand total of 1476 ratings.

Table IX presents average ratings for the two groups' grandparents on eight variables. Note that only one of the eight variables, amount of restraints, is significant,  $P = .062$ . None of the other seven variables falls within the .10 level of confidence. The medians of the NAs tend to be higher, five of eight with the others equal. The data indicate that the Ss' grandparents were not significantly different in any ways measured herein except for the fact that the As had significantly more restraints placed on them by their grandparents. These restraints were manifest by too much domination rather than none. Four As' grandmothers lived in the Ss' homes and cared for them. These As reported frequent lectures and warnings on being good and "not being like your drunken father." The As' grandfathers were infrequently recalled, except for being present during the Ss early lives. The grandmothers were the dominant ones of the As' grandparents. As Table IX indicates, the grandparents did display affection as often as the NAs' grandparents. Also the As' grandparents tended not to play with them as indicated by the frequency of poor ratings assigned this variable.

Table X gives the ratings assigned to the two groups on the stimulus category, "Mother". Sixteen variables were rated. Ten of the sixteen variables significantly differentiate the groups at or beyond

TABLE IX

AVERAGE RATINGS FOR SUBJECTS' GRANDPARENTS ON EIGHT BEHAVIORAL VARIABLES  
(0,1,2,3 = Not present, Poor, Average, Good respectively. ND = No data)

Pairs	Freq. of contact		Active play		Rstrnts		Phys. punish.		Display affect.		Deviant behav.		Alcohol behav.		Relig.	
	A	NA	A	NA	A	NA	A	NA	A	NA	A	NA	A	NA	A	NA
1	1	2	1	ND	2	ND	2	ND	2	3	3	ND	3	3	3	3
2	0	2	0	ND	0	ND	0	ND	0	ND	0	3	0	3	0	2
3	3	1	2	ND	ND	1	3	2	2	1	3	2	3	2	2	1
4	2	2	1	2	1	2	2	3	2	2	2	3	1	2	1	2
5	2	2	2	2	3	3	ND	3	2	3	2	3	2	3	2	3
6	1	2	1	2	1	3	2	3	1	2	1	3	2	3	ND	3
7	2	2	ND	2	2	3	ND	3	ND	3	3	3	3	3	ND	3
8	2	2	1	2	1	2	2	2	ND	2	2	2	1	2	ND	2
9	1	2	1	2	1	3	2	3	1	2	3	3	2	3	2	2
Median	2	2	1	2	1.5	3	2	3	2	2	2	3	2	3	2	2
P =	.10		.10		.062		.10		.10		.10		.10		.10	



TABLE X

RATINGS OF ALCOHOLICS' AND NON-ALCOHOLICS' MOTHERS ON SIXTEEN BEHAVIORAL VARIABLES  
(0,1,2,3, = Not present, Poor, Average, Good respectively. ND = No data)

Pairs	Freq. of contact		Active play		Rstrnts		Phys. punish.		Display affect.		Deviant behav.		Phys. health		Relig-iosity	
	A	NA	A	NA	A	NA	A	NA	A	NA	A	NA	A	NA	A	NA
1	1	3	1	3	1	3	1	3	1	2	3	3	3	3	3	ND
2	2	3	1	3	1	3	1	3	1	3	1	3	ND	3	ND	2
3	1	2	1	2	1	ND	3	2	1	2	2	3	2	3	1	3
4	1	2	1	2	ND	2	3	2	1	2	3	3	3	3	1	2
5	3	ND	1	3	1	3	ND	2	ND	2	3	3	1	3	1	2
6	3	3	2	3	1	3	3	3	2	3	3	3	3	3	ND	3
7	2	3	1	1	ND	2	2	3	1	2	3	3	3	3	1	2
8	1	3	1	2	1	3	ND	3	1	2	1	3	3	3	2	3
9	2	3	1	3	1	3	1	3	1	3	3	3	3	3	1	2
Median	2	3	1	3	1	3	2	3	1	2	3	3	3	3	1	2
P =	.037		.002		.016		.10		.018		.10		.10		.016	

TABLE X (CONTINUED)

RATINGS OF ALCOHOLICS' AND NON-ALCOHOLICS' MOTHERS ON SIXTEEN BEHAVIORAL VARIABLES  
(0,1,2,3, = Not present, Poor, Average, Good respectively. ND = No data)

Pairs	Gregariousness		Intell.		Variab. habitat		Parent. status		Provider		Compat. spouse		Sex role approp.		Alcohol behav.	
	A	NA	A	NA	A	NA	A	NA	A	NA	A	NA	A	NA	A	NA
1	3	3	ND	2	3	3	3	3	2	3	2	3	2	3	ND	3
2	1	3	1	2	ND	2	1	3	1	3	1	3	1	3	ND	2
3	1	3	2	ND	1	3	1	2	3	3	1	3	1	3	2	3
4	ND	2	1	2	1	3	1	2	1	3	1	1	1	2	1	3
5	1	2	1	2	3	2	2	3	2	3	1	3	2	3	2	2
6	2	2	1	2	1	ND	1	2	1	3	1	3	3	3	3	ND
7	2	3	2	2	3	3	2	3	2	3	3	3	2	3	ND	3
8	2	2	1	3	ND	2	1	3	1	3	1	2	1	3	1	3
9	1	3	2	3	3	3	2	3	2	3	1	ND	2	3	3	3
Median	1	3	1	2	3	3	1	3	2	3	1	3	2	3	2	3
P =	.10		.035		.10		.011		.011		.061		.011		.10	

the .06 level of confidence. The six variables failing to differentiate are frequency and intensity of physical punishment, deviant behavior, physical health, gregariousness, variability of habitat, and alcohol drinking behavior. Three variables, active play with Ss, restraints on Ss, and displays of affection, each with an exception of one tie, are non-overlapping distributions independent of matching. All As, excepting three, are rated poor on these variables with no NA receiving a poor rating. Eight of the sixteen variables are significant at or beyond the .05 level of confidence, with two other variables, religiosity and compatibility with spouse, showing a significance level of .061. These ten variables describe behaviorally a picture of an As' Mother, in contrast to the NAs' Mothers, as a woman who displayed significantly less affection toward her son, placed more restraints on him, and engaged in less play with him. Also she tended to be around him less, had more difficulties with her husband, behaved less in a permissive way, and was religiously deviant. Generalizing from this an As' Mother tended to be away from her son with considerable frequency, usually working. When she was with her son, she was demanding and harsh though not physically punitive. She exhibited less affection than the NAs' Mothers either in a "psychological" or material way. She also over (or under) reacted to religion. This reaction was manifest by "religious talking" or ignoring religion completely. She typically did not drink and, may or may not have been more rabid on the subject of drinking than the NAs' Mother.

As for the Ss' Fathers, Table XI presents ratings on the same sixteen behavioral variables on which the Mothers were rated. Examination

TABLE XI

RATINGS OF ALCOHOLICS' AND NON-ALCOHOLICS' FATHERS ON SIXTEEN BEHAVIORAL VARIABLES  
(0,1,2,3, = Not present, Poor, Average, Good respectively. ND = No data)

Pairs	Freq. of contact		Active play		Rstrnts		Phys. punish.		Display affect.		Deviant behav.		Phys. health		Relig-iosity	
	A	NA	A	NA	A	NA	A	NA	A	NA	A	NA	A	NA	A	NA
1	0	3	0	2	0	2	0	3	0	3	0	3	0	3	0	1
2	2	3	1	3	1	2	1	2	1	2	1	2	2	2	1	3
3	1	3	1	3	1	3	3	3	1	3	2	3	3	ND	1	3
4	0	2	0	3	0	3	0	3	0	3	0	3	0	ND	0	3
5	2	3	1	2	2	3	2	3	1	2	3	3	3	3	1	3
6	3	3	2	3	1	3	1	3	1	2	2	3	3	3	1	ND
7	1	3	1	3	2	3	3	3	1	3	2	3	2	3	1	3
8	0	3	0	3	0	3	0	3	0	3	0	3	0	3	0	3
9	1	3	1	3	1	3	1	3	1	3	3	3	3	3	1	3
Median	1	3	1	3	1	3	1	3	1	3	2	3	2	3	1	3
P =	.011		.002		.002		.037		.002		.037		.10		.004	

TABLE XI (CONTINUED)

RATINGS OF ALCOHOLICS' AND NON-ALCOHOLICS' FATHERS ON SIXTEEN BEHAVIORAL VARIABLES  
(0,1,2,3, = Not present, Poor, Average, Good respectively. ND = No data)

Pairs	Gregariousness		Intell.		Variab. habitat		Parent. status		Provider		Compat. spouse		Sex role approp.		Alcohol behav.	
	A	NA	A	NA	A	NA	A	NA	A	NA	A	NA	A	NA	A	NA
1	0	3	0	3	0	3	0	3	0	3	0	3	0	3	0	3
2	1	3	1	3	ND	3	1	3	1	3	1	2	1	2	1	3
3	ND	3	ND	2	2	3	1	3	1	3	1	3	1	3	1	3
4	0	3	0	3	0	3	0	3	0	3	0	3	0	3	0	3
5	ND	2	1	2	3	2	2	2	1	3	1	3	2	3	2	3
6	3	ND	2	ND	2	3	2	3	1	3	1	3	2	3	1	3
7	ND	2	ND	2	3	3	2	3	3	3	3	3	3	3	1	3
8	0	ND	0	2	0	1	0	3	0	3	0	2	0	3	0	2
9	2	3	2	ND	2	3	2	3	1	3	1	3	1	3	1	3
Median	.5	3	1	2	2	3	1	3	1	3	1	3	1	3	1	3
F =	.062		.035		.089		.011		.011		.011		.011		.002	

of the Table shows fourteen of the sixteen variables to significantly differ for the two groups. The As' and the NAs' Fathers fail to differ on physical health and variability of habitat. The Fathers, as with the Mothers, are rated in the poor direction. Three As' Fathers were absent shortly after the Ss' birth, each absence resulting in divorce. A marked difference in the two groups' Fathers is the fact that all As' Fathers drank alcohol beverages. (The three absent were all problem drinkers, though rated 0 on this variable as they were absent.) All As' Fathers not only drank, but, excepting one, drank excessively and had frequently lost jobs over drinking. They all had verbal and/or physical fights with their wives and families over their drinking. A typical occurrence in the As' experience during his first ten years was to have witnessed his father drunk, and see him verbally and/or physically assaultive toward his family. Without exception, no NA witnessed such an event.

The As' Fathers, in contrast to the NAs', spent less time with their sons, played less, were restraining and punishing when present, were less religious, failed to stimulate intellectual development of the sons, were poorer providers, had more trouble with their wives and drank excessively. They also exhibited significantly more deviant behavior, primarily a result of their alcoholic excesses. In the three instances where the As' Fathers were absent, the histories reveal that these Ss each had contact with male relatives who in many respects, especially drinking behavior, are comparable to the "typical" As' Father.

The Ss' siblings were rated on eight behavioral variables. These variables and the ratings are given in Table XII. Observe that three Ss,

TABLE XII

RATINGS OF ALCOHOLICS' AND NON-ALCOHOLICS' SIBLINGS ON EIGHT BEHAVIORAL VARIABLES  
(0,1,2,3, = Not present, Poor, Average, Good respectively. ND = No data)

Pairs	Freq. of contact		Active play		Rstrnts		Phys. punish.		Display affect.		Deviant behav.		Compat. wth sibs		Alcohol behav.	
	A	NA	A	NA	A	NA	A	NA	A	NA	A	NA	A	NA	A	NA
1	3	3	1	3	1	2	1	3	1	2	3	3	1	2	3	3
2	3	3	ND	3	ND	2	ND	2	1	2	1	3	1	2	3	3
3	3	0	2	0	2	0	ND	0	1	0	3	0	1	0	3	0
4	0	3	0	3	0	3	0	3	0	3	0	ND	0	3	0	3
5	3	2	1	3	2	1	2	2	1	ND	3	3	1	2	3	3
6	3	ND	2	3	2	3	3	3	1	3	3	3	2	3	1	3
7	1	3	1	ND	1	2	2	3	1	2	1	3	1	2	3	3
8	0	3	0	3	0	2	0	3	0	ND	0	3	0	2	0	3
9	2	3	2	3	2	3	2	3	1	ND	3	3	2	2	2	3
P =	.10		.062		.10		.10		.10		.10		.037		.10	

two As and one NAs, were only children and rated 0 in the Table. For the purposes of this study the absence of siblings is considered "worse" psychologically than having a sibling who creates by his actions behavioral problems for the S. It is the case of "Is a bad brother superior to no brother?" Actually the findings are not significantly altered if the analysis is done for the cases where siblings were present. Examination of this Table indicates only one variable, compatibility with sibs, differentiating the two groups at or beyond the .05 level of confidence. The active play variable tends to be significant for the two groups with the As' sibs tending to have less active play with them. The same rating in the poor direction is for compatibility, with the As having less compatible sibs than the NAs. While some variables would be found by chance significantly different in rating the sibs, the two variables having significance are two that are significant on other stimulus classes. These are amount of active play and compatibility. Incidentally, sibling position is not analyzed formally in this study, but the Ss range from an only child to youngest, oldest, and middle. In brief, the Ss of both groups had equal contact with siblings who placed equal amounts of restraints and punishment on the Ss. Furthermore, neither group had sibs who were significantly deviant in their behavior or who were problem drinkers, excepting one older sib of an A. On the other hand, the As did have significantly less active play with sibs and typically regarded the sibs more as rivals and competitors than did the NAs.

The last stimulus class rated is that of the Ss' Peers. Table XIII shows the five behavioral variables on which they were rated. The Table



TABLE XIII

RATINGS OF ALCOHOLICS' AND NON-ALCOHOLICS' PEERS OF SAME AND OPPOSITE SEX  
ON FIVE BEHAVIORAL VARIABLES (0,1,2,3, = Not present, Poor, Average, Good  
ND = No data)

Pairs	Frequency of contact				Compatibility				Deviant behavior				Activities with peers				Alcohol drinking behavior			
	SS		OS		SS		OS		SS		OS		SS		OS		SS		OS	
	A	NA	A	NA	A	NA	A	NA	A	NA	A	NA	A	NA	A	NA	A	NA	A	NA
1	3	3	0	1	3	3	0	2	3	3	0	3	3	3	0	ND	3	3	ND	3
2	1	2	0	2	1	2	0	2	ND	3	0	3	2	ND	0	ND	3	3	ND	3
3	1	3	1	3	2	3	1	2	3	3	2	3	2	3	1	2	3	3	3	3
4	1	2	1	2	1	3	1	3	ND	3	1	3	1	3	1	3	3	3	ND	3
5	2	3	3	2	1	3	2	3	2	3	1	3	1	3	1	3	ND	3	3	3
6	1	3	1	3	ND	3	1	2	2	ND	1	3	ND	ND	1	2	3	3	3	3
7	1	3	1	2	1	3	ND	3	3	3	3	3	1	2	ND	2	ND	3	3	3
8	3	2	1	2	3	2	1	2	3	3	3	3	3	ND	1	2	3	3	3	3
9	1	3	1	3	1	3	1	2	3	3	2	3	1	3	2	ND	3	3	3	3
Median	1	3	1	2	1	3	1	2	3	3	1	3	2	3	1	2	3	3	3	3
P =	.055		.020		.089		.004		.10		.037		.062		.031		.10		.10	

is arranged for peers of same sex (SS) and opposite sex (OS). (No variables significantly differentiate the Ss' same sex peers at or beyond the .05 level of confidence.) Two variables, frequency of contact and activities, are significant for same sex peers at .055 and .062 levels, indicating the As tended to have less contact with male peers than the NAs; and the As also tended to have less appropriate activities with same sex peers. The As activities with male peers were more limited, and for "whatever reasons" were confined to such activities as pitching ball, and a few street games. (Incidentally the As more frequently held jobs to "help out at home.") The As had fewer instances than the NAs of participation in school or other organized sports. A tendency was present for the As to exhibit more fighting and argumentative behavior than the NAs.

A different pattern exists for the groups regarding their relationship with female peers. The As had significantly less contact with girls, and, in two cases, As 1 and 2, there was essentially none. They were not compatible, deviant behavior was present, and activities in which they engaged were different activities of the NAs. The Table shows four of the five variables to be significantly different for the two groups at a confidence level beyond the .05, using the Binomial Expansion. A point of focus for understanding the As' relationship is deviant behavior and activities. Five As reported having had sexual experience with girls, usually slightly older, when they (As) were about school age. In each instance they reported they were "unwilling" participants, i.e., they were passive, permitting the girls to manipulate their genitals. Three expressed having experienced pain. One allowed

he was thrown on the ground with three girls alternately sitting astride him, attempting intercourse. Other As reported instances in which they attempted to "play house" with girls and were rebuked. The NAs reported behavior comparable in certain respects to the As, but the intensity was absent. No NA reported painful early sexual experience, though several did engage in sexual play. The difference in frequency and compatibility seem more comprehensible with such experiences as just noted.

Certain variables were used repeatedly for rating the stimuli during the Ss' first decade. These variables are: frequency of contact, active play, restraints placed on S, physical punishment, displays of affection, deviant behavior, and alcohol drinking behavior. The first variable, frequency of contact, significantly differentiates the two groups on Mother, Father, same and opposite sex peers. The As uniformly experience less frequent contact with these persons than the NAs. Active Play significantly differentiates the two groups on all persons but grandparents. Again, the As had less active play than the NAs with Mother, Father, siblings, and same and opposite sex peers. The restraint variable is significantly different for the two groups in three of the four times rated. (Restraint not rated for Peers.) The As' grandparents, Mothers, and Fathers all placed either excessive amounts of restraints or relatively none on them. This result is not true for the NAs who experienced more appropriate restraints. Only the Father of the As punished with sufficient frequency to differentiate the two groups. No differential amounts of punishment occurred for the groups' grandparents and Mothers. Displays of affection are significantly

different for the groups for Mothers and Fathers, the As receiving less affection than the NAs. Only two of the stimuli, Fathers and opposite sex peers, differentiate the groups on Deviant Behavior, with the As again experiencing less normal behavior from the stimuli than NAs. Only one stimulus, Fathers, differentiates the two groups on Alcohol Drinking Behavior. In this instance the As experienced more contact with alcohol usage by others than the NAs.

In brief the As uniformly are rated in a poor direction on the variables generating significant differences in the groups. The implication of this fact is discussed in the following chapter, along with how this finding relates to the findings on current functioning of the two groups.

## CHAPTER VI

### DISCUSSION

The current functioning of the alcoholics in this study is in many ways descriptively similar to the alcoholics Myerson (21) studied. The reader will recall that the Myerson group spent one quarter of their time in jails during the last ten years and that they were responsible to no one for anything, being free to use all their energy, ingenuity, and resources to obtain alcohol in any content. Of the nine alcoholics of this present study, it was found that six of the nine drink alcohol in almost any variety, from shellac thinner to distilled spirits. Six of the nine also drink without regard to where they are or to whomever is present, with the exclusion of their Mothers, around whom they do not drink. These two variables alone, variety and place, indicate rather clearly that the alcoholics of this study are "chronic" drinkers.

A relationship found to exist between the two groups' drinking behavior is that, on the three items on which the controls score (time between drinking periods, behavioral changes with drinking, and long range consequences), all of the alcoholics score; and on the two items (variety and conditions) on which the alcoholics score less frequently, no control scores. The implication from this relationship appears that the last behaviors to emerge in progressive involvement with an alcoholic process is drinking anything under almost any kind of condition. Such behaviors as blackouts, delerium tremens, and so forth, are possibly not so serious indicators of advanced alcoholism as the two variables

just mentioned, and the same relationship would seem to hold for amount and frequency. It was found that all controls (3) scoring on the drinking scale scored on item five (behavioral changes immediately preceeding or with onset of the first drink) with all alcoholics scoring on this item. This finding would indicate that a first behavior to emerge in the alcoholic process is behavioral change, with amount, frequency, and rate changes emerging later in the process.

An examination of the two groups' current behavior other than drinking behavior reveals that twelve, or forty-eight percent, of the twenty-five major behavioral variables analyzed are significantly different for the two groups at or beyond the .05 level. These variables are given in the following statement form:

As dream and awaken more than the NAs.

As eat less food and eat alone more than NAs.

As bathe less than NAs.

As drink liquids (besides alcohol) faster and drink less varieties than NAs.

As have less heterosexual intercourse than NAs.

As exhibit more extreme behaviors as crying, diminished talking, explosive arguing toward their Mothers than NAs.

As avoid their siblings more than NAs.

As are divorced or separated from wives more often than NAs and if As around wives, exhibit behavior similar to behavior toward Mothers.

As avoid their children more than NAs and if around them, exhibit more crying or excessive talking than NAs.

As exhibit more extreme behaviors as fighting, crying, diminished talking, toward their peers than NAs.

As do fewer chores than NAs.

As work less and earn less money than NAs.

As these twelve variables show, the alcoholics in this study manifest a pervasive psychological disturbance of the organism. The most outstanding feature of this disturbance is at the level of interpersonal relationships. The behavior of these alcoholics is as remarkable as that described by Myerson (21) with especial emphasis on "the total inadequate interpersonal relationships these men conduct." The outstanding feature of these alcoholics' interpersonal relationships is the avoidance of contact with people as compared with that of the controls. Their avoidance habits are primarily toward female peers and siblings with no significant differences between groups for avoidance of male peers and Mothers. Another aspect of their interpersonal relationships is that of behavioral extremes. While no alcoholic exhibits all extremes, all alcoholics exhibit some extremes, a common one being diminished talking around others unless drinking. Explosive, fighting behavior is not uncommon with half of the alcoholics. It is not a surprise to find that the alcoholics score in the higher ranges of a scale of environmental deprivation. Non-overlapping distributions were found for the two groups, with the alcoholics experiencing greater deprivations than the controls by a factor of three to one. These environmental deprivations, as discussed by Pascal and Jenkins (8), are of a fundamental sort deemed "necessary for psychological survival in our culture." It is a moot point as to which variables have the status of acting independently,



that is, whether the alcoholics drinking behaviors serve to produce environmental deprivations or the opposite holds. It seems more accurate to state that these two states covary. From the author's own experience and the experience of others, it has been noted that "forcing a reduction in environmental deprivations" brings about frequently a decrease in characteristic alcoholic behaviors. On repeated occasions the writer has observed that hospitalizations, workhouse sentences and the like serve to elicit more appropriate behavior from an alcoholic. Under these conditions he is often medically treated, typically fed, bathed, talked with, exposed to adequate physical comforts, and exposed to males and females (nurses) in a controlled relationship. In brief a decrease in environmental deprivation has been "forced" upon him and he typically responds, though just so long as the force or restraint variable is operating. The writer vividly recalls an experience with one of the alcoholics of this study. The person had been incarcerated in the county workhouse for several months and had been generally pleasant and responsive to others about him and to his environment. This behavior was present up until the moment he was released and the door of the workhouse closed behind him. At this moment, in the presence of the Examiner, the male started trembling and reported that he was nervous and had "that old feeling of needing a drink." This behavior continued during a car trip into the city and culminated in the person's returning to his alcoholic behaviors of the past. Of note is the fact that alcohol was on different occasions available (surreptitiously) to the person during his incarceration but he did not imbibe.

There exists in the above anecdote and the more general problem of



their environmental deprivation a condition of an overgeneralized habit system (alcoholism). It appears the person with such a system can only discriminate gross differences between restraint and non-restraint, to the point where the difference must be large and easily discriminable as being locked up or not locked up—forced versus non-forced decreases in deprivations. These data are not out of line with the hypothesis of Pascal and Jenkins (8) that cortical malfunction may be involved in alcoholism when one considers the perseverative behavior. These data are also in line with Wilkins' (14) findings who notes that alcoholism is related to stress and deprivational factors when these are thought to exist in the psychological as well as the physical areas.

In brief the findings on current functioning indicate that the nine alcoholics of this study manifest a pervasive organismic disturbance of which alcoholism is the most dramatic. This disturbance covaries at least grossly, if not uniformly, with environmental deprivations. Fifty-eight variables were assessed for the first decade of life. By chance one-half of these could be significant. Actually twenty-seven (forty-seven percent) were found to differentiate significantly the two groups. Of note though is the fact that fifty-one median values of the fifty-eight for a given group have the same direction of effect. That is, the As have lower median values in fifty-one of the fifty-eight opportunities, indicating a consistent direction of effect—deprivation in this case. Those variables having a significant magnitude difference (.05 level or less) are given in the following twelve statements;

As had less contact with Mothers, Fathers, and female peers  
than did the NAs.

As had less active play with Mothers and Fathers than did the NAs.

As had more restraints placed on them by Mothers and Fathers than did the NAs.

As had less demonstrated affection by Mothers and Fathers than did the NAs.

As experienced more deviant behavior from Fathers and female peers than did the NAs.

As were exposed to more alcoholic behavior from Fathers than were the NAs.

As were exposed to more extremes of religion by Mothers and Fathers than were the NAs.

As Mothers and Fathers were less intellectually stimulating than were the NAs.

As Mothers and Fathers were poorer providers than were the NAs.

As Mothers and Fathers were less compatible than were the NAs.

As Mothers and Fathers engaged more frequently in an inappropriate sex role than did the NAs.

As were less compatible with siblings and female peers than were the NAs.

These above differentiating variables rather clearly demonstrate that the alcoholics of this study, during their first decade of life, experienced greater psychological deprivations than did the non-alcoholic controls. During this period of their lives their parents were physically present less than the controls. For the Mothers it was most typically work that kept them away, though desertion accounted for two

Mothers' absences. For the Fathers, work, separation, divorce, and particularly drinking accounted for their absences. This is not to say that the non-alcoholics' parents did not work, or drink, or were absent. Rather it is to say that the absences were greater for the alcoholics' parents than for the non alcoholics. A striking difference was the infrequent contact the alcoholics had with female peers in comparison with the non-alcoholics. In this sense reduced opportunity for learning patterns of behavior toward female peers existed. This fact plus reduced frequency of contact with restraining and unaffectionate Mothers affords an excellent opportunity for learning behavior patterns characterized by deviancy. Also an important stimulus configuration was that the alcoholics encountered with greater frequency a significant person (Father, uncle, etc.) who had an alcoholic "problem".

The case seems to be for the alcoholics herein that an overall relative deprivation of environmental stimuli existed during the first decade of life. This being the case the alcoholics acquired certain "expectancies" (33) toward the environment so that increases in stimulation beyond certain levels elicits behavior designed to reduce the stimulation level. In childhood this behavior for our subjects was frequently dutifulness, usually at jobs, and assumption of "adult responsibilities" particularly in work areas. This behavior could well serve to placate and keep at some predictable and stable level a relationship with the parental figures. This same behavior tends to isolate and put at a physical distance childhood peers. With the onset of adolescence and adulthood the "alcoholic" is "forced" into a relationship with male and female peers. It is during this period that alcohol

is frequently encountered. The data of Peters (34), O'Halloren (25), and Ullman (26) on abnormal first drinking experiences may well be related to this encounter with female peers, the abnormal reaction being the manifestation of the organism's effort to reduce stimulation or following Pascal's thought—"to cope with frustrated expectancies." Certainly alcohol does impair cortical efficiency, is a depressant (35), and in this sense reduces the level of environmental stimulation. The alcoholics' "tired statement" that he only wants the first drink has a plaintive note to it in that "relief is in sight." The relief from too intense stimulation is possibly what he so desires. Deprivations of female affection and less contact with females as such may well make a sustained close relationship with a female an impossible learning problem and a need for relief is ever present.

Discussed earlier in the present chapter was the fact that alcoholics have been observed to respond favorably to forced decreases in environmental deprivations. The significant variable mentioned was the restraint one. Implicit in the concept of restraint is controlled stimulation. If this is the case, the alcoholic should respond behaviorally more appropriately, as stimuli, especially "human", are regulated in some degree. Institutions do just this.

Laboratory studies of early stimulus deprivations on the acquisition of "alcoholism" in animals could point out the fruitfulness of such speculations. Studies of alcoholics' early peer relationships, particularly females, may help clarify this variable. The character of this study was, by nature, open-ended and in this sense lacks precision. A replication of this work is deemed necessary as chance is forever present.

Also more careful analysis of the variables under investigation seems pertinent especially with regard to the possible correlations existing between certain variables. As this study set out to develop hypotheses, the following tentative ones are posed:

- I. Alcoholism is a habit system which is characterized by a pervasive organismic disturbance.
  - A. The primary disturbance is at the level of interpersonal relationships which are characterized by behavioral extremes.
  - B. These behavioral extremes covary with environmental deprivations.
- II. Alcoholism is related to early environmental deprivations of primarily a psychological nature.
  - A. Alcoholism is activated when "human" stimulation levels exceed levels experienced in childhood.
  - B. Deprivation of female peers seems of particular importance in that inadequate experience serves to make of them a stimulus eliciting deviant interpersonal habits.
  - C. The alcoholic responds favorably to forced, and only forced, decreased deprivations in that the restraint variable serves to control stimulation.

## CHAPTER VII

### GENERAL SUMMARY AND CONCLUSIONS

The purpose of this investigation has been to generate hypotheses about the nature of alcoholism through the use of methodological techniques suited for behavioral investigations. To carry out this study standard psychological interviews of an intensive nature were conducted on nine county workhouse male inmates who were selected because they scored high on a behavioral criterion of alcoholism and were representative of the workhouse population. The same standard interviews were conducted on nine control (non-alcoholics) males who were matched to the alcoholics on certain variables.

Behavioral case histories were prepared on all eighteen Ss, and two judges, using the case history data, rated all Ss on fifty-six behavioral variables and a scale of environmental deprivation, with both the variables and the deprivation scale pertaining to how the Ss presently function in their environments. Ratings also were made on the Ss' first decade of life using the Pascal-Jenkins Behavioral Scales. These scales pertain to the kind of stimuli the Ss encountered during this period of their lives. Nonparametric statistical analysis was made on each variable to determine if the alcoholic and control groups were significantly different on the variables.

The cross-sectional variables were grouped a priorily into four behavioral categories: Occupation, Physical Habits, Interpersonal Relations, and Non-Occupational Activities. Analysis of composite ratings by categories yielded significant differences between groups for each

category. Individual analysis of behavioral variables comprising the categories showed forty-eight percent of them to be significant between groups. The alcoholics also were found to be experiencing greater environmental deprivations than the non-alcoholics. Analysis of Pascal-Jenkins Behavioral Scales, on Ss' first ten years of life, showed significant group differences on forty-seven percent of the variables comprising these scales.

A general discussion was given of the alcoholics experiencing greater environmental deprivation and the relationships of this deprivation to their current drinking and other behaviors. Of particular note was the alcoholics inadequate interpersonal relationships, manifest in behavioral extremes. An attempt was made to relate functionally the alcoholics' current behavior with their having experienced in childhood stimulus situations having greater deprivational potentials than the controls. Several hypotheses were advanced in keeping with the purpose of this study. Mention was made of the need for replication of this study, plus refinement of measurements as well as intercorrelational analysis of the variables studied.



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## APPENDICES

CHINESE

**APPENDIX A**

## APPENDIX A

## ALCOHOLISM SCALE

W. O. Jenkins

H. C. Davis

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## TO THE EXAMINER:

The scale is to be used in conjunction with an interview of the subject concerning his alcohol drinking behavior. The examiner's task is to obtain sufficient information from the subject to rate with confidence. In each case, specific instances of behavior should be obtained as a basis for judgment. Do not confuse the subject's opinion with your rating of his actual behavior.

For example: Do not ask the subject if he "drinks a lot" and accept his answer of "yes". Rather, have him report in detail how many pints, quarts, etc., and the kinds consumed per week WHEN ALCOHOL IS AVAILABLE. This same kind of behavioral evidence is necessary for all other items.

The scale is two-point, forced-choice, the subject being judged either poor or good on each item. If the judgement is poor, the score is one (1). If the judgement is good, the score is zero (0). A high score on the total scale is indicative of alcoholism. For each item in the space provided, write in either a zero (0) or one (1). In rating all these items, assume that the subject has the opportunity to procure alcohol.

1. Amount consumed. Give a rating of poor (1) if the subject usually drinks three pints or more of alcohol other than beer along with a case of beer or more per week; also give a rating of poor (1) if the subject drinks no beer but five pints or more of other liquor per week.

2. Variety of alcohol. Give a rating of poor (1) if the subject drinks any alcoholic beverage that is not a standard brand (excluding beer and wine made by the subject), for example, moonshine, bathtub gin, varnish thinner, Bay Rum, canned heat, shoe polish, etc.

3. Rate of drinking. Give a rating of poor (1) if the subject's rate of drinking is: (a) as fast as possible; (b) one-half pint of hard liquor in 30 minutes or less; (c) six swallows or less per one-half pint of hard liquor.

4. Time between drinking periods. Give a rating of poor (1) if the interval between drinking periods for the subject is less than one week.

5. Behavioral changes with drinking. Give a rating of poor (1) if the subject shows any abrupt and marked behavioral changes with onset of drinking, such as greater approach to people (more talking or fighting with them, increase in sexual behavior, etc.) or greater avoidance of people (decrease in talking and other withdrawal behaviors, etc.)

6. Conditions of drinking. Give a rating of poor (1) if the subject drinks any time of the day under any environmental circumstances.

7. After-effects of drinking. Give a rating of poor (1) if one or more of the following symptoms occur once a week or more frequently or half the time the subject drinks: passing out, inability to locomote, lack of recall, severe hangover (shakes, nausea, and weakness), or DTs.

8. Long-range consequences of drinking. Give a rating of poor (1) if the subject has a total of three or more occurrences of the following in connection with drinking: arrests, hospitalization for drinking, loss of job, loss of family, or loss of friends. Fill in all of the above that have occurred and the number of times.

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## APPENDIX B



## APPENDIX B

## Case History

Scale A - Cross-Sectional Behavior

## Current Status

Joe A. is a thirty-three year old white divorced male who currently is in the workhouse for alcoholism associated with unintentional exposure. When not in the workhouse, the subject lives with his mother and father in an East Tennessee metropolitan area. The residence in which he resides is in a lower middle class section but the house itself, owned by the parents, is in a run-down condition. It is a five room house and is poorly furnished, but does possess a television, radio, stove, refrigerator, and a washer but no dryer. All of these are owned by the parents. The house itself is in need of paint and the fence around it is falling down and needs paint also.

The subject currently is in the workhouse having entered there on July 27, 1957, after having been initially arrested and convicted for drunkenness and intentional exposure in June of 1956. At that time, June, 1956, he states his trouble started. He was a salesman with a music company and was making a call in the laterafternoon in town. On stopping at the customer's residence, he states that he got out of the car, and thinking he was unobserved, proceeded to urinate on the sidewalk. He states he had been drinking, but was not drunk. Having urinated, he got back in his car and drove a couple of blocks further down the street and met his customer. While sitting in the car with his customer, a few minutes later the police drove up and took him back to the point of urination where he was confronted by two girls who said they had seen him urinating. A policeman got in his car with him and took him back to the police station, and while stopped at the traffic light, he jumped out and ran off. He returned home and a week later was picked up by the police. His attorney arranged for a sanity hearing and he was sent to a state mental hospital for observation for forty days. He left the hospital in August, and then spent two months looking for a job. He had lost the salesman job he was working at. In November he went to work as office helper and warehouse supervisor. At this time he states a lot of pressure was on him and he didn't do a good job, i.e., things he could normally do in the way of taking responsibility he couldn't do. The pending trial was on his mind constantly and that he felt he would get considerable jail time out of it. He worked from November to April and was fired April 20, due to a labor cutback, so he states. He had informed his employer of his status and did not feel this had anything to do with his being fired. From November to April the trial was postponed three times, and finally was held in June of 1957. After being fired in April, he was completely out of heart, feeling down and out, and he did no permanent work after that time, just picking up odd jobs at construction, etc. All of this time he was living at home with his parents as his wife had left him.

He states one reason he was not looking for a permanent job was so he would not be torn away from it, because he knew at the trial he would probably get time. He was sentenced in June but got a month's stay of sentence and began serving it July 27th. During this time he stayed at home and spent all the time he could with his boy. He denies any drinking during this time. His last hard drinking was before the trial began in April.

#### Physical Status

**Sleep:** Presently the subject states that life is rougher than he imagined in the workhouse. "I don't guess I've ever been so low. I guess I'm humiliated." At first the subject states he was sleeping very poorly awakening often at night and dreaming almost every night. For the past week the subject states he has settled down somewhat averaging about five hours of sleep per night. He dreams three or four times a week currently and says they usually concern a girl friend. The girl is a school teacher the subject has dated after he had been divorced from his wife. He denies memory of any other dreams or that any of the dreams are frightening. The subject typically reads until about midnight and then falls asleep and sleeps about five hours waking up then and smoke and lying listlessly on his bed.

**Cleanliness:** The subject bathes once a day and sometimes twice. He states the bed as well as the building itself is dirty and that it is difficult to keep clothes clean as they must be worn a week at a time without change and therefore he feels the need for taking baths that frequently. The subject also regularly brushes his teeth once a day and gives a general appearance of being neat and clean. Also his clothes are neatly kept, to the degree that they can be.

**Eating:** The subject's appetite is fair. He only takes a couple of bites of an egg for breakfast and whatever is served but eats all of his lunch and supper which usually consists of beans and fish. For the first few days here he was nauseous due to the food but says he seems better adjusted to it now. The subject is forced to eat around other people, but during his meals no talk is allowed. The subject states this does not bother him as he often prefers to eat alone in contrast to eating with other people. The subject is a fairly slow eater tending to pick at his food.

**Elimination:** The subject has no difficulty with elimination or urination averaging bowel movements twice a day. He uses no medicine. Urination occurs six to ten times daily.

**Drinking:** Currently the subject drinks a can of coffee at each meal as well as purchasing two or three cups of coffee during the day. He also drinks three or four soft drinks as he feels thirsty a lot of the time. He estimates he would drink four or five glasses of water per day. When available the subject also drinks milk for breakfast and supper.

but it is not available currently. The subject's heaviest drinking period was that of 1954 until 1956 prior to his arrest. The subject was drinking both whiskey and beer but denies moonshine, smoke, etc. He drank about ten cans of beer and at least a half pint of whiskey a day over a week and this amounted to about seventy-five cans of beer and between three or four pints of whiskey a week. He did all of his drinking in two different bars and was out each night until about twelve o'clock. The subject states he has come close to the DT's getting severe tremor but has never had them to the point that he was halucinatory. In eleven years of drinking the subject states there was only one three day period of non-alcohol at all, this in 1956 when he was sent to the mental hospital for alcoholism. Some days during this drinking period the subject would have only two beers and one drink of whiskey. The first few beers the subject drinks very slowly, about one can in thirty minutes. Then his rate increases to a can in about half that time and he begins to get saturated. He drinks three to four ounces of whiskey at one swallow but contends he has always tried to make drinking a non-rushed thing. The purpose behind this was to always have a supply available he states. By drinking slowly he is able to do this. The subject kept a bottle of whiskey at his parents home also and drank there at least once a week. The subject states within the past three or four years his drinking has become more solitary and that he did not call up people to drink with him. The subject states that after his arrest and prior to the trial that when drinking, he was unable to discuss his impending trial at all with anyone. But if he had a drink, he could discuss the trial. This he states seemed paradoxical to him. For the first few drinks, he says, he knows he shouldn't be drinking but eases his conscience by thinking of past accomplishments when drinking. For example in his selling work he knew band leaders at school who drank and usually when he would make a sale, they would all drink. These sales events would occur to him when he was drinking and he would think to himself how successful he was. Actually he states when he was sober, he knew he couldn't sell well. When drinking, he thought he was a better salesman.

Smoking: The subject smokes about thirty cigarettes a day and does not use tobacco in any other form. The subject has no worries or concern over smoking regarding his health and has no intention of quitting.

Sex: The subject presently denies any type of sexual activity including masturbation. Prior to entry in the workhouse, the subject also had no sexual interest for the past year. Approximately once every month for the past year the subject has had intercourse but this was usually when drinking prior to a particular drinking event and usually with some female he would pick up in a bar. Actually the subject expresses very little interest in sex and says he has none since divorced from his wife a few years back.

**Physical Health:** The subject estimates his physical health as being good though he does complain at times of a slight energy loss. He has not visited a physician other than while at the hospital for the past two years. He has no significant illnesses or frequent colds or flu, etc., within the past few years. Generally the subject's health seems to be good and does not seem to be a problem to him.

**Exercise:** The subject exercises very little except what he gets while in the workhouse. He works in the kitchen helping clean up the dishes and setting the table for three meals a day. This involves walking for about an hour and a half at each meal. The remainder of the time the subject is somewhat on his own and confined to a cell. Actually he gets little exercise and complains of this saying that he feels a very keen need for more to do.

**Non-Occupational Activity:** For the past year the subject has engaged in no hobbies or sports, etc., though before drinking the subject had a very strong interest in baseball and music. He plays a guitar, clarinet, and a piano. One time he played semi-professional baseball. As noted he currently engaged in none of these activities. For the past two years the subject has only lived at home with his mother and father and invested the remainder of his time into his job and drinking. While at home the subject will sit for two or three hours watching television, regardless of the program. He then will typically lie down on the bed and read magazines or western stories. This is a typical day in the subject's life while at home, and not actually drinking. His parents will be there also but he has little or nothing to say to them and they have little to say to him. The subject's leisure time activities alternate between two, three, and four day drinking periods, sometimes longer, sometimes less. Typically going home in the evenings around five o'clock, eating supper usually along which is served by his mother, and watching television for two or three hours saying nothing to his parents who also sit in the same room and then retiring to his bed where he reads magazines for two or three hours and then the subject goes to bed. The subject has no chores that he does around the house though there are many stimuli for chores. The subject does not attend church neither while at home or the services at the workhouse.

#### Interpersonal

**Mother:** For the past four years the subject has lived at home with his mother and father. She is sixty-seven years old and thought to have abdominal cancer. The mother is described strictly as a home-body. She is a very quiet woman and goes quietly about her housekeeping tasks. The mother fixes breakfast and the evening meal for the subject and his father. The subject only spends a few minutes of any day with his mother in any kind of talking relationship. Typically the mother is in one room of the house and the subject in the other, while he is there. If they talk, it is controlled with very little affect involved. Actually the subject states he feels tense while at home and gets restless and typically gets up and walks out after a couple of hours of being there.

When the subject comes in and falls on the bed the mother typically covers him up and cares for him if he is sick. She seldom if ever makes any comment regarding his activities other than he shouldn't be doing the things he is doing. The subject will spend anywhere from thirty to forty hours per week in and out of the house and he is in that sense in the physical presence of his parents but there typically is nothing said between them.

**Father:** The father is sixty-eight years old and a retired farm supervisor from John Tarleton Institute. The father presently has heart trouble but gets around and is quite active around the house. The father is home continuously as is the mother and the subject comes in contact with the father as much as the mother. The father is a talkative man who lectures and harangues the subject a good bit. The subject usually says nothing back to him. About once per month the father will be drunk though it is a fairly controlled kind of intoxication and the father does not get violent currently. The subject and his father are drunk around the house at the same time approximately once a month. When drinking the father stays up until the wee hours of the morning and keeps the entire house up lecturing them and arguing both with the mother and with the son. The subject on occasion, when he and the father both were drinking, has hit the father. This is about once a year for the past two years.

**Siblings:** The subject is the middle child of three boys. Currently the subject has little knowledge of where the brothers are and expresses controlled resentment at them as they are both doing monetarily well and give no support to the family. Both brothers are married and have automobiles and homes and are living away from this city. The subject never writes them nor expresses any interest in them except that he feels that they should be contributing toward the family as the parents are in a hard financial strait. The subject feels the load is on him. The subject's older brother has a disease that is leading to progressive blindness and the brother has attended a school for the blind.

**Wife:** The subject's wife lives in the same city and is a legal secretary. She has full custody of their one child though she does permit the subject to see the boy who is ten years old about once per month if the subject desires. The subject sees his ex-wife about once or twice per year and will call her about six or seven times per year usually regarding getting permission to see his son. About once a month the subject will also call his wife when he is drunk at which times he brags concerning himself and usually low rates her. Typically the subject has no contact with his ex-wife who functions quite well. The subject has support payments for his child to be made and he typically does not pay them. In fact for the past two years he has made only token payments. His wife now has a charge of non-support out against the subject and he is to be tried for this when his current term is served.

**Children:** For three months prior to entry into the workhouse the subject slacked off his drinking and because he knew he was going to enter the workhouse, tried to spend all the time he could with his child, he states.



He saw the boy at least twice a month for two day periods and on the weekends. He states in this connection he is trying to do all the things for his boy that his father never seemed able to do for him. The subject worked at odd jobs usually one day or two day laboring affairs to pick up a little money during these three months. With this money he usually entertained his child on weekends. He would buy him gifts and present the child with them when the boy was brought to the parents' house. The subject would spend the full two days with the boy, much of it talking though sometimes during the day he would walk the boy down to a nearby park and they would talk and ride rides and look at the animals. The subject did not tell the boy about his impending incarceration and at present does not know where the father is.

#### Interpersonal—Other

For approximately a year or so before entering the workhouse the subject had spent little or no time in any companionship activity with peers unless he was drinking. Typically at these times he would be in a bar where he knew other males. He typically would brag, talk loud, and exude confidence in his selling ability. When sober, the subject recalls that he was walking down the street one day and he met an old friend to whom he owed \$10. He states the friend asked him for the money and he, the subject, apologized that he did not have it, etc. On leaving the friend the subject felt put upon and was quite angry at the friend for humiliating him. In the workhouse the subject spends about three hours per day, not consecutively, in what might be called a companionship activity with a fellow inmate who is in a counseling group. They generally discuss drinking functioning in the role of a somewhat wiser head of his friend. The subject is in contact with at least twenty other males who sleep in the same cell as he. He rarely if ever says anything to them and gives the appearance of stand-offishness. He feels "We don't have anything in common." The subject typically avoids the physical presence of the authorities at the workhouse and makes no request of them of any kind. In so many words, he is serving his time unobtrusively as is possible. He speaks contemptuously of the guards themselves, though of the superintendent, the subject has little to say, only, "I've never been around him, I guess he is OK." Toward social inferiors in the workhouse, the subject, out of their presence, is disparaging at times and contemptuous though actually has no physical contact with them of any kind.

#### Organizations

The subject belongs to no organizations of any kind nor does he attend church nor is he interested in politics or world affairs, etc.

#### Non-Social

A portion of the subject's time is spent essentially alone. He typically occupies it by reading or lying on his bunk thinking. When out of the workhouse, the subject utilizes the same time by dispersing it with drinking.

Scale B - Independent Variables**Physical Appearance**

The subject is a fairly handsome individual weighing about 175 pounds, is five feet and eleven inches tall and of predominately mesomorphic build. He has no obvious sensory or motor defects. His skin coloring is good and he is well proportioned.

**Ancestry**

The subject's ancestry is native Tennessean and Texan. The maternal grandparents were rural East Tennessean farmers with some amount of elementary education. There is no evidence of insanity, etc., on the part of the maternal grandparents. The subject only has a vague memory of his maternal grandmother and that was the day she died when he, the subject, being preschool age, noted many relatives coming around the home who were usually not there. The subject thinks this made him inquisitive and he does remember wondering why everyone was there. Later he said he realized it was because of the death of his grandmother. The subject's paternal grandparents lived in Texas, the subject's father coming to Tennessee from Texas. The subject recalls that the paternal grandparents were both quite interested in politics and he thinks the grandfather held some small public office in Texas, though he is not sure. The subject never knew these grandparents and thinks he remembers his father speaking kindly toward the father's mother. He adds though, the father never went to see them. All grandparents died at an elderly age of seemingly natural causes. The subject is confident the grandfather drank but is equally confident he was an alcoholic. He does not know the occupation of the grandparents excepting he guesses they were farmers. Remembering the maternal grandmother's death, the subject thinks she lived close by when he was of preschool age. He has a vague recollection that she was very stern and remembers that she carried herself very erect. Maternal grandparents were of an upper lower social class and the paternal seemingly of lower middle or middle class people.

Parents: Both of the subject's parents are living and in their sixties. The father is a retired farm supervisor of an orphan's home. The father presently has heart trouble but is able to get around. He has an elementary education. The father used to drink a lot, that is at least two or three times per week but since retiring the father only drinks about once a month at which times he gets fairly drunk. This lasts only one night. The subject states when the father did drink, he has always provided well for the family. The subject's parents have been separated on two different occasions since the subject was born. The separations lasted for a week or so, usually being over the father's drinking and arguing while drunk. Currently the parents would be described as upper lower class people with probably middle class values. About the time the subject was growing up, the parents were very poor people living on a farm in the East Tennessee hills. The mother has abdominal cancer that seems to be arrested. There is no evidence of severe mental aberrations in the family.

**Birth and Infancy:** The subject was a full term baby weighing seven and one half pounds. There is no evidence of the mother's having any difficulty during pre or post partum. The subject was breast fed and is reported to have been the least irritating of any of the three children. He is described as talking and walking early and being a very active baby. "I was reputed to be very healthy." The subject had no unusual illness or accidents in early life. The subject was born at home. The parents and an older brother were the members of the family at this time. When the subject was three years old, another brother was born. The subject had no knowledge of toilet training but guesses that it was early as he thinks his younger brother was toilet trained early. As an infant and in early childhood the subject had no playmates other than his older brother who was six years his senior and then his infant brother who was three years his junior. They were not close to other children as they were living in a house where the family was share cropping.

#### **Family and Social Activities**

**Mother:** The subject's earliest memory of his mother was when he was four years old. He remembers her getting her oldest child ready for school. His brother was to be in some sort of pageant at school and she was making him some sort of uniform. "I think I was wondering if I could have the same thing when I got in school." The subject describes his mother as a person who doesn't go out of her way to talk. He states she has stayed home all her life and worked very hard. She is a person of medium height and somewhat unattractive as she now tries to be obese and not too well kept. She does appear clean. The subject states that the only mistake he thinks his mother made was being a little too helpful. "She built up an unrealistic picture of me and made me believe it. She kept saying throughout my life I was a good musician and I learned only as an adult that I was a rotten one." The subject can remember when about four or five years old and they were in very poor circumstances at home and that the food was very difficult to get. He recalls sitting and listening one night while his parents were arguing. He remembers hearing his mother say that she guessed she could go out and get some work or at least try to. When the subject became school age, he notes the mother was the one who always got he and his brothers ready to go to school. She would send them off daily with a lunch usually of biscuits and meat and she would be home when they returned. The subject remembers that the mother seemed to always favor the younger brother because he was sickly most of his life. Also the subject states that he could get away with a lot more from his mother than he could his father. He remembers as a child that the mother assisted and aided he and his brothers in playing but she did not actually participate. He does recall as a child when around nine or ten that the family sat down and played rook or some other card game about twice a week at night. He also can remember vividly the mother encouraging the children to read and that she would make suggestions of books they should go to the library and get. He recalls his older brother always seemed eager to do this and responded to it but the mother would usually have to get the older brother to get



a book for the subject, as he, the subject, would tend not to do this. When the subject was fourteen the parents moved to an orphan's home where the father became a farm supervisor. As a child he remembers his parents, especially his mother, stressed religion a great deal but he adds he never really thought seriously about religion until after he was a divorced adult and was going with a school teacher. Though stressing religion the subject states he went to church only about twice a month, this being for the Sunday services. Typically the mother would take the boy though on occasions she would send them in the care of the older brother, and she and the father would stay home.

Father: The subject's father is in his late sixties. He is a big man and talkative tending to be opinionated. The subject's earliest memory of his father is when he, the subject, was six years old and they were on a fishing trip. He remembers the father showed him the fundamentals of pole fishing though the subject adds he couldn't catch on to everything his father was saying. Also he remembers that he did not catch any fish that day but that his father did. The subject states he always felt close to his father except when the latter was drinking because then the father would argue. The subject states he remembers being embarrassed while in school because all of the other children knew his father drank and also he knew full well drinking could lead to fights between his parents. "I was afraid whenever my father was drinking that he would hurt my mother." One occasion when the father and mother separated when the subject was a child, the subject said he resented this not because the mother packed up and left the father but because of the situation that brought it about, that-is—the drinking. Regardless of the drinking the father has lived at home with the family continuously excepting during their separation for a few weeks. The subject notes the father was a disciplinarian in their family and the father has been strict throughout the subject's entire life. The subject notes that the father most strict regarding doing work properly and smoking. The subject has been whipped on innumerable occasions throughout with switches, boards, etc. The subject recalls when eight years old the father didn't want the subject to associate with anyone at who smoked, regardless of who they were and one day whipped the subject when he saw him with an older boy who smoked. The subject said he always had to stay home and work doing farm work and helping the father in the field. Also he remembers the father gave him chores to do and that if he didn't do them he could get a whipping or just as often have privileges taken away, such as going to the movie or missing a Saturday ballgame, which the subject liked to attend. As a child, the father typically took the subject and his brothers to a baseball game on Saturday in which the father often played and let the boys watch. This was a privilege that the father typically took away from the boys when they did not obey him. The subject states he currently feels sad and almost like crying when he thinks of his father and the mistakes his father made with him. "As I look back I wish it had been more playful, he was so serious. I tried to be with my boy the way he wasn't with me." The subject remembers when he was seven years old of stealing a pack of cigarettes from an uncle and the father whipping him with a six inch board. "I stood and took it and it hurt, but I didn't resent

the punishment." As noted the father used various methods of punishment some being to curtail movies, parties, and often times whipping. The subject feels the unjust punishment was at a time when the subject was in junior league baseball. He recalls the father made him miss two Saturdays in a row because the father felt there were important jobs to be done other than baseball. Because of that the subject eventually lost out on the team. He states he did not openly protest this punishment as "I knew there was no point in it." The subject does not remember the father playing with him when he was small, on the other hand he does remember playing in some games as cards around the house with the entire family. He does recall that from childhood forward the father took he and his brothers once a week to a ball game or if the no ball game the father would pitch horseshoes with them on Saturdays. He recalls the father liked baseball very much and had played it at one time himself. "He encouraged me to play baseball." In his youth the father had played with a college team one summer though the father didn't go to college. The subject states there is very little foolishness about his father. The subject regularly from school age to completing high school assisted his father in the fields working and accounting for his chores to his father.

**Siblings:** The subject's earliest memory of his siblings is of his youngest brother. He remembers the younger brother screaming and crying as the mother told the subject to stay away from the brother because the mother thought the subject was teasing him. He states the youngest brother is high tempered and while growing up that he and the subject fought together all the time because they were of about the same age and stayed fairly close together. He stated the older brother was somewhat removed from him and his younger brother. The subject now states he feels much closer to his older brother. He remembers when ten years old that he learned his older brother had a disease which was leading to progressive blindness. "I just couldn't imagine my brother being blind. I wasn't sad, but mostly perplexed." The subject states he remembers his older brother as being the aggressive one regarding leadership. "His aggressiveness was different from mine. He had more thirst for knowledge, but I always was able to get along with him." In later school the subject is shepherded to and from school by the older brother. He then had the same job to do with his younger brother. As a young adult the subject entered a business with his older brother but the brother had to give it up as the eyesight was failing badly. The subject was left with a business in which he alternately had to give up because it was doing so poorly.

### Early Socialization

The subject can only remember his brothers in his early life. After starting to school he does remember the children at school but recalls being quite embarrassed around them because they often taunted him with the fact that his father was a heavy drinker and an obstreperous individual when drinking. He does not remember any close playmates at

this time, excepting a female cousin approximately the age he was who used to visit his home about once a month. He remembers they played together when she would come and he remembers he undressed her at one time. (See sex history) In contrast to stating that he was embarrassed at school, nonetheless, he states he was crazy about the first few years of elementary school in contrast to high school. This he attributed primarily to his excelling in sports as he got into later elementary school.

#### Adolescent Socialization

On turning a teenager the subject moved from an elementary school he was attending and the community in which it was located to the orphan home. The subject states that by changing schools and communities he lost his status. He did not go steady with any girl during adolescence though he had a girlfriend in his last year of elementary school. During adolescence the subject seems to have lost some of his enthusiasm for school as well as work though nonetheless he continued to work steadily with his father around the orphan home. As an adolescent he clung to a group he denotes as a sports minded bunch of boys whose only concern was in sports and in parading around in front of girls. During these years the subject was typically quiet, and was not outgoing and typically stood in the background content to be associated with a robust group of males.

#### Developmental Areas

School: The subject has a high school diploma, having finished high school at a county school. He started school when six years old and states that he was a C Plus student. He failed only one subject and states that was algebra. For the first six to eight years of school he says he was crazy about it. Then the family moved three times requiring school changes and that he no longer felt a part of school. He remembers playing and enjoying football in grammar school and at being happy at this time. He recalls in the sixth grade the teacher turned out to be the lawyer who helped him secure a divorce from his wife. He remembers this individual as a good math teacher. Throughout school he stuck with a sports minded clique, and within this group he felt secure. For the first two years of high school he just barely passed. After that he said he managed to get through school because of his ability in sports. Even though he said he felt quite alone during his last two years of school, but "I stood on my own." He said he had no steady girl friends these last two years, but said he did occasionally go on dates. In contrasting his elementary and high school life, he said that during elementary school "I was looked up to in sports, but on moving into high school, I lost my status."

On finishing high school, he worked at TVA as general flunkie with a construction crew but he was found to be under age, seventeen, and was released from his job in good grace, so he states. Shortly after this he entered the service in 1943 at eighteen. The highest rank obtained was Sergeant and he was once reduced in rank for being in a fight in Belgium with three civilians. He was busted to Private and restricted for fighting.

He denies having any trouble with superiors or equals. He was an anti-aircraft sergeant and had eight men under him. He states he always got along with them. He was in combat but was not wounded, nor felt ever seriously endangered. It was shortly after entering the Army at eighteen years of age that he states he had his first drink, during basic. He then began drinking four to five beers daily, and possibly a pint of whiskey a week. As he recalls he felt that drinking became more and more associated with more and more activity so that ultimately, drinking was an integral part in every activity in which he engaged. Overseas he said that everything he would not need, he would throw out of his sack in order to make room for whiskey. At this time, when he was about twenty-one or twenty-two, he said he had a few blackouts and that the long range effect of drinking was really a destruction of confidence in himself. On sobering after nightly drinking or weekend drinking he said he couldn't do anything the next day, that his attention and concentration was impaired until around noon. At this time when his drinking was heavy, he never had headaches, but during the first two or three years of drinking he had very bad hangovers, headaches, etc. He distinctly remembers that a drink in the morning would always revitalize him, but that he found that if got one drink he would always end up by sitting and drinking beer pretty much all day. While in the Army he said he usually found him a steady girl and that she was usually a sexual object, but he also enjoyed going out with women for company. He said his wife was the first woman he ever wanted to marry. He said he never had any trouble with fights while drinking, except the one mentioned with the Belgium civilians. His drinking at first was quite gregarious and friendly. It went from this to its present state of rather complete withdrawal. In other words, it seems to have been at first a form of good-natured hostility, leading to later a complete suppression of hostility. In 1945 he was discharged honorably from the service. He had met his wife to be in Paris in 1944. In December of 1946 he brought a French girl to this country and married her. Between 1945 and 1946, prior to marriage, he worked at the orphan's home as supervisor of boys. He was twenty-two years old at the time. He said he had several close friends at this time, but one particularly close friend who worked at the home was about thirty-three. He states the man didn't drink, was quite dependable, and helped him out when he was down on his luck. As the years progressed, he found that more and more of his friends were slipping into the background and that he spent more and more of his time after work drinking by himself, until he finally lost contact with all of his old friends. He feels there was a shift in his group of friends from the old ones at the home, especially his close relationship with the male to a new group of friends whom he knew in bars, etc., and they drank. During this time he was putting more and more of his energy into his work and less and less of it into relationships.

Work: After he left his job at the orphan home in 1947, he went into business with his older brother which was recording equipment and sales and rental. He states they did not have enough capital, and only



made a fair living, averaging about \$50 a week, and turning what little they had left over back into the business. He states he and his brother only had normal differences of opinion and the business folded because of his brothers progressive blindness. His brother left the business in 1950 and went to the school for the blind. He went back to work part time at the orphan's home when his brother left, and kept on with the business until finally it had to fold. He realized only a very small profit. At this time he went to night school at a business college, taking accounting. But he transferred his G.I. Bill to a tailoring school because he needed the money, not the trade. At this time he felt he would always be a salesman. He worked on as a shoe salesman, wholesale, until 1953 when he began his work in the music business. Since that time he has had three jobs working with different music companies. Each one he lost because of his drinking. He averaged during these years of working approximately \$300 a month.

Wife: The subject's wife was born and raised in France and only came to this country in 1946 when she married the subject. He says she was a fine lady, "I drank a lot and neglected her a lot because of drinking." They lived together for eight years and were finally divorced. He states that he spent money foolishly and kept late hours. He said he did not appreciate her making the home, though now he realizes he should have. He says he occasionally ran around with other women, but that he usually spent his time with male peers. He said his wife did drink a little (cultural drinking) but that she quit, hoping to set an example for him. He said his wife put pressure on him and that finally he left. She tried for a long time to talk things over with him and then she just quit and got a divorce. This marriage produced one child born in 1947. He remembers distinctly the night the child was to be born that he pulled the best drunk he ever had. He said his wife was fiercely angry with him over this and said it was a helluva time to be getting drunk. He said no matter what the occasion was, he would drink, stating, if the baby had died, it would be to drown my sorrows, as it was it was an occasion to celebrate and I got drunk." The family received considerable publicity from the birth as his wife was one of the first war brides in the country. He states that everyone bought him drinks, and he used this as an excuse. In 1947 he feels he made a sacrifice and for his wife and he has never quite gotten over it. At this time, before the birth of the child, he and his wife were living in North Carolina, and he was playing semi-professional baseball. She stayed in North Carolina for two weeks, and then returned to this city. He stayed only two weeks longer and returned also to be with her. "I know I made a sacrifice. I know if I had stayed with baseball I could have made a go of it and gotten into big time." "Somehow I could not make her understand how much baseball meant to me." He said he did not talk with her about the incident until later but it has stayed on his mind many times. He did note that at one time he did throw up to his wife that if he had stayed in baseball everything would have been OK, but her answer was that if he had stayed he would have drunk himself out of the job. He states the divorce came as a surprise to him. "I came home one day and she and the furniture were gone." He

states the divorce went through and "All I did was answer the charges." She got custody of the child. They had attempted one reconciliation before the divorce and they stayed together three days, but he stated they were both so tense and both had such a strong feeling it wouldn't work that they could hardly look at or talk to each other. After his divorce he said he drank heavier than ever but he was still able to maintain his work. After his work had led him to make calls on schools, he said he met a school teacher and they courted for about fourteen months and became engaged, and that he called on her one night while drunk and that she broke their engagement and they were never able to reconcile. During his engagement to this school teacher he states he was in somewhat better shape regarding drinking but that he never did quit. He went to church with her about twice a month and felt that he really might be able to take hold of things and straighten up. This time he became very interested in recording weddings, etc., and worked quite hard.

Sex: The subject first learned about sex when he was about five years old. He saw his young sister undressed and asked about it. He said he did not know if it was abnormal or not. He asked his brother and mother and they explained it to him, and he was satisfied. He began masturbating when twelve years of age and at this time was able to effect ejaculation. He said when he did it scared him very bad. He said "I thought something was wrong but then I found out it was OK." He stated he always masturbated in solitude. He felt very guilty over this and quit when he was sixteen years of age. "I felt I was the only one who ever wanted to masturbate and one of the very few who was no good." He said sex was never discussed in his family and that he feels worrying about his health, etc., curbed his sex impulses. He said he was approached homosexually in the Army many times and it just made him mad, though the first time it did scare him. He denies ever engaging in homosexual relations. He remembers while in the Army in England, a very nice Englishman approached him, asked him up to dinner, etc., and that when he went to dinner, he was propositioned and he said he gently eased out of the situation. His first heterosexual experience was when he was seventeen years old, with an older girl in school. He states he knew how to go about it and felt confident of himself. At the time, he thought he was being very aggressive but he now realizes she was maneuvering everything. His only concern over this act was his fear that someone would find out about it. He continued to have intercourse with her for three or four months, and then stopped. As noted earlier he said his interest in women later was both sexual and for company and that he did not feel he was strongly sexually motivated. During marriage he and his wife averaged intercourse for the first few years four or five times a week but toward the latter stages of marriage it became as infrequent as once or twice a month.

**APPENDIX C**

## APPENDIX C

## CURRENT BEHAVIORAL CATEGORIES AND VARIABLES

## 1.0 OCCUPATION:

- 1.1 Months working
- 1.2 Income past year
- 1.3 Efficiency

## 2.0 PHYSICAL HABITS:

- 2.1 Sleep—Hours nightly, Dreams, Awakening
- 2.2 Eating—Amount, Type, Rate, Alone or with others, Complaints
- 2.3 Elimination—Frequency, Disturbed, Regularity, Conditions
- 2.4 Cleanliness—Frequency of bath, Teeth care, Clothes change
- 2.5 Drinking—Type, Amount, Frequency
- 2.6 Smoking—Frequency, Variety
- 2.7 Sex—Frequency, Type, With whom, Conditions, Satisfaction
- 2.8 Exercise—Amount, Type
- 2.9 Health—Number of illnesses, Visits to M.D., Medication

## 3.0 INTERPERSONAL RELATIONSHIPS

- 3.1 Mother—Frequency of contact, Outstanding behavior
- 3.2 Father—Frequency of contact, Outstanding behavior
- 3.3 Sibling—Frequency of contact, Outstanding behavior
- 3.4 Wife—Marital status, Frequency of contact, Outstanding behavior
- 3.5 Children—Frequency of contact, Outstanding behavior
- 3.6 Peers—Type, Frequency of contact, Outstanding behavior

## 4.0 NON-OCCUPATIONAL ACTIVITIES

- 4.1 Hobbies
- 4.2 Sports
- 4.3 Reading, TV, Cards, etc.
- 4.4 Chores
- 4.5 Church
- 4.6 Organizations



APPENDIX D

## APPENDIX D

## U.T. DEPRIVATION SCALE

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TO THE EXAMINER: This scale has been constructed as a result of research on the psychological factors related to duodenal ulcer. Man has needs which have to do with feeling safe and secure in his environment. Satisfaction of these needs is deemed important for a sense of well-being. The scale is an attempt to assess the extent to which these needs are being met in the environment.

The scale is to be used in conjunction with an interview of the subject concerning his current status. The examiner's task is to obtain sufficient information from the patient to rate with confidence. In each case, specific instances of behavior should be obtained as a basis for judgment. Do not confuse the subject's opinion with your rating of his actual behavior. For instance, in rating Item 5, "wife", do not accept the subject's statements at face value but, rather, inquire concerning the time and activities together, displays of affection or other behaviors indicative of love or lack of it from the wife. It is from these behaviors that your rating is made.

The scale is two-point, forced-choice, the subject being judged either poor or good on each item. If the judgment is poor, the score is one (1). If the judgment is good, the score is zero (0). A high score on the total scale is indicative of a poor prognosis. For each item in the space provided write in either a zero (0) or one (1).

- \_\_\_\_\_ 1. Employment. Give a rating of poor (1), if the subject is unemployed or employed less than half time.
- \_\_\_\_\_ 2. Income. Give a rating of poor (1) if the subject's annual income is less than \$2500.
- \_\_\_\_\_ 3. Debts. Give a rating of poor (1) if the subject complains of a number of unpaid debts which he is unable to meet.
- \_\_\_\_\_ 4. Fear. Give a rating of poor (1) if the subject expresses anxiety about his job, apprehension about himself and his capacity to meet the demands of his environment, nervousness and irritability in social situations, withdrawal symptoms, or other behaviors indicative of anxiety and depression.
- \_\_\_\_\_ 5. Wife. Give a rating of poor (1) if the wife behaves in such a manner as to imply a general disinterest and lack of affection

for the subject. This attitude of the wife can be inferred from specific pieces of behavior, such as meal preparation, inability of the subject to talk to her about his illness, lack of concrete evidences of affections, such as kissing, sexual relations at least once a week, etc. Give a rating of poor (1) if the subject is adult, unmarried or divorced or separated, and gives no evidence of succorant relationships with contemporary females.

6. Parents. Give a rating of poor (1) if the subject's relationship with mother and/or father (or parental surrogates) is such as to imply a lack of affection and interest on his or her part. This item can be judged by frequency of visits, ability to communicate with them, concern for him, etc. If the subject has a close relationship with either parent and no strong negative feelings toward the other, score the item zero (0). Give a rating of poor (1) if the subject is still grieving about the recent death of a parent to whom he was closely attached.

7. Children. Give a rating of poor (1) if the subject expresses little interest in his children; if he gives indications of not being especially loved by them or important to them. This item can be judged by amount of time spent with them, nature of activities together, displays of affection and concern by the subject for the children's welfare. If there are no children, do not score this item.

8. Other Relatives. Give a rating of poor (1) if the subject expresses a strong negative relationship for any sibling. If the subject has a close relationship with one sibling and no strong negative feelings towards others, rate the item zero (0). This item can be judged by the behaviors specified in Item 6.

9. Church. Give a rating of poor (1) if the subject attends church (or Sunday School) less than once a month.

10. Other organizations. Give a rating of poor (1) if the subject does not belong to any clubs, church groups, or other organizations, or if the subject belongs but does not attend meetings except very infrequently, or implies a lack of interest or feeling of being intimate member of the group. This item can be judged by frequency of attendance, time spent in organizational activities, expressed feeling of identification with the goals and purposes of the organization, etc.

11. Friends. Give a rating of poor (1) if the patient is essentially an isolate, if he has no intimate friends outside his family, if he has no one outside his family who he feels is concerned about him, etc. This item can be judged from such behaviors as time spent and nature of activities with a person or persons outside his family, expressed feelings of being an object of affection and concern by a peer outside his family, expressed feelings

that there are persons (or a person) outside his family with whom he can communicate, and in whom he has confidence.

12. Job participation. Give a rating of poor (1) if the subject shows little interest in his job other than as a means to earn a living. This item can be judged by such behaviors as lack of any time spent on the job other than that absolutely required, failure to spend any time in preparation for advancement, lack of identification with the organization and its problems, expressed negative feelings towards the organization, its personnel and working conditions, etc. If the subject is completely unemployed, give a rating of poor (1).

13. Job Status. Give a rating of poor (1) if the subject feels his position is lowly in relation to his peers, if he has no pride in his work and feels unnecessary on his job. Do not confuse this item with Item 12. The item can be judged by expressed satisfaction with the job performance, expressed feelings of competency and importance to job accomplishment, etc. If the subject is completely unemployed, give a rating of poor (1).

14. Status - other. Give a rating of poor (1) if the subject has no status outside of church, job and organizations. The item can be judged by the subject's sense of pride in almost any activity, such as being an expert or having pride in knowledge of hunting and fishing, pride in being a useful member of a softball team, extensive knowledge of sports, pride in a stamp collection, etc.

15. Residence. Give a rating of poor (1) if the subject has no pride in his house, grounds or neighborhood, if he feels he is living "on the wrong side of the tracks" relative to his peers, etc. This item can be judged by time spent in taking care of the house, interior decorating, maintenance and development of the grounds, expressed satisfaction with his neighbors, etc.

16. Education. Give a rating of poor (1) if the subject has less than an eighth grade education.

**APPENDIX E**

## APPENDIX E

## SCORE SHEET

## P-J BEHAVIORAL SCALES

(Other than ratings of the scale, use the following notations:

0 - totally absent or dead  
 ND - no data  
 DNA - does not apply)

## S1.1 Paternal grandmother

Experimental Control

- S1.1-1 Frequency of contact
  - 2 Active play with S
  - 3 Restraints on S
  - 4 Physical punishment
  - 5 Displays of affection
  - 6 Deviant behavior
  - 7 Alcohol drinking behavior
  - 8 Religiosity

## S1.2 Paternal grandfather

- S1.2-1 Frequency of contact
  - 2 Active play with S
  - 3 Restraints on S
  - 4 Physical punishment
  - 5 Displays of affection
  - 6 Deviant behavior
  - 7 Alcohol drinking behavior
  - 8 Religiosity

## S1.3 Maternal grandmother

- S1.3-1 Frequency of contact
  - 2 Active play with S
  - 3 Restraints on S
  - 4 Physical punishment
  - 5 Displays of affection
  - 6 Deviant behavior
  - 7 Alcohol drinking behavior
  - 8 Religiosity

## S1.4 Maternal grandfather

- S1.4-1 Frequency of contact
  - 2 Active play with S

- 3 Restraints on S
- 4 Physical punishment
- 5 Displays of affection
- 6 Deviant behavior
- 7 Alcohol drinking behavior
- 8 Religiosity

## S2.1 Mother

Experimental      Control

- S2.1-1 Frequency of contact
  - 2 Active play with S
  - 3 Restraints on S
  - 4 Physical punishment
  - 5 Displays of affection
  - 6 Deviant behavior
  - 7 Physical health
  - 8 Religiosity
  - 9 Gregariousness
  - 10 Intellectualism
  - 11 Variability of habitat
  - 12 Parental status
  - 13 Provider
  - 14 Compatibility with spouse
  - 15 Sexual role - appropriateness
  - 16 Alcohol drinking behavior

## S2.2 Father

- S2.1-1 Frequency of contact
  - 2 Active play with S
  - 3 Restraints on S
  - 4 Physical punishment
  - 5 Displays of affection
  - 6 Deviant behavior
  - 7 Physical health
  - 8 Religiosity
  - 9 Gregariousness
  - 10 Intellectualism
  - 11 Variability of habitat
  - 12 Parental status
  - 13 Provider
  - 14 Compatibility with spouse
  - 15 Sexual role - appropriateness
  - 16 Alcohol drinking behavior

## S3.0 Siblings

- S3.1-1 Frequency of contact
  - 2 Active play with S
  - 3 Restraints on S
  - 4 Physical punishment

- 5 Displays of affection
- 6 Deviant behavior
- 7 Compatibility with sibling
- 8 Alcohol drinking behavior

#### S4.0 Peers - same sex

- S4.1-1 Frequency of contact
  - 2 Compatibility with peers same sex
  - 3 Deviant behavior
  - 4 Activities of peers
  - 5 Alcohol drinking behavior

#### S5.0 Peers - opposite sex

- S5.1-1 Frequency of contact
  - 2 Compatibility with peers same sex
  - 3 Deviant behavior
  - 4 Activities of peers
  - 5 Alcohol drinking behavior



APPENDIX F

## APPENDIX F

SPEARMAN RHO RANK CORRELATIONS FOR AGREEMENT  
OF TWO JUDGES' RATINGS ON CURRENT BEHAVIORAL  
CATEGORIES AND EARLY STIMULI

Categories and Stimuli	$r_s$ for Two Judges
Occupations	.98
Physical Habits	.83
Interpersonal Relationships	.87
Non-Occupational Activities	.91
Grandparents	.79
Parents	.92
Siblings	.85
Peers	.76

**APPENDIX G**

## APPENDIX G

CHI SQUARES OBTAINED FOR NO DATA ENTRIES  
ON EARLY STIMULUS VARIABLES

Variables	No Data Entries		O/O Total Entries		$\chi^2$ df = 1
	A	NA	A	NA	
I Grandparents	9	9	13	13	.005
II Mother	14	11	10	8	.16
III Father	8	5	6	4	.32
IV Siblings	4	6	6	8	.10
V Peers	11	6	12	7	1.03*

\* Value greater than  $P = .25$