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PERCEPTUALLY ABERRANT EXPERIENCES AS A RISK FACTOR FOR PSYCHOSIS:
THE IMPORTANCE OF CONDITIONS AND EXPLANATORY STYLE

A Thesis Presented
by
JOSEPH EDWARD STRUCKUS

Submitted to the Graduate School of the
University of Massachusetts at Amherst
in partial fulfillment of the requirements
for the degree of

MASTER OF SCIENCE

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Psychology

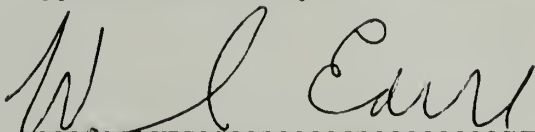
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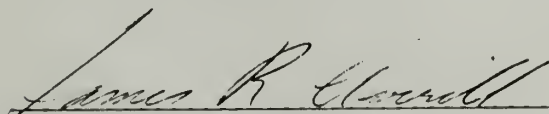
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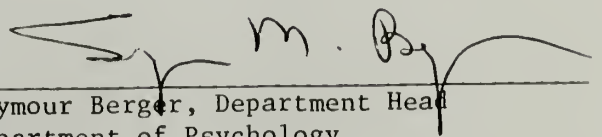
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ABSTRACT

High-risk methodologies in psychopathology research seek to identify groups of individuals at elevated risk for a given psychological disorder as a way to understand the course of illness and potential crucial etiologic factors involved. One approach is to define risk based on the premorbid characteristics of those who ultimately develop that disorder. Loren Chapman and his associates believe that the presence of body-image distortions and other perceptual disturbances can serve as a premorbid indicator of psychosis, and may be predictive of future psychotic decompensation. They have devised a true-false scale (the Perceptual Aberration scale) to measure the number and variety of these perceptual aberrations, and have observed that high scorers on this scale exhibit a number of characteristics associated with psychotically disturbed populations. But within these risk samples reside an unknown proportion of false positives.

The present study had two primary goals. First, we sought a more thorough description of the experience of body-image and other perceptual aberrations, and developed the Perceptual Aberration Interview (PABI) to obtain this description. Second, we hypothesized that the additional information supplied by the PABI might assist in selecting more accurately a population of individuals at-risk for psychosis.

Using disordered thinking and poor social functioning as concurrent measures of risk, we examined 20 deviant scorers on the Perceptual Aberration scale and 20 non-elevated controls. Deviant scorers tended to be more thought disordered than control subjects. Groups did not differ on social functioning.

Regarding the PABI, deviant scorers were more likely to describe aberrant experiences in the absence of physiological or environmental conditions such as sleep deprivation, preconscious sleep states, exhaustion, or the effects of alcohol/drug use. In contrast, controls often described their aberrations in the context of these conditions. Deviant scorers more often explained the cause of aberrant experiences to a non-modifiable source, such as a character trait or some external force. Controls more often explained the cause of aberrations to a modifiable behavior. Discriminant analysis based on responses to the PABI significantly predicted group membership.

The additional data supplied by the PABI suggests that qualitatively different experiences of perceptual aberrations may play an important role in selecting individuals at risk for psychosis.

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CHAPTER I

INTRODUCTION

In his 1962 presidential address to the American Psychological Association, Paul Meehl presented a hypothetical model describing the etiology and developmental course of the schizophrenic spectrum disorders. In this model, Meehl proposed the existence of a genetic predisposition for the development of schizophrenia that was characterized by certain neurological deficits and was capable, without assistance, of reducing the afflicted individual's capabilities in a variety of cognitive, emotional, and interpersonal functions. He further proposed that such individuals, if exposed to significant (albeit unknown) environmental stressors, were at great risk for decompensating into a formally diagnosable schizophrenic condition. Meehl labeled the neurological deficits schizotaxia, and the characterological deficits and resulting personality schizotypy.

A number of researchers have attempted to determine the tell-tale symptoms of the schizotypic character, in the hope of using the descriptive elements as possible indicators of a predisposition for schizophrenic decompensation. Meehl (1964) developed a checklist of 25 schizotypic signs and symptoms derived from extensive

clinical interviews. Among the traits associated with schizotypy were anhedonia, emotional ambivalence, social isolation, mild thought disorder (cognitive slippage), psychotic and psychotic-like experiences, anti-social behavior, and perceptual distortions, especially in relation to one's own body.

Meehl's diathesis-stress model of schizophrenia was derived in part from the theoretical and observational contributions of Sandor Rado (1956, 1959). Rado first coined the term "schizotype", from a combination of the terms "schizophrenic" and "phenotype". Rado believed that the schizotype had inherited two defects, both of neurologic origin: (1) an integrative pleasure deficiency, and (2) a proprioceptive diathesis. The first defect manifested itself in a weakness in the motivating power of pleasure, an inability to experience pleasure and thus have it serve as a motivating force in social development. The second defect was a proneness to disordered function in what Sherrington (1947) termed the "proprioceptive system", that part of the nervous system associated with the reception of stimuli produced within the organism. The proprioceptive diathesis reduced the individual's ability to interpret and integrate bodily sensations, effecting a distorted awareness of bodily self. While other theorists, most notably Bleuler (1950), had listed anhedonia (a chronic inability to experience pleasure) and

body-image distortions among the symptoms of schizophrenia, Rado viewed these defects as the two central etiological factors in the development of the disorder.

Distortions of body image among schizophrenics is a symptom well-documented in the clinical descriptive literature (Arieti, 1961; Blatt & Wild, 1976; Bruch, 1962; Des Lauriers, 1962; Federn, 1952; Fenichel, 1945; Freedman, 1974; Kolb, 1959; Meehl, 1964; Schafer, 1960). Clinical subjects experiencing these perceptual distortions report transient feelings of change or distortion in the size, orientation, or condition of various body parts, feelings of bodily decay, deformity, or malfunction, sensations of physical unreality and deanimation, and a loss of body boundaries and subsequent fusion with other persons or objects. Fenichel had commented on body boundary incompleteness, and how this led to a fusion of the ego with the outside world. Federn also saw body image disturbances as symptomatic of a poorly developed ego boundary; differentiation between self and the outer world could not be maintained. Des Lauriers believed that the schizophrenic's diminished capacity to experience the self as real and separate from others was the result of inadequate body boundaries. Kolb suggested that the perception of internal stimuli as different from environmental stimuli was an important step

toward a sense of bodily self. Arieti noted that the schizophrenic had a fragmented sense of body and preoccupation with body parts, and was incapable of seeing himself as an integrated being. Schafer and Bruch both highlighted the schizophrenic's inability to identify internal sensations and to differentiate them from external stimuli. Freedman, in her review of the autobiographical accounts of schizophrenics, noted the marked perceptual deviancies, especially in relation to body image, that accompanied the psychotic disturbance. Blatt and Wild emphasized boundary disturbances in schizophrenia.

Hilde Bruch stressed the importance of early experience in the development of body boundaries and an overall body concept. Combining the fundamentals of object relations theory with Hebb's (1949) observations in experimental physiology, she suggested that the infant must learn to recognize and productively respond to bodily needs. Failure to learn would result in a deficit in the infant's ability to differentiate internal from external stimuli. To quote Bruch (1962):

Appropriate responses to cues coming from the infant, at first in the biological field and subsequently also in the interpersonal and emotional field, is the significant experience for the development of self-awareness and self-effectiveness. If confirmation and reinforcement of his own sensations has been missing or was inaccurate, then the child will be perplexed when trying to differentiate between disturbances in his biological field or emotional experiences, and

he will be apt to misinterpret them as deformities of self-body concept, and he will be defective in his sense of separateness, but will feel under the influence of external forces. (p.20)

Bruch maintained that an individual with such a deficit could function adequately, providing the environment presented only a limited and predictable array of stimuli. The defect would become manifest when the individual was confronted with increased demands to integrate novel stimuli. He or she would feel helpless under the impact of his bodily urges, or feel controlled from the outside. Reports of passivity experiences are common in the descriptive literature on schizophrenia (cf., Schneider, 1959).

Loren Chapman and his associates believe that the presence of body-image distortions and other perceptual disturbances can serve as an indicator for schizotypy, and may be predictive of future psychotic decompensation. Chapman, Chapman, and Raulin (1978) devised a scale of true-false items for the measurement of these phenomena. The original scale consisted of 28 items and was later expanded (Chapman, Chapman, Raulin, and Edell, 1978) to include seven more items measuring perceptual distortions not specific to body image (see Appendix A). The items contain statements expressing transient feelings of unreality, deterioration, or estrangement of the parts of one's body (e.g. "I have sometimes had the feeling that my body is decaying inside."), transient aberrant perceptions of change in the

size, boundaries, appearance, and spatial relations of one's body parts (e.g. "I have felt that something outside of my body was part of my body."), and transient deviancies in perceiving non-body sights, sounds, and objects (e.g. "My hearing is sometimes so sensitive that ordinary sounds become uncomfortable."). The scale's ability to identify the schizophrenia-prone individual is predicated on the theoretical arguments of Meehl, the hypothesis that individuals who are at risk for schizophrenia but who have not yet decompensated will nevertheless exhibit the characterological disturbances reflective of the schizotypal personality.¹ Recently, Chapman and Chapman (1985) described a 25 month follow-up study of subjects elevated on each of the Wisconsin Scales of Psychosis Proneness. Individuals in a combined perceptual aberration-magical ideation group had many more emotional problems than did the control group during the follow-up period. For example, 22% of the experimental group had sought professional help for their problems, as compared to only 7% of the control group. Three subjects in the experimental group developed psychosis during the period (one bipolar, one schizophrenic, and one paranoid disorder), and another subject was hospitalized for non-psychotic depression during the follow-up period. Continued longitudinal work with this population is clearly indicated.

A number of studies have demonstrated that individuals

scoring deviantly on this scale exhibit other characteristics associated with psychotically disturbed populations to a greater degree than do non-elevated controls. Using two measures of thinking disturbance, the Delta Index (Watkins & Stauffacher, 1952) and the Alpha Index (Piotrowski & Lewis, 1950), Edell and Chapman (1979) found more schizophrenic-like Rorschach responses among these high-scorers than in a non-elevated control group. Chapman, Edell, and Chapman (1980) discovered that high scorers reported more psychotic and psychotic-like experiences on structured psychiatric interview. Several studies found greater deficits in social competence (Haberman, Chapman, Numbers, and McFall, 1979), and in interpersonal functioning (Numbers and Chapman, 1982; Beckfield, 1985).

The Perceptual Aberration scale differentiates the psychosis-prone from those not at purported risk for psychosis by the number of items answered in the keyed direction. This method of identifying the at-risk individuals raises a number of points worth noting. First, the method acknowledges that even those persons considered not-at-risk may experience some perceptual aberrations. Second, it assumes that the quantity and variety of the aberrations are the features best used for determining the psychopathological risk to the individual. Finally, the very nature of the scale (true-false responding) precludes

any qualitative descriptions by the subjects of the content or context of their perceptual experiences. The scale provides no information about the intensity of the aberrations or the circumstances under which they occurred, nor does it provide any record of the subject's reaction to and attributions regarding the aberrations. This is information that might assist in a more valid and reliable determination of psychosis-proneness.

The importance of obtaining this additional data can be best illustrated by example. Let us suppose that we have two subjects under consideration, Fred and Mark. Both have answered a sufficient number of the Perceptual Aberration items in the keyed direction to be considered high scorers, both are therefore possible "at-risk" individuals. However, further inquiry reveals that Fred is a pre-med student, often stays up all night studying, and describes most of his aberrant experiences in the context of sleep deprivation, or semi-conscious hypnogogic or hypnopompic states. Fred attributes his aberrations to lack of sleep, and finds that he can reduce the occurrence of these aberrations by sleeping more regularly. Mark, on the other hand, has similar aberrant experiences during normal wakefulness. He describes these aberrations in the context of social interaction, and feels that his body can be manipulated by "the mental energy of the people around me". He does not attribute his aberrant experiences in the context of his

behavior (i.e. something that he can control), but rather sees the aberrations as resulting from a defect in his own character, or from forces outside of his control.

The above descriptive information suggests that Mark is possibly at greater risk for psychosis than is Fred. Fred would be considered a false-positive; an individual who met the inclusion criteria of the predictor variable, but who subsequently failed to exhibit the necessary characteristics of that prediction. A knowledge of the specifics of the perceptual aberration, particularly the conditions surrounding the experience, the reactions to the experience, and the attributions regarding the experience, could assist in the identification of "false-positives", and the selection of true "at-risk" individuals.

One of the notable differences between our two hypothetical subjects was the manner in which they explained the cause of the perceptual aberration. Fred saw the aberrant experiences as being a result of his behavior; Mark saw his experiences as a result of a character defect, or of some force external to his control. Janoff-Bulman (1979) has noted a similar distinction in self-explanations of causality in her work with depressed college women and rape victims. She defines two types of self-blame - behavioral and characterological. Behavioral self-blame is control related; that is, the individual explains the occurrence of an event to a modifiable source, his behavior. The

individual knows that the occurrence of the event can be controlled by a change in his or her behavior.

Characterological self-blame is esteem-related; the individual explains the cause of the event to a non-modifiable source, his or her character. Since the individual cannot accomodate for this defect in character, he or she feels unable to control future occurrences of the event. Janoff-Bulman considers behavioral self-blame the more psychologically healthy style of self-explanation; she has found strong positive correlations between perceived control (i.e., belief in the modifiability of outcome) and psychological well-being (Janoff-Bulman & Marshall, 1982). It is possible that this behavioral-characterological distinction is applicable to the study of self-explanations of causality regarding perceptual aberrations, and that it would serve as a discriminating variable in the evaluation of the perceptually aberrant experience as a predictor of psychosis-proneness.

Another difference between our subjects was the conditions under which the aberrant experience occurred. Fred saw his experiences in the context of sleep deprivation, or preconscious sleep states. Mark did not describe his experiences in the context of such conditions. Transient physical or emotional states, such as hypnogogic or hypnopompic sleep states, the effects of physical or mental exhaustion, or of substance abuse, might act to

precipitate such aberrant experiences. Each of these conditions have been associated with aberrant perceptual experiences (Rowe, 1984). Individuals who report their aberrant experiences only in the context of such conditions may not be exhibiting the "proprioceptive diathesis" postulated by Rado (1956, 1959). However, reports of perceptually aberrant experiences in the absence of these conditions might be considered more seriously as a risk factor for psychosis, as the experiences cannot be attributed to one of these perceptual stressors.

One might reasonably assert that it is not the perceptually aberrant experience per se that is indicative of the individual at-risk for psychosis. Given the proper stress upon the "perceptual mechanism" of the mind, that mechanism would produce distorted information in most individuals. For example, sleep deprivation is a stressor that can produce perceptual disturbance in even the most psychologically healthy person (West, 1965). If the true psychosis-prone individual carries the neurological deficit proposed by Meehl, then it could be argued that less stress upon the perceptual mechanism would be required to produce a disturbance in function. A comparison of the aberrant experiences of true at-risk and not-at-risk subjects may reveal differences in the stressors present during the experience. Individuals not at elevated risk for psychosis would more likely describe their experiences in the context

of drug or alcohol use, pre-conscious sleep states (e.g., hypnogogic or hypnopompic states), extreme physical or mental exhaustion, and the like. They would explain the cause of the aberrations to conditions resulting from their own behavior. True at-risk individuals would associate fewer state- type stressors to their experiences, and be more likely to explain the cause of the aberrant percept to some characterological defect or to forces outside of their control.

One of the goals of this study is to obtain detailed descriptions of perceptually aberrant experiences, using a structured interview designed for this investigation. The Perceptual Aberration Interview (PABI) (see Appendix B) asks a variety of questions about the subject's experience of his/her perceptual aberrations. Specifically, these questions address the circumstances under which the aberration(s) occurred, the subject's emotional state prior and subsequent to the aberration, his/her explanation of the cause of the aberration, his/her ability to predict and control the occurrence of an aberration, and the extent to which the aberrant experiences have affected the subject's self-concept. These detailed descriptions should assist in a more thorough understanding of the conditions under which these aberrations occur, and of the ways in which the individual understands the aberrant event.

A further goal of this study is to determine whether

this additional data could provide for a more valid and reliable selection of psychosis-prone individuals. Previous studies have shown high scorers on the Perceptual Aberration scale exhibited significantly greater thought disorder (Edell and Chapman, 1979) and poorer social functioning (Beckfield, 1985; Haberman, Chapman, Numbers, & McFall, 1979; Numbers and Chapman, 1982) than non-elevated controls. Severe thought disorder and poor social functioning are commonly associated with severe psychopathology, and are considered principal diagnostic elements in the psychotic disorders (Rowe, 1984). In addition, they are premorbid characteristics, often present prior to the onset of psychotic decompensation (Rapaport, Gill, and Schafer, 1946/1968; Kendler, Gruenberg, and Strauss, 1982). This study will examine both thought disorder and social functioning in a comparison of high-scorers and non-elevated controls. It is hypothesized that the results of this examination will be in agreement with above studies; that is, high scorers on the Perceptual Aberration Scale will be significantly more thought disordered, and have poorer social functioning than non-elevated control subjects.

It is further hypothesized that the data supplied by the PABI, when used in conjunction with the discriminative criterion of the Perceptual Aberration scale, will provide a more accurate selection of thought disordered, poor social functioning individuals than will the use of the scale alone

for this selection. Individuals who score deviantly on the Perceptual Aberration scale and who explain the cause of the aberrations to defects in their own character or to forces outside of their control will exhibit greater thought disorder and poorer social functioning than will the remaining individuals who either score deviantly and yet see the aberrations as a result of their own behavior, or do not score deviantly on the Perceptual Aberration scale.

A knowledge of the conditions under which the aberrant experience occurred will also serve to more accurately select individuals with severe thought disorder and poor social functioning. Those deviant scorers on the Perceptual Aberration scale who report their aberrant experiences in the absence of possible conditional stressors such as sleep deprivation, hypnogogic or hypnopompic states, physical exhaustion, or the effects of substance abuse will be more thought disordered, and have poorer social functioning than will the remaining individuals who are either deviant scorers who describe their experiences in the context of such conditions, or are non-elevated scorers on the Perceptual Aberration scale.

CHAPTER II

METHOD

Subjects.

The subjects in this study were selected from a pool of 1063 undergraduates enrolled in Introductory Psychology during the Fall semester of 1985, each student having completed an administration of the Wisconsin Scales (The Physical Anhedonia scale, Perceptual Aberration scale, Magical Ideation scale, and Impulsive Non-Conformity scale) earlier in the academic year. The coefficient Alpha measure of internal consistency reliability for these scales ranged from 0.80 to 0.90. To avoid the possible confounding effects of racial and cultural differences, only white American-born subjects were used. A total of 40 subjects (20 males, 20 females) comprised the study sample. Twenty of these subjects (11 males, 9 females) formed the experimental group. The criterion for inclusion in this group was a score on the Perceptual Aberration scale in excess of two standard deviations above the mean for that sex, based on the standardization norms for that administration. Thus, for males ($X = 7.4$, $SD = 6.2$) the minimum score was 20, and for females ($X = 6.3$, $SD = 5.5$) the minimum score was 18, for inclusion in the Perceptual Aberration group.

Control subjects were selected using three criteria.

First, these subjects' perceptual aberration scores had to have fallen between the mean score for that sex and 0.5 standard deviation above the mean score. Based on the standardization norms, scores of seven through 10 were therefore acceptable for inclusion in the male control group, scores of six through nine were acceptable for the female control group. Second, control subjects could not have scored higher than 0.5 standard deviations above the mean on any of the other three Wisconsin Scales of psychosis-proneness. This criterion was necessary to prevent any possible confounding in the experimental-control comparison caused by deviancy on any of the other three Wisconsin Scales. Third, each control subject had to be paired to an experimental subject of the same sex that shared a minimum of five identical item responses from the Perceptual Aberration scale. This was achieved by listing for each experimental subject all items on this scale answered in the keyed direction, and then matching the experimental subjects with control subjects who likewise answered the same items in the keyed direction. A research assistant performed the task of pairing the experimental and control subjects on the five items.

The investigator chose to pair experimental and control subjects in this manner for two reasons. First, the matching reduced the likelihood that experimental and control subjects differed solely on the types of experiences

endorsed. The matching allowed this investigator to assume that each pair of experimental-control subjects shared a minimum of five types of perceptual aberrations.

Comparisons could thus focus upon how experimental subjects differed from their matched controls in their experience of the perceptually aberrant events. Second, the investigator initiated discussion of perceptually aberrant experiences by presenting the subject with a list of five items that the subject had endorsed in the keyed direction. This list acted as a facilitator for discussion, orienting the subject to the topic of the interview, and "jogging" his or her memory as to the types of experiences reported. The five items on the subject's list were those items used in the pairing. Using these items for the interview would assure the blindness of the investigator as to group membership, since any given set of five items would have been endorsed by an experimental and a control subject.

Thought Disorder Index (TDI): Description and Scoring.

The measure of disordered thinking used in this investigation was the Thought Disorder Index (TDI), developed by Johnston and Holzman (1979). The TDI is based upon the early study by Rapaport, Gill, and Schafer (1946/1968), which qualitatively specified a variety of thought deviations in schizophrenia. In their study of a mixed clinical population, Rapaport and his colleagues

collected and categorized a large set of verbalizations they designated as deviant, and then studied the degree to which the people in the different diagnostic groups produced each type. They discovered that more schizophrenics than normal control subjects gave such deviant verbalizations as confabulations, contaminations, fabulized combinations, autistic logic, and peculiar and queer verbalizations.

Watkins and Stauffacher (1952) used this collection of deviant verbalizations to produce a quantitative index of thought disorder, called the "delta index", for use with the Rorschach Inkblot Test. They assigned weights to each type of verbalization to reflect the degree of deviancy, and computed a "delta percentage score" by dividing the sum of each subject's deviant scores by the total number of scorable responses.

The TDI is a revision of the "delta index". Johnston and Holzman eliminated categories that did not provide evidence for thought disorder and those that occurred rarely or were difficult to identify. They added categories that would allow the new index to be used for scoring responses on the Wechsler Adult Intelligence Scale, as well as the Rorschach. The TDI identifies 20 different deviant verbalizations, and weights each verbalization according to the severity of disordered thinking present in the verbalization (see Appendix C). Like the "delta index", the TDI is a qualitative and quantitative index of the severity

of disordered thinking present in an individual's Rorschach protocol.

The Thought Disorder Index has been found to tap multiple forms of thinking disturbance found in psychotic, psychotic-like, and high-risk populations (Arboleda & Holzman, 1985; Holzman, Solovay, & Shenton, 1985; Johnston & Holzman, 1979; Nuechterlein, Edell, Norris, & Dawson, 1986; Edell, in press). TDI scores were found not to correlate significantly with sex, ethnicity, socioeconomic status, IQ, Phillips ratings of premorbid adjustment, medication at time of testing, ratings of paranoia, or subcultural language style (Haimo & Holzman, 1979, Johnston & Holzman, 1979).

The TDI is a composite system for scoring instances of deviant verbalizations on the Rorschach. A zero score indicates an absence of any scorable indication of thought disorder. There is no theoretical limit to the upper end of the range. Mild instances of thought disorder receive low weights (.25), moderate ones receive intermediate weights (.5 or .75), and the most severe instances receive the maximum weight (1.0) (see Appendix C). High scores on the TDI can be achieved by an accumulation of many low-weighted instances or by a smaller number of higher-weighted instances.

The scorer records the category and level of each deviant response from the Rorschach transcript; multiple scorings are possible for any response. A maximum of six

responses for each card were scored. Instances where a response almost fits the category definition were scored as "a tendency to ...", and assigned the next lower weight (e.g. A tendency to looseness would receive a .25, rather than a .5.).

The final score for the subject, or the TD_R , was computed by summing the TDI scores on the Rorschach protocol, dividing by the total number of scored responses, and multiplying the result by 100.

$$TD_R = \frac{\text{Sum } .25(A) + \text{Sum } .5(B) + \text{Sum } .75(C) + \text{Sum } 1.0(D)}{R} \times 100$$

Where A = Number of responses scored at .25 level
 B = Number of responses scored at .5 level
 C = Number of responses scored at .75 level
 D = Number of responses scored at 1.0 level
 R = Total number of Rorschach responses

The principal investigator, trained in the scoring of the TDI and still blind to the group membership of the subjects, scored all of the Rorschach protocols for the TD_R . Responses were scored card by card, rather than subject by subject (i.e., Card 1 was scored for all subjects before Card 2 was scored) to insure high consistency of scoring and to reduce halo effects within protocols (Edell and Chapman, 1979). All protocols were scored independently by the research advisor to check for accuracy, and an inter-rater reliability measure was computed.

Social Adjustment Scale (Self-Report Version) (SAS-SR).

The measure of social functioning used in this investigation is the Social Adjustment Scale, Self-Report (Weissman & Bothwell, 1976). The SAS-SR derives directly from the Social Adjustment Scale (Weissman & Paykel, 1974), which is itself a modification of the Structured and Scaled Interview to Assess Maladjustment (SSIAM) developed by Gurland and colleagues (1972). The SAS-SR was originally designed to assess the social adjustment of outpatient depressives, but it has since been used in populations of alcoholics, schizophrenics, drug dependent individuals, and non-patients (Weissman, Prusoff, Thompson, Harding, & Myers, 1978). The questionnaire asks a number of questions about the subject's performance in a variety of social roles. The subject's rating of his social adjustment by this measure has been found comparable to ratings obtained by means of clinical interview (Weissman & Bothwell, 1976).

The SAS-SR contains 42 questions that measure either instrumental or expressive role performance over the past two weeks² in six major areas of functioning: work as a worker, housewife, or student; social and leisure activities; relationship with extended family; marital role as a spouse; parental role; and membership in the family unit (see appendix D). In general, the questions in each area fall into four major categories; the subject's performance at expected tasks; the amount of friction with

others; finer aspects of interpersonal relations; and inner feelings and satisfaction. Each question is rated on a five-point scale with a higher score indicating greater impairment. An example item, with our temporal modification:

Have you wanted to do the opposite of what your relatives wanted in order to make them angry during the last 2 months?

- 1 I never wanted to oppose them.
- 2 Once or twice I wanted to oppose them.
- 3 About half of the time I wanted to oppose them.
- 4 Most of the time I wanted to oppose them.
- 5 I always opposed them.

The scores of items in each applicable area (School Work, Social and Leisure Time, etc) were summed, and divided by the number of items to obtain a mean for each area. An overall social adjustment score was determined by summing the scores for all items and then dividing this sum by the total number of items scored.

Scoring the Perceptual Aberration Interview (PABI).

Since the PABI has not been used previously in an empirical trial, we viewed it preferable to phrase each interview question broadly to elicit the maximum amount of information. Unfortunately, such phrasing makes a standardized scoring method more difficult to construct. This first trial draft of the PABI attempts to balance the need for unrestricted responding with the need for "scorability". Five pilot subjects were run; this allowed

for improvements to be made in both the wording of questions and response categories prior to beginning the study.

The scoring system for the first trial draft consists of a set of categories for each general area addressed by the interview (see appendix E). Each set of categories attempts to exhaustively encompass the hypothesized responses for that area. For the PABI question, "Do you think that you can control whether you have these kinds of experiences, feelings?", the possible response categories would be:

- 1 - Subject can control occurrences, uses realistic measures (e.g. "If I get enough sleep, I'm not bothered by them.").
- 2 - Subject can control occurrences, uses fanciful measures (e.g. "I can prevent them from occurring, if I draw a figure "8" in the sand.").
- 3 - Subject cannot control occurrences (e.g. "They just happen, and I'm powerless to do anything about it.").

For this first use of the interview, the categories for each question have been defined broadly.

The principal investigator scored the interviews, while still blind to group membership. All interviews were scored subsequent to the testing of all of the subjects. The audio recordings of the interviews were used for this scoring.

Procedure

Experimental and control subjects meeting the defined criteria were contacted by phone and invited to participate in the study. All potential subjects were called and tested by the principal investigator, who remained blind to group membership throughout the study. Individuals were read the phone contact text approved by the Human Subjects Committee (see appendix F), and informed of the voluntary nature of participation. Two experimental credits were offered to potential subjects who were currently taking a psychology course and therefore eligible for such credit. Those potential subject not eligible for experimental credit were offered the sum of five dollars for participation. Consenting individuals were provided with a number of two-hour time blocks from which they chose for the administration of the test protocol. An adequate balance of males and females, and of experimental and control subjects was assured by a strict monitoring of the recruitment process by an undergraduate research assistant who was aware of group membership.

The entire test protocol took approximately two hours to administer (see appendix G). Subject numbers were used on all test protocols to maintain strict confidentiality. When the subject arrived, there was a brief (5-10 minute) introductory session, where the subject signed the consent form (see appendix F), and where the interviewer addressed

the immediate concerns of the subject regarding confidentiality and the experimental procedure. The primary purpose of this brief introduction was to acclimate the subject to the testing environment, and to develop a working rapport between interviewer and subject.

The interviewer then administered the PABI (see appendix B). The introductory text was read aloud to the subject, and he was handed a list of five sample items from the Perceptual Aberration scale which the subject had answered in the keyed direction, the same items that were used previously for pairing that subject. Again, the purpose of this list was to facilitate the subject's recall of his responses to the Perceptual Aberration items, while preventing the interviewer from identifying the subject's group membership based on the listed responses. The interview generally took approximately 40 minutes to complete and was taped for later use in the scoring procedure.

Following the interview was a five minute intermission. During this time, the subject was invited to relax, and the interviewer wrote a short paragraph describing his impressions of the subject and a brief synopsis of the content of the interview. The interviewer then administered the Rorschach Inkblot test following the procedures of Rapaport, Gill, and Schafer (1946/1968). Thus, the interviewer sat opposite the subject, handed him

the first card, and asked, "Tell me please, what could this be? What might it be?" Consistent with the guidelines of Johnston and Holtzman (1979), the subject was permitted to give as many responses on the first card as desired, although on subsequent cards the subject was limited to six responses. The subject was asked to turn the card over on the desk after having completed his responses to that card.

Inquiry into the responses on the Rorschach deviated from the recommendation of Rapaport et al. (1946/1968), which suggests that the inquiry follow immediately upon the completion of each card. Instead, inquiry into the responses was conducted after completion of the initial presentation of all ten Rorschach cards. The investigators were concerned that the Rapaport et al. method of inquiry would restrict the spontaneity of responding to the cards following the first card presentation, because subjects would learn that their responses would have to be justified. This might result in more guarded responses, with a resulting inhibition of disordered thinking displayed on the Rorschach. There is empirical support for such concern (Exner, 1974).

The inquiry was directed at obtaining sufficient information to score location, determinants, form quality, and content, and to assess the thinking process that was used in responses where thought slippage occurred. The entire Rorschach protocol was taped for later transcription

by undergraduate research assistants.

At the conclusion of the Rorschach, the interviewer removed those materials from the table and presented the subject with the Social Adjustment Scale, self-report version (SAS-SR) (Weissman and Bothwell, 1976) (see appendix D). This last procedure was self-administered, but the interviewer was necessary for the initial instructions, for answering questions, and for checking the completeness of the finished scale. The interviewer left the subject following the instructions, and was available to the subject in an adjoining room. This scale generally took approximately 15 minutes to complete.

Following the SAS-SR, the subject was thanked by the interviewer and given his written feedback (see appendix H) and an experimental credit slip or monetary remuneration. An opportunity was provided to answer any concerns the subject had about the content of the experimental procedure.

CHAPTER III

RESULTS

All group comparisons involving continuous dependent variables were examined using the Student's T-test when the between-group variances were homogeneous, or the Mann-Whitney U-test, corrected for ties, when variances were heterogeneous. Tests of homogeneity of variance were performed using the Brown-Forsythe F^* test. Unless otherwise indicated, all analyses were one-tailed, because of the clear direction of hypothesized differences. Examinations of the relationship between dichotomous variables used the Chi-square test, with Yates' correction for continuity where appropriate. Fisher's Exact test was used when the expected cell frequency in a given analysis was less than five.

In any study involving both male and female subjects, there exists the possibility that sex differences in performance on the various dependent measures will be present. Analyses in this investigation were made with that consideration in mind. In instances where no group differences were observed, yet separate analyses by sex revealed appreciable differences between the sexes in performance (at least a trend of $p < .20$), these differences were noted. Similarly, if overall group differences were observed, yet analyses by sex revealed

that these differences only applied to one sex and not the other, these differences in performance were also noted.

Demographic Data.

The data comparing the experimental and control groups on a number of demographic variables is presented in Table 1. There were no differences between groups in mean age ($t(38) = .44$, n.s.), or in socioeconomic status ($t(38) = .39$, n.s., Hollingshead Two-Factor Index). Religious affiliation and year in the college program were represented equally in the two groups ($X^2(3, N=40) = 1.08$, n.s.; $X^2(2, N=40) = 1.09$, n.s., respectively). Since the investigator was blind to group membership during the subject selection process, recruiting the proper number of males and females for the experimental and control groups required constant monitoring by the research assistant. In the recruitment of the final four or five subjects, this monitoring was unavailable. The result is a small and insignificant ($X^2(1, N=40) = 0.1$, n.s.) imbalance in the representation of males and females within the two study groups.

Group comparisons using the Thought Disorder Index (TDI).

Both the principal investigator and the research advisor scored all of the Rorschach protocols for the TD_R.

An adequate interrater reliability was obtained ($\underline{r} = .83$, $p < .001$), and this compares favorably with the interrater reliability reported in Johnston and Holzman's (1979) original work (they report an \underline{r} of 0.82). This lends further support to the assumption that the TDI can be scored reliably across raters.

Rather than attempt to resolve scoring differences by averaging across raters, a method which assumes the raters have equivalent experience and objectivity, it was decided that the research advisor's scores would be used in the analyses. The advisor had greater experience with scoring this thought disorder measure, and was more familiar with the subtle nuances between TDI categories. Additionally, and perhaps more importantly, there was some concern that, although the principal investigator had remained blind to group membership until after the scoring of the TDI, he might nevertheless have been influenced in his scoring by his recall of the associations between a given subject's performance on the interview and his performance on the Rorschach. There was no possibility that the advisor's scores would reflect such a bias.

As mentioned earlier, the subject's sum total of weighted deviant responses is divided by the total number of scorable Rorschach responses in the protocol to correct for differential response productivity. The question

TABLE 1
Demographic Data

Demographic Variable	Experimental (N=20)	Control (N=20)	Test
Age	19.6 (0.8)	19.4 (0.6)	
Sex	11 males 9 females	9 males 11 females	
SES	19.3 (10.3) Class II	20.8 (13.5) Class II	
Race	20 Caucasian	20 Caucasian	
Religion	6 Protestant 9 Catholic 3 Jewish 2 other	4 Protestant 11 Catholic 4 Jewish 1 other	
Year in Class	14 Freshman 5 Sophomore 1 Junior 0 Senior	14 Freshman 6 Sophomore 0 Junior 0 Senior	

+ $\underline{p} < .20$ (trend)

++ $\underline{p} < .10$ (strong trend)

* $\underline{p} < .05$

arose as to whether this correction was necessary. Correlating the sum total of deviant responses with the total number of scorable Rorschach responses revealed a strong positive linear relationship (Pearson's $r = .50$, $p < .001$). Thus, individuals who provided more responses on the Rorschach were more likely to produce a greater number of thought disordered responses. The response corrected score did not correlate with the number of Rorschach responses (Pearson's $r = -.02$, n.s.). Therefore, correcting for the number of Rorschach responses allows for comparing the severity of thought disorder between subjects with differing numbers of Rorschach responses.

The results of comparing the experimental and control groups on the TDI are presented in Table 2. Groups did not differ in mean number of Rorschach responses ($t(38) = .97$, two-tailed, n.s.). While the experimental group had a greater mean TD_R , this difference from the control group proved nonsignificant ($U = 164$, $p < .17$, trend). Female experimentals were better differentiated from controls than were males in the same comparison, but the difference was still nonsignificant (females, $U = 35$, $p < .14$, trend; males, $U = 43$, n.s.).

Edell (in press) noted that his comparisons of psychiatric patients to non-psychiatric controls on the TDI revealed significant differences in thought disorder. Additionally, an examination of the severity levels of

deviant responses (.25 responses, .50 responses, etc.) revealed significant differences between groups. Specifically, patient groups did not differ from the non-psychiatric controls on the number of .25 level responses, but did differ on the number of .50 and .75 level responses. The number of subjects with 1.0 level responses was too small to permit the valid use of statistical tests for the examination of group differences. Interestingly, the 1.0 responses were only given by the psychiatric subjects. An examination of TDI scores by level of pathology in the present study revealed differences in agreement with Edell (in press). Experimentals did not differ from controls in the number of .25 level responses ($t(38) = .83$, n.s.), but did show a trend toward a greater number of .50 and .75 level responses ($U=148$, $p < .08$; $U=150$, $p < .06$, respectively). Four subjects produced at least one 1.0 level response in this study; all of these subjects were in the experimental group.

Group comparisons on the Social Adjustment Scale (SAS-SR)

Table 3 details the comparison of the experimental and control groups on the SAS-SR. Of the six major areas of living addressed by this scale, the subjects responded to only three; the remaining three areas (concerning

TABLE 2

Group Comparisons Using the Thought Disorder Index (TDI)

	Experimental (N=20)	Control (N=20)	Test
# of responses	24.2 (9.1)	21.6 (8.8)	
TD _R score	21.0 (16.3)	14.6 (8.3)	+
Males	19.5 (10.2)	17.3 (5.8)	
Females	23.0 (22.1)	12.5 (9.6)	+
TDI scores by level of pathology			
# of .25 level	9.0 (4.7)	7.6 (6.6)	
# of .50 level	3.2 (3.0)	1.8 (1.8)	++
# of .75 level	1.2 (2.0)	0.2 (0.4)	++
# of 1.0 level	0.4 (1.1)	0.0 (0.0)	

+ $\underline{p} < .20$ (trend)
 ++ $\underline{p} < .10$ (strong trend)
 * $\underline{p} < .05$

marriage and live-in relationships, the parental role, and children) were not applicable to any of the subjects.

Groups did not differ on the SAS overall score ($t(38) = .66$, n.s.), nor were group differences found on the sub-analyses of the Social and Leisure questions ($t(38) = .91$, n.s.) or the Family and Relatives questions ($t(38) = 1.32$, n.s.).

Subjects in the experimental group, however, did report greater impairment in their school performance than those subjects in the control group ($t(38) = 2.32$, $p < .03$). Experimental subjects were more likely to report greater difficulty in completing required assignments, greater interpersonal friction with their professors and fellow students, and less interest in their academic subjects than were subjects in the control group.

Relationship of interview responses to group membership

Conditions surrounding the aberrant experience.

The ten questions presented in the Perceptual Aberration Interview addressed eight primary areas of concern. One of the foci of this investigation was to "flesh out" a description of the conditions that might precede a perceptually aberrant experience. The first two questions provide some of this information. Question 1 was actually a number of questions, the answers to which

TABLE 3

Group Comparisons Using the Social Adjustment Scale (SAS)

	Experimental (N=20)	Control (N=20)	Test
SAS overall score (26 items)	1.98 (.27)	1.92 (.28)	
School Work (6 items)	2.13 (.40)	1.83 (.41)	*
Social & Leisure (11 items)	1.88 (.36)	1.99 (.42)	
Family & Relatives (8 items)	2.04 (.39)	1.87 (.38)	

+ $p < .20$ (trend)
 ++ $p < .10$ (strong trend)
 * $p < .05$

helped to describe the subject's physical and environmental condition prior to the aberration. As the first comparison presented in Table 4 illustrates, experimental subjects more often reported their aberrant experiences in the absence of any appreciable physical or environmental stresses, such as drug or alcohol related experiences, sleep deprivation, hypnogogic or hypnopompic sleep states, or unfamiliar environmental conditions. Controls more often reported their experiences as related to such conditions ($X^2(1, N=40) = 6.42, p < .02$). Prior mood (Question 2) appeared not to be as effective a group discriminator. The hypothesis that controls would more often report their experiences as associated with a disorganized mood (such as extreme anxiety) was not supported ($X^2(1, N=40) = .50, n.s.$). Most subjects, regardless of group membership, reported their aberrant experiences in the absence of a prior disorganizing mood.

Subject's emotional reaction to the aberrant experience.

Question 3 in the interview asked the subject how he or she reacted emotionally to the experience of the perceptual aberration under discussion. Control subjects were more likely to react positively to their aberrant experiences ($X^2(2, N=40) = 6.56, p < .04$), finding the aberrant experience enjoyable or exciting. Experimental subjects were more likely to report no strong emotional

TABLE 4

Relationship Between Interview Questions and Group Membership.

Question 1: Physiological and Environmental Conditions Prior to the Aberrant Experience.

condition - aberration reported in the context of a physiological or environmental stressor.

no condition - aberration reported in the absence of such stressors.

	condition	no condition
experimental	5	15
control	14	6

$$X^2(1, N=40) = 6.42 *$$

Question 2: Reported Mood Prior to Aberrant Experience.

altered mood - aberration reported in the context of a prior disorganizing mood (such as extreme anxiety)

no altered mood - no reported prior disorganizing mood

	altered mood	no altered mood
experimental	4	16
control	7	13

$$X^2(1, N=40) = 0.50$$

++ $p < .10$ (strong trend)

* $p < .05$

** $p < .01$

TABLE 4 (continued)

Question 3: Reaction to Perceptually Aberrant Experience.

positive - subject found the experience pleasurable, exciting, or enjoyable.

neutral - subject reported no strong emotional reaction.

negative - subject found the experience upsetting, disturbing, unpleasurable.

	positive	neutral	negative
experimental	2	12	6
control	8	5	7

$$X^2(2, N=40) = 6.56 *$$

Question 3, male subjects only

	positive	neutral	negative
experimental	0	8	3
control	6	2	1

$$X^2(2, N=20) = 10.50 **$$

Question 3, female subjects only

	positive	neutral	negative
experimental	2	4	3
control	2	3	6

$$X^2(2, N=20) = 0.95$$

++ $p < .10$ (strong trend)

* $p < .05$

** $p < .01$

TABLE 4 (continued)

Questions 4 & 5: Self-explanation of the Cause of the Aberrant Experience.

behavior - subject explains the event as a result of his or her behavior

character - subject explains the event as a result of some personal quality or defect.

external force - subject explains the event as a result of a force external to him/herself, such as a supernatural power.

	behavior	character	external
experimental	3	15	2
control	10	9	1

$$X^2(2, N=40) = 5.60 \text{ ++}$$

Question 6: Predictability of Aberrant Experience.

predict - subject reports an ability to predict future occurrences of the aberrant experience.

no predict - subject reports being unable to make such a prediction.

	predict	no predict
experimental	6	14
control	9	11

$$X^2(1, N=40) = 0.43$$

++ $p < .10$ (strong trend)

* $p < .05$

** $p < .01$

TABLE 4 (continued)

Question 7: Controllability of Aberrant Experience.

control - subject reports an ability to initiate restrict, or prevent future occurrences of the aberrant event.

no control - subject reports being unable to control the occurrences of future aberrant events.

	control	no control
experimental	10	10
control	8	12

$$X^2(1, N=40) = 0.10$$

Question 8: Aberration's Effect on Self-view.

positive - subject reports that the aberrant experience made him/her feel "special", "gifted", etc.

no effect - subject reports that the aberrant experience had no effect on self-view.

negative - subject reports that the aberrant experience made him/her feel "sick", "crazy", etc

	positive	no effect	negative
experimental	5	12	3
control	4	13	3

$$X^2(2, N=40) = 0.15$$

++ $p < .10$ (strong trend)

* $p < .05$

** $p < .01$

TABLE 4 (continued)

Question 9: Knows Relatives or Friends with Similar Experiences.

	yes	no
experimental	13	7
control	11	9
$X^2(1, N=40) = 0.10$		

Use of discriminant analysis to predict group membership.

predict exp - subjects predicted to be experimental by the discriminant analysis.

predict ctl - subjects predicted to be controls by the discriminant analysis.

	predict exp	predict ctl
experimental	16	5
control	5	15

77.5% accurately predicted

$$X^2(1, N=40) = 10.02 \quad ***$$

++ $p < .10$ (strong trend)
 * $p < .05$
 ** $p < .01$
 *** $p < .005$

reaction to the experience. Separate analyses by sex revealed that these observations were true for male subjects ($X^2(2, N=20) = 10.50, p < .01$), but not for female subjects ($X^2(2, N=20) = 0.95, n.s.$).

Explanatory style.

Another central focus of the interview was to determine what explanations subjects provided themselves for the occurrence of the aberrant experience (Question 4 and 5). There was a strong trend for experimental subjects more often to explain the origins of an aberration as resulting from a non-modifiable source, such as a trait, or from a force external to themselves ($X^2(2, N=40) = 5.60, p < 0.06$). For example, one experimental subject explained the cause of the aberration to her special abilities at perceiving objects and events in "the spiritual world". Controls showed a greater tendency than experimentals to explain the experience as resulting from their behavior (a perceived modifiable source). A control subject, when describing the experience of rotating in space while sitting at his desk, explained the cause of the experience to sleep deprivation and mental exhaustion (He had been awake for over 55 hours in an attempt to finish a term paper.).

Predicting and controlling future aberrant experiences.

The subject's ability to predict future occurrences of a perceptually aberrant experience, and to prevent or limit the experience if desired, was not related to group membership (Questions 6 and 7). Contrary to expectations, this method of examination failed to support the hypothesis that control subjects would more often report being able to predict and control future aberrant events (Predict, $X^2(1, N=40) = .43$, n.s.; Control, $X^2(1, N=40) = .10$, n.s.). The majority of subjects felt unable to predict or control future occurrences of perceptually aberrant events.

The aberrant experience's effect on view of self.

The effect of the perceptually aberrant experience on the subject's view of himself or herself was examined in Question 8. We were interested in knowing if there existed a relationship between the number and variety of aberrant experiences and whether those experiences could effect a change in how the individual saw himself or herself. For example, did the aberrant experiences make the individual feel "special" (a positive change), or "crazy" (a negative change)? The hypothesis that the experimental subject more likely would report a change in self-perception as a result of the perceptually aberrant experiences was not supported ($X^2(2, N=40) = .15$, n.s.). In

fact, most subjects reported that the experiences had no effect on self-view.

Subject's knowledge of others with similar experiences.

Finally, most subjects reported knowing someone else, either a family member or friend, who had experienced a similar perceptual aberration, and this knowledge was not related to group membership ($\chi^2(1, N=40) = .10, n.s.$). Surprisingly, all of the subjects in both groups, even those who did not actually know another person with similar experiences, believed that other people had had similar perceptual experiences to their own.

Using discriminant analysis to predict group membership.

The strong relationship between the number of items endorsed on the Perceptual Aberration scale (i.e. group membership) and responses to certain questions on the PABI suggested to this investigator that responses to a set of items on the Interview might assist in predicting group membership. A discriminant analysis was performed to determine which combination of the above variables would most accurately discriminate the experimental from the control subjects. The analysis determined that three of these variables, namely the physiological and environmental conditions variable (Question 1, discriminant function coefficient = 0.73, increase in

Rao's $V = 9.68$), the explanation variable (Questions 4 and 5, discriminant function coefficient = 0.37, increase in Rao's $V = 4.56$), and the prior mood variable (Question 2, discriminant function coefficient = 0.17, increase in Rao's $V = 1.10$), combined for the best prediction of group membership ($\chi^2(1, N=40) = 10.02, p < .005, 77.5\%$ accurate prediction). Namely, the discriminant analysis correctly identified 16 of the 20 experimental subjects and 15 of the 20 control subjects.

Comparisons on the TDI using dichotomous groups obtained from the interview questions

A number of hypotheses were made regarding the relationship between responses to the interview questions and severity of thought disorder on the Rorschach, irrespective of the number of items endorsed on the Perceptual Aberration scale. Table 5 summarizes the results of these comparisons on the TDI using the dichotomous groupings obtained from the interview questions. While these comparisons failed to achieve statistical significance at the $p < 0.05$ level, two trends were observed in agreement with the hypothesized differences.

Subjects who reported on Questions 4 and 5 that they saw their experiences as resulting from some perceived

non-modifiable source (such as non-modifiable personality characteristic or an external force) had a tendency to be more thought disordered than were subjects who saw their experiences as resulting from their behavior (perceived as modifiable) ($U=123.5$, $p < .10$). From Question 1 which examined the physiological and environmental variables present during the perceptual aberration, subjects who reported an absence of such possible stressors had a tendency to be more thought disordered than were subjects who reported their experiences as related to the influence of these conditions ($U=163.5$, $p < .17$). The presence of a disorganized mood (such as from extreme anxiety) as a conditional stressor, however, failed to discriminate high thought disordered subjects from subjects with little thought disorder ($U=140.5$, n.s.).

In addition to the hypothesized differences presented in the Introduction, the question was raised as to whether the remaining categories in the PABI were capable of discriminating between high- and low-thought disordered subjects. These remaining comparisons (reaction to the aberration, prediction or control of future aberrations, effects of the aberration on view of self) did not discriminate on severity of thought disorder as measured by the TDI (Reaction, $U=165$, n.s.; Prediction, $t(38) = .74$, n.s.; Control, $U=176$, n.s.; Effect on view of self, $t(38) = .77$, n.s.).

TABLE 5

Comparisons on the TDI Using the Dichotomous Groupings
Obtained from the Interview Questions.

 Question 1: Physiological or Environmental Conditions.

subject reporting aberrant experience...

in the context of such conditions (N=19) 14.5 (7.0)

in the absence of such conditions (N=21) 20.8 (16.5) +

 Question 2: Mood Prior to Aberrant Experience.

subject reporting...

disorganized, anxious mood (N=11) 14.7 (7.4)

no mood disturbance (N=29) 19.0 (14.7)

 Question 3: Reaction to Aberrant Experience.

subject reporting...

negative reaction (N=13) 16.4 (8.1)

positive or no reaction (N=27) 18.5 (15.1)

 Questions 4 & 5: Self-explanation of Aberrant Experience.

subject explains aberrant experience as a result of...

behavior (modifiable) (N=13) 13.2 (6.6)

character or an external force (N=27) 19.8 (14.8) ++
 (not modifiable)

 + $p < .20$ (trend)
 ++ $p < .10$ (strong trend)
 * $p < .05$

TABLE 5 (continued)

Question 6: Prediction of Future Aberrations.

subject believes that he or she...

can predict future occurrences ($\underline{N}=15$) 15.8 (10.7)

cannot predict ($\underline{N}=25$) 19.0 (14.5)

Question 7: Control of Future Aberrations.

subject believes that he or she...

can control future occurrences ($\underline{N}=18$) 17.5 (8.7)

cannot control ($\underline{N}=22$) 18.1 (16.1)

Question 8: Effect on Self-view.

subject reports that abberant experiences...

have not affected self-view ($\underline{N}=25$) 17.4 (12.0)

have affected self-view ($\underline{N}=15$) 19.9 (14.4)

+ $\underline{p} < .20$ (trend)

++ $\underline{p} < .10$ (strong trend)

* $\underline{p} < .05$

Comparisons on the TDI utilizing the three interview variables obtained from the discriminant analysis

As reported earlier, the discriminant analysis selected three of the interview categories as variables capable of maximizing the prediction of group measurement (77.5% accurate prediction). Of additional note was that the six subjects with the highest TDI scores ($M = 40.9$, $SD = 16.6$, range 26.14 - 69.23) all described their experiences in the above fashion, and five of these six were in the experimental group. Were the experimental subjects that met the above three criteria significantly more thought disordered than the remaining subjects? Tables 6 through 8 summarize the analyses that address this question. Through three separate sets of analyses, the interview variables were entered in a step-wise fashion into the group comparison procedure. The order in which the interview items were entered was determined by their relative contributions to the discriminant process described earlier (the increase in Rao's V , a measure of a variable's ability to separate groups).

Table 6 presents the results of adding the first variable (absence of physiological or environmental stressors) to the analysis of group differences. Subjects meeting the criteria for this "refined" experimental group tended to be more thought disordered than the group of subjects who failed to meet the inclusion criteria,

although the difference failed to be statistically significant ($U=144.5$, $p < .12$). In comparing these results to those presented in Table 2, there was some improvement in the discriminating between high and low scorers on the TDI. Again, groups did not differ on the number of .25 level responses ($t(38) = .42$, n.s.), but showed strong trends toward differences in numbers of .50 level and .75 level responses ($U=134$, $p < .07$; $U=138.5$, $p < .06$, respectively), with the "refined" experimental subjects having the greater number of these thought disordered responses.

An examination of the analyses in Table 7 reveals that adding the self-explanation variable (the aberration as a result of some non-modifiable cause) did nothing to increase the separation between groups on the measure of thought disorder. In fact, this variable identified the same subjects as the first Interview variable for the group comparisons.

Table 8 presents the analyses of group differences using all three of the relevant interview variables. This combination produced the best differentiation of high and low thought disordered subjects ($U=132.5$, $p < .11$), although the difference failed to reach the critical significance level. Again, groups did not differ on the number of .25 level responses ($t(38) = .39$, n.s.), but did show trends toward differing in the numbers of .50 level

TABLE 6

Group Comparisons on the TDI Using the Physiological and Environmental Conditions Variable.

Experimental - subjects meeting the original experimental criteria and no reported physiological or environmental stressors present during the aberrant experience.

Control - all remaining subjects not meeting the above criteria.

	Experimental (N=15)	Control (N=25)	Test
TD _n score	23.0 (18.2)	14.8 (7.8)	+
TDI scores by level of pathology			
# of .25 level	8.8 (4.5)	8.0 (6.4)	
# of .50 level	3.6 (3.3)	1.9 (1.8)	++
# of .75 level	1.4 (2.2)	0.3 (0.5)	++
# of 1.0 level	0.6 (1.2)	0.0 (0.0)	

+ $p < .20$ (trend)

++ $p < .10$ (strong trend)

* $p < .05$

TABLE 7

Group Comparisons on the TDI Using the Physiological and Environmental Conditions Variable and the Explanation Variable.

Experimental - subjects meeting the original experimental criteria and no reported physiological or environmental stressors present during the aberrant experience and explanation to a non-modifiable source (personal quality, defect, or external control).

Control - all remaining subjects not meeting the above criteria.

	Experimental (N=15)	Control (N=25)	Test
TD _R score	23.0 (18.2)	14.8 (7.8)	+
TDI scores by level of pathology			
# of .25 level	8.8 (4.5)	8.0 (6.4)	
# of .50 level	3.6 (3.3)	1.9 (1.8)	++
# of .75 level	1.4 (2.2)	0.3 (0.5)	++
# of 1.0 level	0.6 (1.2)	0.0 (0.0)	

+ $p < .20$ (trend)

++ $p < .10$ (strong trend)

* $p < .05$

TABLE 8

Group Comparisons on the TDI Using the Physiological and Environmental Conditions Variable, the Explanation Variable, and the Prior Mood Variable.

Experimental - subjects meeting the original experimental criteria and no reported physiological or environmental stressors present during the aberrant experience and explanation to a non-modifiable source (personal quality, defect, or external control) and no reported prior mood disturbance.

Control - all remaining subjects not meeting the above criteria.

	Experimental (N=13)	Control (N=27)	Test
TD _R score	24.1 (19.1)	14.8 (7.9)	+
TDI scores by level of pathology			
# of .25 level	8.8 (4.8)	8.1 (6.2)	
# of .50 level	3.7 (3.3)	2.0 (2.0)	++
# of .75 level	1.3 (2.2)	0.4 (0.8)	++
# of 1.0 level	0.5 (1.1)	0.1 (0.6)	

+ $p < .20$ (trend)

++ $p < .10$ (strong trend)

* $p < .05$

and .75 level responses ($U=124.5$, $p < .07$; $U=137$, $p < .10$, respectively).

Comparisons on the SAS School Work area using the three interview variables

The analyses of the SAS-SR using experimental and control groups based solely on number of items endorsed on the Perceptual Aberration scale revealed that the experimental group reported greater difficulties in school work performance. Table 9 presents the results of examining the School Work area of the SAS-SR using the "refined" experimental groups derived from responses to the three interview questions. Contrary to expectation, these refined groups failed to assist in a further discrimination of subjects with school work difficulties from subjects with fewer such difficulties (comparison using the physical/environmental condition variable, $t(38) = 1.20$, n.s.; comparison using the physical/environmental condition variable and the self-explanation variable, $t(38) = 1.20$, n.s.; comparison using the physical/environmental condition variable, the self-explanation variable, and the prior mood variable, $t(38) = 1.35$, n.s.).

TABLE 9

Group comparisons on the SAS-SR School Work Variable Using the Three Interview Variables.

Experimental - subjects meeting the original experimental criteria and no reported physiological or environmental stressors present during the aberrant experience.

Control - all remaining subjects not meeting the above criteria.

	Experimental (N=15)	Control (N=25)	Test
SAS-SR School Work	2.09 (0.42)	1.92 (0.43)	

Experimental - subjects meeting the original experimental criteria and no reported physiological or environmental stressors present during the aberrant experience and explanation to a non-modifiable source (personal quality, defect, or external control).

Control - all remaining subjects not meeting the above criteria.

	Experimental (N=15)	Control (N=25)	Test
SAS-SR School Work	2.09 (0.42)	1.92 (0.43)	

+ $p < .20$ (trend)
 ++ $p < .10$ (strong trend)
 * $p < .05$

TABLE 9 (continued)

Experimental - subjects meeting the original experimental criteria and no reported physiological or environmental stressors present during the aberrant experience and explanation to a non-modifiable source (personal quality, defect, or external control) and no reported prior mood disturbance.

Control - all remaining subjects not meeting the above criteria.

	Experimental (N=13)	Control (N=27)	Test
SAS-SR School Work	2.11 (0.42)	1.92 (0.43)	

+ $p < .20$ (trend)

++ $p < .10$ (strong trend)

* $p < .05$

The Perceptual Aberration Interview as a device for
discription: Two case studies

To date there exists no standardized instrument for obtaining descriptive information about perceptually aberrant experiences. The Perceptual Aberration Interview shows considerable promise in this regard. As a demonstration of its abilities as a descriptive tool, two case studies from the subject pool are presented.

Case I

Ms. R is a nineteen year old undergraduate freshman. She was classified in the experimental group, having answered 22 items on the perceptual aberration scale in the keyed direction. She demonstrated the greatest thought disorder on the Rorschach of our study group, with a TD_R of 69.23.

When asked to select one of her five highlighted items as a focus for the interview questions, Ms. R decided upon item 101, "Now and then when I look in the mirror, my face seems quite different than usual." This particular item was one of the more commonly endorsed items in our sample of 40 subjects (19 of the 20 experimental subjects had endorsed it, 14 of the 20 control subjects responded similarly). A number of other subjects had chosen this item for elaboration in the

interview, and it had been variously described in the context of weight loss or gain, changes in skin quality or pallor, or as an effect of an alcohol- or marijuana induced perceptual change. Ms. R's description and explanation was markedly different from above examples.

Ms. R described situations where, during normal consciousness, she would experience an irresistible urge to look at herself in the mirror. There in place of her reflection she would see other people or perhaps even animals. In one particular instance, she saw a young blond woman (Ms. R has brown hair) with a wreath of flowers in her hair, and dressed all in white. She was not aware of any relationship between these experiences and any unusual physiological, emotional, or environmental conditions. "They could happen at any time". She admitted to using alcohol and occasionally smoking marijuana, but was certain that these experiences were never related to the use of these substances.

She explained these experiences as the result of having special psychic powers. "I'm lucky, I have access to more than just the things in this world. There's another, a spiritual world, as well." These abilities are external to her control; there is nothing of which she is aware that allows her to initiate or prevent these experiences. She spoke openly of "her gifts"; she sees this ability as a quality that allows for a more open

mind. She reported that her mother admits to having had related experiences; Ms. R often feels that she can communicate to her mother over distance.

Case II

Mr. K is a 19 year old male undergraduate freshman. Also classified in the experimental group, he had endorsed 34 of the possible 35 items on the Perceptual Aberration scale. He showed significant thought disorder, with a TD_r of 41.38, and four deviant responses at the 1.0 level (three incoherent responses and a neologism).

Mr. K chose item 153, "Often I have a day when the indoor lights seem so bright that they bother my eyes." as the experience to be discussed in the Interview. As with the item chosen by the subject in Case I, this item was also heavily endorsed by the subjects in the study (17 of the 20 experimental subjects, 13 of the control subjects). It had often been described in the context of light sensitivity immediately subsequent to waking, as an effect of alcohol use, or as an accompanying symptom to headaches, colds, allergic reactions, or low blood sugar (This response was from a diabetic.). Mr. K, however, described his experience in a quite different context.

Mr. K expressed a general preference for darkness, always finding bright sunlight or florescent lighting "upsetting to my emotional condition." During the

daylight hours, he would work in his room with the shade pulled down, and in the evening used a yellow light in preference to florescent or incandescent lighting. While outside, he always wore sunglasses, even on cloudy days.

Mr. K described himself as a musician, and reported spending all of his free time (i.e. when not doing schoolwork) in the composition and playing of this own music. He reported feeling that "bright light destroys the creative ambience. I'm unable to work in bright light. I find such light very distressing to me and my creative abilities." He explained his "revulsion" to bright light as a condition of his "artistic sensitivity."

Mr. K reported having had this sensitivity for about five years. At the time he first began experiencing this aversion (while living at home), he reported his adverse reactions as more severe than they are at present. He would shut himself up in his room, keeping to himself and not interacting with the members of his family. He claimed not to have had this light sensitivity examined medically, feeling that it was a result of his musical creativity, and not the result of a medical condition.

These two case subjects have unusual descriptions of and explanations for what many of the other subjects in this study related as quite ordinary experiences. The Perceptual Aberration Interview allows the investigator to

tap into the richness of the personal experience.

CHAPTER IV

DISCUSSION AND CONCLUSIONS

While most of the planned comparisons between groups on levels of thought disorder and social functioning failed to meet statistical significance, the consistency of the trends that were produced by these analyses is worthy of some conservative discussion. Additionally, the relationships that were demonstrated between group membership and the various interview categories support some preconceptions and challenge others held by this investigator. Finally, the utility of the Perceptual Aberration Interview as a descriptive instrument merits further attention. In the interests of clarity and organization, this investigator would like to discuss the results of this study in the order in which they were presented in the previous section, as there is a clear logical progression to this organization.

One of the more striking observations made during the examination of the results of TDI was the severity of thought disorder demonstrated by some of our subjects. The six highest TD_r scores were in excess of 25.0; this represents an average of more than one .25 level response per Rorschach response (Five of these six subjects were experimentals.)! However, it was not the .25 level responses that allowed for such high scores, but rather

the accumulation of the more severely disordered responses (.50, .75, and 1.0 level responses). Four high scorers (all of them experimental subjects) produced at least one 1.0 level response (i.e., a contamination, an incoherent response, or a neologism), an unusual occurrence even for a subject with a diagnosed psychiatric disorder (see Edell, in press). The severity of thinking disturbance present in the Rorschach protocols of the high scorers might be explained in part by our decision to alter the method of administering the Rorschach, allowing the subject to respond to all ten cards before proceeding with the inquiry. This alteration in the method might have allowed for a less "guarded" protocol (Exner, 1974). Additionally, the administration of the Rorschach followed the Interview; the novelty of discussing such unusual experiences might have precipitated some disorganization in subsequent thinking and perception. But even if one accepts both of these factors as possible effects on thought processes, all of the subjects were exposed to the two factors, and yet these high scorers demonstrated appreciably more disordered thinking than a large number of the remaining subjects.

The group comparisons using the TDI failed to support the results of Edell and Chapman (1979), in which high scorers on the Perceptual Aberration Scale demonstrated greater thought disorder than non-elevated controls on the

Delta and Alpha Indices of disordered thinking. An examination of the distribution of TDI scores for the two groups in this study revealed that differences in group means were in a large part due to the markedly deviant performances of the six most thought disordered experimental subjects (six highest, $TD_R = 39.8$ (17.6) vs. the remaining 14 experimentals, $TD_R = 13.0$ (6.0)). This observation is not necessarily inconsistent with the intent of high-risk determination using the Perceptual Aberration Scale. The Scale's purpose is to select a group of individuals who collectively have a higher probability of future psychosis. It is assumed that some of these subjects will never suffer from a psychotic disorder. If marked thinking disturbance is a possible pathognomic sign of future psychosis, then the Perceptual Aberration scale was successful in "weeding out" most of these markedly thought disordered individuals.

The present study's failure to support the results of Edell and Chapman (1979) might also be attributed in part to different defining criteria for the non-elevated control subjects. The Edell and Chapman study required that control subjects score no more than 0.5 standard deviations above the mean for that administration of the Perceptual Aberration scale. The present study, in order to insure a sufficient number of responses by all subjects for the five-item matching, additionally required that all

control subjects score no less than the mean score. Thus, our control subjects as a group reported more aberrant experiences than the control subjects in the Edell and Chapman study. It is possible that the present study may have had a more "deviant" control group than the Edell and Chapman study. In fact, our control group's mean TD_R score of 14.6 is higher than in previous studies using non-psychiatric controls (Edell, in press; Johnston & Holzman, 1979).

Edell (in press) noted that the TD_R successfully discriminated between a patient group that included borderline syndrome subjects (borderline personality disorder, schizotypal personality disorder, and mixed borderline-schizotypal personality disorder) and early schizophrenics, and a group of non-psychiatric controls. Additionally, the patient group exhibited a greater number of .50 and .75 level responses, yet did not differ from the control group on the number of .25 level responses. In the present study, it could be argued that we are making similar comparisons. While all of the subjects in this study could be classified as "non-psychiatric controls", the groups do differ along at least one diagnostic dimension: frequency and variety of reported perceptual aberrations. The analysis of levels of thought disorder in this study is in agreement with the observations of Edell. There were strong trends for the

two groups to differ on the number of .50 and .75 level responses, yet groups did not differ on the number of .25 level responses.

The data examining the relationship between group membership and responses to the Interview questions suggest that the individual who reports a greater number and variety of perceptual aberrations is also likely to describe his or her aberrant experiences in a fashion differently from the individual who reports fewer experiences. More specifically, the individual who reports a greater number and variety of these experiences is more likely to describe a given experience in the absence of any physiological, emotional or environmental conditions that might be reasonably proposed to alter the perceptual mechanism (such as sleep deprivation, hypnogogic or hypnopompic sleep states, alcohol- or drug-induced altered perceptual states, extreme anxiety, or unfamiliar environmental conditions). In contrast, the individual who reports fewer perceptually aberrant experiences would more often report a given aberration in the context of one of these conditions.

The individual who reports fewer perceptually aberrant experiences is more likely to view those experiences as exciting or enjoyable. It is possible that because the subject experiences fewer of these aberrations, he or she is less likely to see them as

events that disrupt or interfere with day-to-day living. Perceived as novel events, they may be seen more as pleasant distractions than as disruptive experiences.

There was a tendency for the individual reporting the greater number and variety of these experiences to explain a given experience as resulting from some fixed personality characteristic (such as oversensitivity, "special powers", or "a weakness") or to some external force ("It just happens and I am powerless to do anything about it"). There was also a trend for the individual reporting fewer perceptually aberrant experiences to explain a given aberration as resulting from a condition of his or her behavior, which is perceived as transient and modifiable ("It happened because I was overworking myself.").

Using the categories from the Interview questions as grouping variables, and then comparing these groups on the TDI, revealed that some of the categories had discriminative powers comparable to the original grouping using the Perceptual Aberration Scale scores. This finding is not surprising, given the strong relationship between the number of endorsed Perceptual Aberration items and the manner of responding to certain PABI questions. As expected, the groups created from the questions addressing the conditions surrounding the aberrant experience, and from the questions regarding the

explanation of the aberrant experience tended to discriminate high thought disordered subjects from subjects with less thought disorder. Finally, subjects who met the original experimental criteria, who reported their experiences in the absence of physiological, emotional, and environmental stressors, and who explained their experiences as a result of some non-modifiable cause, provided for the best discrimination between high and low thought disorder on the TDI.

While the results of SAS-SR suggest that individuals reporting a greater number and variety of perceptually aberrant experiences had a more difficult time with their academic work at the University, this statistically significant difference should be interpreted cautiously. Additional analyses using the "refined" experimental groups, failed to support this difference in school work performance. The SAS-SR had not previously been used to discriminate between groups of non-psychiatric subjects; its sensitivity to subtle differences in social functioning may not have been sufficient to discriminate between the groups in this investigation.

The Perceptual Aberration Interview (PABI) has demonstrated its effectiveness as a descriptive tool. Although the Interview is far from its finished product as a reliably administered, standardized, structured instrument, it was capable of eliciting a wealth of

information about a perceptual phenomenon which had not been examined previously in a systematic fashion. A post hoc analysis of the subject's responses to the interview should assist in refining and redefining the questions in order to maximize its descriptive abilities.

Contrary to expectations, the categories created from responses to the interview questions were better at predicting group membership than they were at discriminating high thought disordered subjects from subjects less severely thought disordered. This investigator was concerned that the identification of psychosis-prone individuals using the Perceptual Aberration Scale was being made solely on the basis of number and variety of aberrant experiences. The results of this investigation suggest that some of this concern may be unwarranted. Individuals meeting the inclusion criteria for the Perceptual Aberration Scale not only have a greater number and variety of aberrant experiences, they also appear to experience and understand these experiences in a qualitatively different fashion.

Having a greater number and variety of perceptually aberrant experiences may necessitate a qualitatively different experience and understanding of them. It is reasonable to suggest that given a greater number of experiences, it is more likely that some of those experiences would occur in situations devoid of readily

apparent situational causes. As an example, take the experience of sensitivity to noise. If this experience occurred only a few times, when the individual was having a headache, he or she might identify and understand that experience in the context of the headache, a transient physical condition. However, if that sensitivity was experienced more frequently, often in the absence of a headache, the explanation of that experience might change to something more characterological, such as "I'm just very sensitive to noise." The need to understand the experience necessitates a change in the individual's theory of explanation (Kelly, 1955), a theory that more accurately reflects the "facts". But confirmation of this proposed causal link between the number of experiences and the manner of experience and explanation is beyond the scope of this investigation.

Ultimately, a long-term follow-up of the subjects in this study will provide the data necessary to evaluate which of the variables in this investigation are the best predictors of psychosis. This investigation has provided additional descriptive variables to be evaluated at follow-up, and has increased the likelihood for a more specific definition of those characteristics that identify individuals at-risk for psychosis.

Footnotes

¹ Acceptance of the diagnostic criteria of DSM-III has brought with it changes in the definitions of schizophrenia and major affective psychosis, narrowing the former and broadening the latter diagnostic criteria. Chapman and his colleagues have therefore redefined the target population as those individuals who are psychosis-prone, rather than those who are schizophrenia-prone.

² Because college students living away from home would likely have much fewer contacts with parents and relatives, the two week time frame used in the SAS-SR was judged unacceptable for use with this subject pool. This investigator instead used a two month time frame for those questions in the SAS-SR that address interactions with parents and relatives.

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APPENDICES

THE 35 PERCEPTUAL ABERRATION ITEMS - WISCONSIN SCALES

- true Sometimes I have had feelings that I am united with an
 object near me.
- true I have sometimes had the feeling that one of my arms or
 legs is disconnected from the rest of my body.
- true I sometimes have to touch myself to make sure I'm still
 there.
- true Sometimes I have had the feeling that a part of my body is
 larger than it usually is.
- true At times I have wondered if my body was really my own.
- true Parts of my body occasionally seem dead or unreal.
- true Sometimes I have had a passing thought that some part of
 my body was rotting away.
- true Occasionally I have felt as though my body did not exist.
- true It has seemed at times as if my body was melting into my
 surroundings.
- false I have never felt that my arms or legs have momentarily
 grown in size.
- false The boundaries of my body always seem clear.
- true I can remember when it seemed as though one of my limbs
 took on an unusual shape.
- true I sometimes have had the feeling that my body is abnormal.
- true I have had the momentary feeling that the things I touch
 remain attached to my body.
- true Occasionally it has seemed as if my body had taken on the
 appearance of another person's body.
- true Sometimes I feel like everything around me is tilting.
- true Ordinary colors sometimes seem much too bright for me.
- false My hands or feet have never seemed far away.
- true I have sometimes felt that some part of my body no longer
 belongs to me.

THE 35 PERCEPTUAL ABERRATION ITEMS - WISCONSIN SCALES

- true I have felt that something outside of my body was a part of my body.
- true I have felt that my body and another person's body were one and the same.
- true Now and then when I look in the mirror, my face seems quite different than usual.
- true I have felt as though my head or limbs were somehow not my own.
- true Sometimes when I look at things like tables and chairs, they seem strange.
- false I have never had the passing feeling that my arms or legs have become longer than usual.
- true I sometimes have had the feeling that some parts of my body are not attached to the same person.
- true I have had the momentary feeling that my body has become misshapen.
- true My hearing is sometimes so sensitive that ordinary sounds become uncomfortable.
- true Sometimes people whom I know well begin to look like strangers.
- true I have sometimes felt confused as to whether my body was really my own.
- true Often I have a day when the indoor lights seem so bright that they bother my eyes.
- true For several days at a time I have had such heightened awareness of sights and sounds that I cannot shut them out.
- true Sometimes I have felt that I could not distinguish my body from other objects around me.
- true I have sometimes had the feeling that my body is decaying inside.
- true Sometimes part of my body has seemed smaller than it usually is.

PABI
PERCEPTUAL ABERRATION INTERVIEW
(Testing Draft - 3/7/86)
Joseph E. Struckus

Earlier this school year, you filled out a questionnaire concerning the attitudes and experiences of college students. In this questionnaire, you responded to a number of statements regarding certain body or perceptual experiences. Here are some of those statements, along with your responses to those statements. (Hand subject the list of his/her sample responses.)

I am interested in knowing more about the experiences that you indicated you have had. We can talk about the experiences on that sheet, and any other similar experiences that you have had.

I will be asking you to describe as fully as you can the experience(s) you have had, the circumstances surrounding the experience(s), how you reacted to the experience(s), and how you explained the occurrence of the experience to yourself.

Some of the questions asked of you may sound like repetitions of earlier questions. Please try to provide an answer to the questions asked, even if you think that you have already answered the question previously in the interview.

Do you have any questions?

(Proceed to interview)

1. I would like you to look at the list of statements that I have just handed to you. These are the types of experiences that I am interested in knowing more about. Try to recall one of these experiences.

-Where were you? (At home, at school, in bed, in a bar?)

-Were you with somebody else?

-What time of day was it?

-What were you doing?

-Had you been drinking, or using marijuana, cocaine, or another drug?

-How often have you had this type of experience when not using one of these substances?

-What exactly was experienced?

-When was the first time you had such an experience? When was the last time? Have they changed in frequency over time? Have they changed in quality over time? That is, are they different then they used to be?

2. What was your mood prior to the experience?

(Happy, sad, anxious, depressed, angry, excited, frightened)

How would you explain this mood?

(After being prompted for recall with question 1, S should have some memory of mood.)

3. During the experience, how did you react to it?
(Clarify: How did you respond emotionally to the experience or feeling?)

Was it enjoyable, frightening, exciting, disturbing, confusing? No feeling or reaction?

4. How would you explain the experience? What would you say caused it to occur?
5. Is it something about the type of person you are that causes these experiences to occur? (if yes) What is it about you that causes these experiences?

Do you do things that might cause these experiences to occur?
(if yes) What is it that you do?

Do these types of experiences happen through no fault of your own?
6. Are you able to tell when these experiences will occur? What sorts of things help you to do this?
7. Do you think that you can control whether you have these kinds of feelings, experiences? How do you control it?
8. Have these experiences changed the way you see, feel about yourself?
(Do you feel "special", "different", "crazy"?)

Please tell me about this.
9. Do you know anyone else who has had experiences like these, such as family members or friends? What do they think of these experiences?
10. (if no to 9) Do you think that other people have experiences similar to these?

I want to thank you for your time and consideration in helping me better understand your experiences. Did the interview raise any questions or concerns that you would like to discuss?

Scoring Categories for the TDI (Johnston & Holzman, 1979)

.25 Level

1. Inappropriate distance
 - a. Loss or increase of distance
 - b. Tendency to looseness
 - c. Concreteness
 - d. Overspecificity
 - e. Syncretistic response
2. Vagueness
3. Peculiar verbalizations and responses
 - a. Verbal combination/condensation
 - b. Stilted, inappropriate expression
 - c. Idiosyncratic word usage
 - d. Peculiar expression
 - e. Peculiar response
4. Word-finding difficulty
5. Clangs
6. Perseveration
7. Relationship verbalizations
8. Incongruous combinations
 - a. Composite response
 - b. Arbitrary form-color response
 - c. Inappropriate activity response
 - d. External-internal response

Intermediate .25, .5

9. Idiosyncratic symbolism

.5 Level

10. Queer responses
11. Confusion
12. Looseness
 - a. Distant association
 - b. Loose association
13. Fabulized combinations, impossible or bizarre

.75 Level

14. Fluidity
15. Absurd responses
16. Confabulations
 - a. Details in one area generalized to larger area
 - b. Extreme elaboration
 - c. Tendency to confabulation (.5)
17. Autistic logic
 - a. Tendency to autistic logic (.5)

1.0 Level

18. Contamination
19. Incoherence
20. Neologisms

APPENDIX D

THE SOCIAL ADJUSTMENT SCALE - SELF REPORT (SAS-SR)

Study	Patient Number			Patient Initials			21	SAS-SR-Patient	Page 1 of 6
Depression Research Unit									
cc 1	2	3	4	5	6	7			

Date _____

Rater's Initials: Computer Date (8-13)**SOCIAL ADJUSTMENT SELF REPORT QUESTIONNAIRE**

We are interested in finding out how you have been doing in the last two weeks. We would like you to answer some questions about your work, spare time and your family life. There are no right or wrong answers to these questions. Check the answers that best describes how you have been in the last two weeks.

WORK OUTSIDE THE HOME

Please check the situation that best describes you.

- I am ☐ a worker for pay ☐ retired (14)
☐ a housewife ☐ unemployed
☐ a student

Do you usually work for pay more than 15 hours per week?

- ☐ YES ☐ NO (15)

Did you work any hours for pay in the last two weeks?

- ☐ YES ☐ NO (16)

Check the answer that best describes how you have been in the last two weeks.

1. How many days did you miss from work in the last two weeks?

- ☐ No days missed. (17)
☐ One day.
☐ I missed about half the time.
☐ Missed more than half the time but did make at least one day.
☐ I did not work any days.
☐ On vacation all of the last two weeks.

If you have not worked any days in the last two weeks, go on to Question 7.

2. Have you been able to do your work in the last 2 weeks?

- ☐ I did my work very well. (18)
☐ I did my work well but had some minor problems.
☐ I needed help with work and did not do well about half the time.
☐ I did my work poorly most of the time.
☐ I did my work poorly all the time.

3. Have you been ashamed of how you do your work in the last 2 weeks?

- ☐ I never felt ashamed. (19)
☐ Once or twice I felt a little ashamed.
☐ About half the time I felt ashamed.
☐ I felt ashamed most of the time.
☐ I felt ashamed all the time.

4. Have you had any arguments with people at work in the last 2 weeks?

- ☐ I had no arguments and got along very well. (20)
☐ I usually got along well but had minor arguments.
☐ I had more than one argument.
☐ I had many arguments.
☐ I was constantly in arguments.

5. Have you felt upset, worried, or uncomfortable while doing your work during the last 2 weeks?

- ☐ I never felt upset. (21)
☐ Once or twice I felt upset.
☐ Half the time I felt upset.
☐ I felt upset most of the time.
☐ I felt upset all of the time.

6. Have you found your work interesting these last two weeks?

- ☐ My work was almost always interesting. (22)
☐ Once or twice my work was not interesting.
☐ Half the time my work was uninteresting.
☐ Most of the time my work was uninteresting.
☐ My work was always uninteresting.

WORK AT HOME - HOUSEWIVES ANSWER QUESTIONS 7-12. OTHERWISE, GO ON TO QUESTION 13.

7. How many days did you do some housework during the last 2 weeks?

- ☐ Every day. (23)
☐ I did the housework almost every day.
☐ I did the housework about half the time.
☐ I usually did not do the housework.
☐ I was completely unable to do housework.
☐ I was away from home all of the last two weeks.

8. During the last two weeks, have you kept up with your housework? This includes cooking, cleaning, laundry, grocery shopping, and errands.

- ☐ I did my work very well. (24)
☐ I did my work well but had some minor problems.
☐ I needed help with my work and did not do it well about half the time.
☐ I did my work poorly most of the time.
☐ I did my work poorly all of the time.

9. Have you been ashamed of how you did your housework during the last 2 weeks?

- ☐ I never felt ashamed. (25)
☐ Once or twice I felt a little ashamed.
☐ About half the time I felt ashamed.
☐ I felt ashamed most of the time.
☐ I felt ashamed all the time.

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SOCIAL ADJUSTMENT SELF REPORT QUESTIONNAIRE (Page 2 of 6)

10. Have you had any arguments with salespeople, tradesmen or neighbors in the last 2 weeks?

- 1 ☐ I had no arguments and got along very well. (26)
 2 ☐ I usually got along well, but had minor arguments.
 3 ☐ I had more than one argument
 4 ☐ I had many arguments.
 5 ☐ I was constantly in arguments.

11. Have you felt upset while doing your housework during the last 2 weeks?

- 1 ☐ I never felt upset. (27)
 2 ☐ Once or twice I felt upset.
 3 ☐ Half the time I felt upset.
 4 ☐ I felt upset most of the time.
 5 ☐ I felt upset all of the time.

12. Have you found your housework interesting these last 2 weeks?

- 1 ☐ My work was almost always interesting. (28)
 2 ☐ Once or twice my work was not interesting.
 3 ☐ Half the time my work was uninteresting.
 4 ☐ Most of the time my work was uninteresting.
 5 ☐ My work was always uninteresting.

FOR STUDENTS

Answer Questions 13-18 if you go to school half time or more. Otherwise, go on to Question 19.

What best describes your school program? (Choose one)

- 1 ☐ Full Time (29)
 2 ☐ 3/4 Time
 3 ☐ Half Time

Check the answer that best describes how you have been the last 2 weeks.

13. How many days of classes did you miss in the last 2 weeks?

- 1 ☐ No days missed. (30)
 2 ☐ A few days missed.
 3 ☐ I missed about half the time.
 4 ☐ Missed more than half time but did make at least one day.
 5 ☐ I did not go to classes at all.
 8 ☐ I was on vacation all of the last two weeks.

14. Have you been able to keep up with your class work in the last 2 weeks?

- 1 ☐ I did my work very well. (31)
 2 ☐ I did my work well but had minor problems.
 3 ☐ I needed help with my work and did not do well about half the time.
 4 ☐ I did my work poorly most of the time.
 5 ☐ I did my work poorly all the time.

15. During the last 2 weeks, have you been ashamed of how you do your school work?

- 1 ☐ I never felt ashamed. (32)
 2 ☐ Once or twice I felt ashamed.
 3 ☐ About half the time I felt ashamed.
 4 ☐ I felt ashamed most of the time.
 5 ☐ I felt ashamed all of the time.

16. Have you had any arguments with people at school in the last 2 weeks?

- 1 ☐ I had no arguments and got along very well. (33)
 2 ☐ I usually got along well but had minor arguments.
 3 ☐ I had more than one argument.
 4 ☐ I had many arguments.
 5 ☐ I was constantly in arguments.
 8 ☐ Not applicable; I did not attend school.

17. Have you felt upset at school during the last 2 weeks?

- 1 ☐ I never felt upset. (34)
 2 ☐ Once or twice I felt upset.
 3 ☐ Half the time I felt upset.
 4 ☐ I felt upset most of the time.
 5 ☐ I felt upset all of the time.
 8 ☐ Not applicable; I did not attend school.

18. Have you found your school work interesting these last 2 weeks?

- 1 ☐ My work was almost always interesting. (35)
 2 ☐ Once or twice my work was not interesting.
 3 ☐ Half the time my work was uninteresting.
 4 ☐ Most of the time my work was uninteresting.
 5 ☐ My work was always uninteresting.

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SOCIAL ADJUSTMENT SELF REPORT QUESTIONNAIRE (Page 3 of 6)

SPARE TIME – EVERYONE ANSWER QUESTIONS 19-27.

Check the answer that best describes how you have been in the last 2 weeks.

19. How many friends have you seen or spoken to on the telephone in the last 2 weeks?

- ☐ Nine or more friends. (36)
☐ Five to eight friends.
☐ Two to four friends.
☐ One friend
☐ No friends.

20. Have you been able to talk about your feelings and problems with at least one friend during the last 2 weeks?

- ☐ I can always talk about my innermost feelings. (37)
☐ I usually can talk about my feelings.
☐ About half the time I felt able to talk about my feelings.
☐ I usually was not able to talk about my feelings.
☐ I was never able to talk about my feelings.
☐ Not applicable; I have no friends.

21. How many times in the last two weeks have you gone out socially with other people? For example, visited friends, gone to movies, bowling, church, restaurants, invited friends to your home?

- ☐ More than 3 times. (38)
☐ Three times.
☐ Twice.
☐ Once.
☐ None.

22. How much time have you spent on hobbies or spare time interests during the last 2 weeks? For example, bowling, sewing, gardening, sports, reading?

- ☐ I spent most of my spare time on hobbies almost every day. (39)
☐ I spent some spare time on hobbies some of the days.
☐ I spent a little spare time on hobbies.
☐ I usually did not spend any time on hobbies but did watch TV.
☐ I did not spend any spare time on hobbies or watching TV.

23. Have you had open arguments with your friends in the last 2 weeks?

- ☐ I had no arguments and got along very well. (40)
☐ I usually got along well but had minor arguments.
☐ I had more than one argument.
☐ I had many arguments.
☐ I was constantly in arguments.
☐ Not applicable; I have no friends.

24. If your feelings were hurt or offended by a friend during the last two weeks, how badly did you take it?

- ☐ It did not affect me or it did not happen. (41)
☐ I got over it in a few hours.
☐ I got over it in a few days.
☐ I got over it in a week.
☐ It will take me months to recover.
☐ Not applicable; I have no friends.

25. Have you felt shy or uncomfortable with people in the last 2 weeks?

- ☐ I always felt comfortable. (42)
☐ Sometimes I felt uncomfortable but could relax after a while.
☐ About half the time I felt uncomfortable.
☐ I usually felt uncomfortable.
☐ I always felt uncomfortable.
☐ Not applicable; I was never with people.

26. Have you felt lonely and wished for more friends during the last 2 weeks?

- ☐ I have not felt lonely. (43)
☐ I have felt lonely a few times.
☐ About half the time I felt lonely.
☐ I usually felt lonely.
☐ I always felt lonely and wished for more friends.

27. Have you felt bored in your spare time during the last 2 weeks?

- ☐ I never felt bored. (44)
☐ I usually did not feel bored.
☐ About half the time I felt bored.
☐ Most of the time I felt bored.
☐ I was constantly bored.

Are you a Single, Separated, or Divorced Person not living with a person of opposite sex; please answer below:

- ☐ YES, Answer questions 28 & 29. (45)
☐ NO, go to question 30.

28. How many times have you been with a date these last 2 weeks?

- ☐ More than 3 times. (46)
☐ Three times.
☐ Twice.
☐ Once.
☐ Never.

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SOCIAL ADJUSTMENT SELF REPORT QUESTIONNAIRE (Page 4 of 6)

29. Have you been interested in dating during the last 2 weeks. If you have not dated, would you have liked to?

- 1 ☐ I was always interested in dating. (47)
 2 ☐ Most of the time I was interested.
 3 ☐ About half of the time I was interested.
 4 ☐ Most of the time I was not interested.
 5 ☐ I was completely uninterested.

FAMILY

Answer Questions 30-37 about your parents, brothers, sisters, in laws, and children not living at home. Have you been in contact with any of them in the last two weeks?

- 1 ☐ YES, Answer questions 30-37.
 2 ☐ NO, Go to question 36

30. Have you had open arguments with your relatives in the last 2 weeks?

- 1 ☐ We always got along very well. (48)
 2 ☐ We usually got along very well but had some minor arguments.
 3 ☐ I had more than one argument with at least one relative.
 4 ☐ I had many arguments.
 5 ☐ I was constantly in arguments.

31. Have you been able to talk about your feelings and problems with at least one of your relatives in the last 2 weeks?

- 1 ☐ I can always talk about my feelings with at least one relative. (49)
 2 ☐ I usually can talk about my feelings.
 3 ☐ About half the time I felt able to talk about my feelings.
 4 ☐ I usually was not able to talk about my feelings.
 5 ☐ I was never able to talk about my feelings.

32. Have you avoided contacts with your relatives these last two weeks?

- 1 ☐ I have contacted relatives regularly. (50)
 2 ☐ I have contacted a relative at least once.
 3 ☐ I have waited for my relatives to contact me.
 4 ☐ I avoided my relatives, but they contacted me.
 5 ☐ I have no contacts with any relatives.

33. Did you depend on your relatives for help, advice, money or friendship during the last 2 weeks?

- 1 ☐ I never need to depend on them. (51)
 2 ☐ I usually did not need to depend on them.
 3 ☐ About half the time I needed to depend on them.
 4 ☐ Most of the time I depend on them.
 5 ☐ I depend completely on them.

34. Have you wanted to do the opposite of what your relatives wanted in order to make them angry during the last 2 weeks?

- 1 ☐ I never wanted to oppose them. (52)
 2 ☐ Once or twice I wanted to oppose them.
 3 ☐ About half the time I wanted to oppose them.
 4 ☐ Most of the time I wanted to oppose them.
 5 ☐ I always opposed them.

35. Have you been worried about things happening to your relatives without good reason in the last 2 weeks?

- 1 ☐ I have not worried without reason (53)
 2 ☐ Once or twice I worried.
 3 ☐ About half the time I worried.
 4 ☐ Most of the time I worried.
 5 ☐ I have worried the entire time.
 8 ☐ Not applicable; my relatives are no longer living.

EVERYONE answer Questions 36 and 37, even if your relatives are not living.

36. During the last two weeks, have you been thinking that you have let any of your relatives down or have been unfair to them at any time?

- 1 ☐ I did not feel that I let them down at all. (54)
 2 ☐ I usually did not feel that I let them down.
 3 ☐ About half the time I felt that I let them down.
 4 ☐ Most of the time I have felt that I let them down.
 5 ☐ I always felt that I let them down.

37. During the last two weeks, have you been thinking that any of your relatives have let you down or have been unfair to you at any time?

- 1 ☐ I never felt that they let me down. (55)
 2 ☐ I felt that they usually did not let me down.
 3 ☐ About half the time I felt they let me down.
 4 ☐ I usually have felt that they let me down.
 5 ☐ I am very bitter that they let me down.

Are you living with your spouse or have been living with a person of the opposite sex in a permanent relationship?

- 1 ☐ YES, Please answer questions 38-46. (56)
 2 ☐ NO, Go to question 47.

38. Have you had open arguments with your partner in the last 2 weeks?

- 1 ☐ We had no arguments and we got along well. (57)
 2 ☐ We usually got along well but had minor arguments.
 3 ☐ We had more than one argument.
 4 ☐ We had many arguments.
 5 ☐ We were constantly in arguments.

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SOCIAL ADJUSTMENT SELF REPORT QUESTIONNAIRE (Page 5 of 6)

39. Have you been able to talk about your feelings and problems with your partner during the last 2 weeks?

- 1 ☐ I could always talk freely about my feelings. (58)
 2 ☐ I usually could talk about my feelings.
 3 ☐ About half the time I felt able to talk about my feelings.
 4 ☐ I usually was not able to talk about my feelings.
 5 ☐ I was never able to talk about my feelings.

40. Have you been demanding to have your own way at home during the last 2 weeks?

- 1 ☐ I have not insisted on always having my own way. (59)
 2 ☐ I usually have not insisted on having my own way.
 3 ☐ About half the time I insisted on having my own way.
 4 ☐ I usually insisted on having my own way.
 5 ☐ I always insisted on having my own way.

41. Have you been bossed around by your partner these last 2 weeks?

- 1 ☐ Almost never. (60)
 2 ☐ Once in a while.
 3 ☐ About half the time.
 4 ☐ Most of the time.
 5 ☐ Always.

42. How much have you felt dependent on your partner these last 2 weeks?

- 1 ☐ I was independant. (61)
 2 ☐ I was usually independent.
 3 ☐ I was somewhat dependent.
 4 ☐ I was usually dependent.
 5 ☐ I depended on my partner for everything.

43. How have you felt about your partner during the last 2 weeks?

- 1 ☐ I always felt affection. (62)
 2 ☐ I usually felt affection.
 3 ☐ About half the time I felt dislike and half the time affection.
 4 ☐ I usually felt dislike.
 5 ☐ I always felt dislike.

44. How many times have you and your partner had intercourse?

- 1 ☐ More than twice a week. (63)
 2 ☐ Once or twice a week.
 3 ☐ Once every two weeks.
 4 ☐ Less than once every two weeks but at least once in the last month.
 5 ☐ Not at all in a month or longer.

45. Have you had any problems during intercourse, such as pain these last two weeks?

- 1 ☐ None. (64)
 2 ☐ Once or twice.
 3 ☐ About half the time.
 4 ☐ Most of the time.
 5 ☐ Always.
 8 ☐ Not applicable; no intercourse in the last two weeks.

46. How have you felt about intercourse during the last 2 weeks?

- 1 ☐ I always enjoyed it. (65)
 2 ☐ I usually enjoyed it.
 3 ☐ About half the time I did and half the time I did not enjoy it.
 4 ☐ I usually did not enjoy it.
 5 ☐ I never enjoyed it.

QUESTIONS 47-54 On Next Page.

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SOCIAL ADJUSTMENT SELF REPORT QUESTIONNAIRE (Page 6 of 6)

CHILDREN

Have you had unmarried children, stepchildren, or foster children living at home during the last two weeks?

- 1 ☐ YES, Answer questions 47-50. (66)
 2 ☐ NO, Go to question 51.

47. Have you been interested in what your children are doing – school, play or hobbies during the last 2 weeks?

- 1 ☐ I was always interested and actively involved. (67)
 2 ☐ I usually was interested and involved.
 3 ☐ About half the time interested and half the time not interested.
 4 ☐ I usually was disinterested.
 5 ☐ I was always disinterested.

48. Have you been able to talk and listen to your children during the last 2 weeks? Include only children over the age of 2.

- 1 ☐ I always was able to communicate with them. (68)
 2 ☐ I usually was able to communicate with them.
 3 ☐ About half the time I could communicate.
 4 ☐ I usually was not able to communicate.
 5 ☐ I was completely unable to communicate.
 8 ☐ Not applicable; no children over the age of 2.

49. How have you been getting along with the children during the last 2 weeks?

- 1 ☐ I had no arguments and got along very well. (69)
 2 ☐ I usually got along well but had minor arguments.
 3 ☐ I had more than one argument.
 4 ☐ I had many arguments.
 5 ☐ I was constantly in arguments.

50. How have you felt toward your children these last 2 weeks?

- 1 ☐ I always felt affection. (70)
 2 ☐ I mostly felt affection.
 3 ☐ About half the time I felt affection.
 4 ☐ Most of the time I did not feel affection.
 5 ☐ I never felt affection toward them.

FAMILY UNIT

Have you ever been married, ever lived with a person of the opposite sex, or ever had children? Please check

- 1 ☐ YES, Please answer questions 51-53. (71)
 2 ☐ NO, Go to question 54.

51. Have you worried about your partner or any of your children without any reason during the last 2 weeks, even if you are not living together now?

- 1 ☐ I never worried. (72)
 2 ☐ Once or twice I worried.
 3 ☐ About half the time I worried.
 4 ☐ Most of the time I worried.
 5 ☐ I always worried.
 8 ☐ Not applicable; partner and children not living.

52. During the last 2 weeks have you been thinking that you have let down your partner or any of your children at any time?

- 1 ☐ I did not feel I let them down at all. (73)
 2 ☐ I usually did not feel that I let them down.
 3 ☐ About half the time I felt I let them down.
 4 ☐ Most of the time I have felt that I let them down.
 5 ☐ I let them down completely.

53. During the last 2 weeks, have you been thinking that your partner or any of your children have let you down at any time?

- 1 ☐ I never felt that they let me down. (74)
 2 ☐ I felt they usually did not let me down.
 3 ☐ About half the time I felt they let me down.
 4 ☐ I usually felt they let me down.
 5 ☐ I feel bitter that they have let me down.

FINANCIAL – EVERYONE PLEASE ANSWER QUESTION 54.

54. Have you had enough money to take care of your own and your family's financial needs during the last 2 weeks?

- 1 ☐ I had enough money for needs. (75)
 2 ☐ I usually had enough money with minor problems.
 3 ☐ About half the time I did not have enough money but did not have to borrow money.
 4 ☐ I usually did not have enough money and had to borrow from others.
 5 ☐ I had great financial difficulty.

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VISIT

2	1	1
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(76-80)

FORM CARD

Scoring categories for PABI

Question 1

- 1 - Description of circumstances surrounding aberrant perception strongly suggests state-type influences on percept (e.g. sleep deprivation, drug or alcohol use, hypnogogic or hypnopompic state, meditation).
- 2 - Description suggests that aberrant percept occurred in the absence of such influences.

Question 2

- 1 - Reported mood prior to experience generally associated with marked alterations of sensory or perceptual abilities (e.g. extreme anxiety, marked depression or elation).
- 2 - Reported mood associated with minimal alterations in sensation or perception.

Question 3

- 1 - Subject found the experience exciting, pleasurable, enjoyable.
- 2 - Subject does not recall any strong emotional reaction.
- 3 - Subject experienced the aberration as emotionally disorganizing, was confused, disturbed, or frightened.

Questions 4 & 5

- 1 - Cause of aberration attributed to the result of subject's behavior (e.g. Sleep deprivation, meditation, fasting).
- 2 - Cause attributed to special quality or defect in subject's character.
- 3 - Cause attributed to forces external to subject (To be scored only when no reference to 2 is made.).

Question 6

- 1 - Subject can predict occurrence, uses realistic methods (e.g. "It happens whenever I don't get enough sleep.")
- 2 - Subject can predict occurrence, uses fanciful methods (e.g. "It happens when the moon is in opposition with Mars.")
- 3 - Subject cannot predict occurrence.

Question 7

- 1 - Subject can control occurrences, uses realistic measures.
- 2 - Subject can control occurrences, uses fanciful measures.
- 3 - Subject cannot control occurrences.

Question 8

- 1 - Perceptual aberrations have not affect view of self.
- 2 - Perceptual aberrations have affected view of self.

Phone Contact

"Hi, this is _____ from the Department of Psychology here at the University. Earlier this school year, you filled out a questionnaire that addressed the attitudes and experiences of college students. You have been chosen for participation in a further part of this study. Should you agree to participate, you will receive two experimental credits for two hours of your time. We would like to ask you a few questions about some perceptual experiences that you have indicated that you had. You will also be administered an inkblot test, and will fill out a brief questionnaire addressing your school, family, and social life. Would you be willing to participate in this study?

(If yes, schedule subject for participation. You may answer questions regarding confidentiality of test material, but you should not provide any further information about the contents of the tests, or the purpose of the study.)

Subject # _____

INFORMED CONSENT FORM

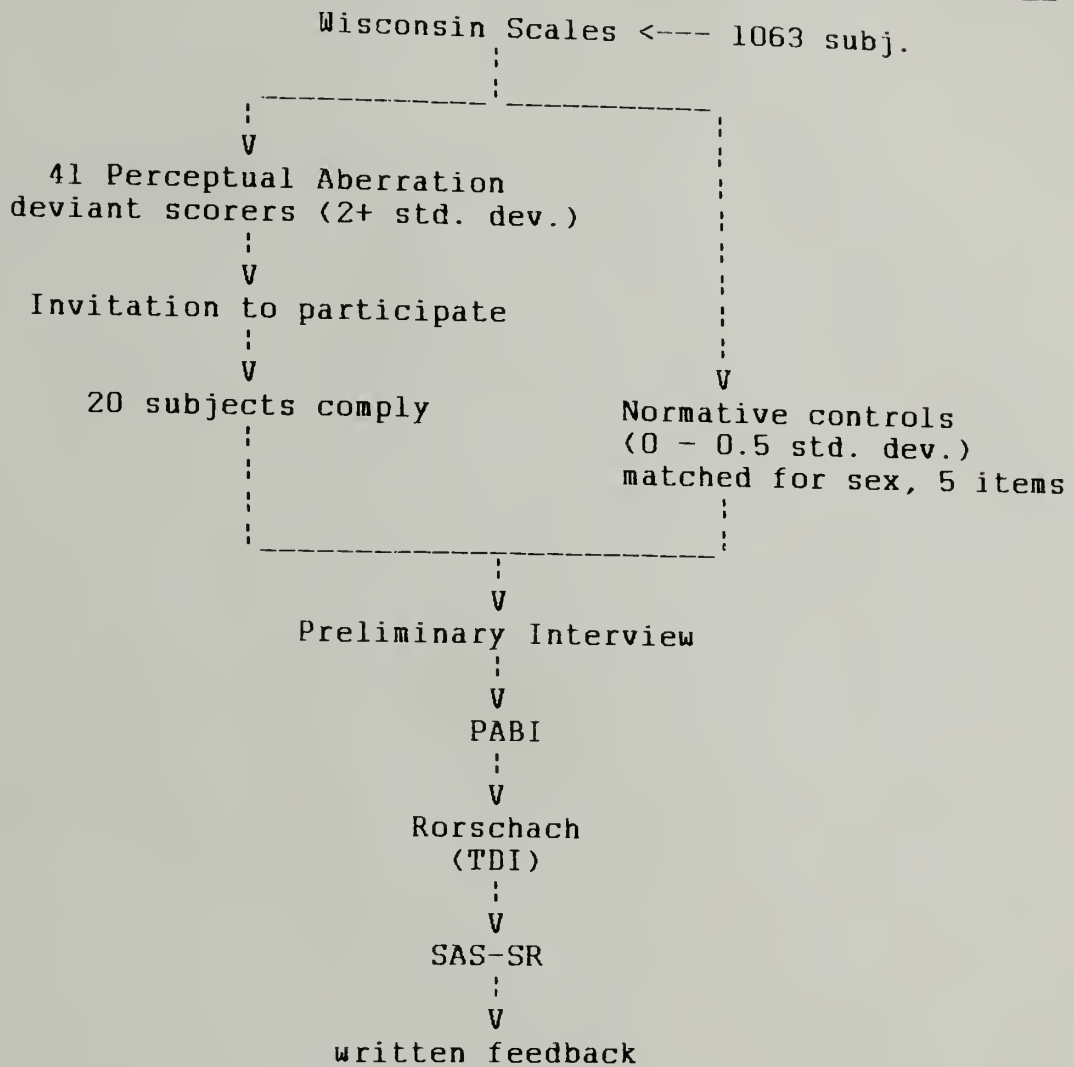
I voluntarily agree to participate in a study which examines certain perceptual experiences. Specifically, I will be asked a variety of questions about certain perceptual experiences that I have had, will be administered an inkblot test, and will fill out a survey that asks questions about various aspects of my daily life. I understand that the study is for research purposes only; it will not benefit me personally but may contribute to knowledge; my answers are strictly confidential and will not be made known to anyone but the experimenter and his research associates, but may be published without name in group statistical form; and there are no known or foreseeable risks in participating in this study. I further understand that I am free to quit at anytime, without penalty, and that any questions that I have about the procedures will be answered.

Signed _____

Print Name _____

Date _____

RESEARCH DESIGN Protocol for administration of measures



ELAPSED TIME	Event	Start Time	Run Time
	Preliminary Interv.	0 h 00'	0 h 10'
	PABI	0 h 10'	0 h 45'
	Rorschach	0 h 55'	0 h 50'
	SAS(sr)	1 h 45'	0 h 15'
Total Elapsed Time			2 h 00'

Written Feedback

This study seeks to examine the relationship between one's reaction to and attitudes toward a variety of perceptual experiences and the way one sees the world and interacts with it generally. Many college students have had a variety of perceptual experiences similar in type to those about which spoke in the interview. But not all of you share the same reactions to those experiences, nor do you necessarily explain these experiences in the same manner.

We believe that the way people react to these perceptual experiences, and the explanations offered, might provide an indication of some general personality characteristics (i.e. ways of looking at and interacting with the world). The other procedures administered (the inkblot test and the social adjustment questionnaire) are often used to obtain information about social and personality characteristics. We will be looking at the relationships between all of these variables in the subjects included in this investigation.

Thank you for your time and effort in this study. Should you have any further questions, or wish to find out the results of this study when it is completed, please contact Jed Struckus (545-4382) or Prof. William Edell, Ph.D. (545-1388).

