

This dissertation has been 64-13,341
microfilmed exactly as received

STERNLOF, Richard Edward, 1935-
DIFFERENTIAL PERCEPTION IN PARANOID
SCHIZOPHRENIA AND DEPRESSION AS A
FUNCTION OF STRUCTURE AND CONTENT.

The University of Oklahoma, Ph.D., 1964
Psychology, clinical

University Microfilms, Inc., Ann Arbor, Michigan

THE UNIVERSITY OF OKLAHOMA
GRADUATE COLLEGE

DIFFERENTIAL PERCEPTION IN PARANOID SCHIZOPHRENIA AND DEPRESSION
AS A FUNCTION OF STRUCTURE AND CONTENT

A DISSERTATION
SUBMITTED TO THE GRADUATE FACULTY
in partial fulfillment of the requirements for the
degree of
DOCTOR OF PHILOSOPHY

BY
RICHARD EDWARD STERNLOF
Norman, Oklahoma

1964

DIFFERENTIAL PERCEPTION IN PARANOID SCHIZOPHRENIA AND DEPRESSION
AS A FUNCTION OF STRUCTURE AND CONTENT

APPROVED BY

Cecilia A. Parsons
Henry Angelino
Barry J. Hartley
Thomas May
B. Dahl

DISSERTATION COMMITTEE

ACKNOWLEDGMENTS

The writer wishes to express his deep appreciation to Dr. Oscar A. Parsons, who served as director for the dissertation, to the members of the dissertation committee, to his wife Beverly, who assisted in the compilation of the data and in the typing of the manuscript, to the Research Committee, Staff and Administration of Central State Griffin Memorial Hospital, to the Administration of the State Department of Public Welfare, to the Administration and Staff of the Enid State School, and to the patients and control subjects who participated in this research.

TABLE OF CONTENTS

	<i>Page</i>
LIST OF TABLES	v
LIST OF FIGURES	viii
 Chapter	
I. INTRODUCTION	1
II. STATEMENT OF THE PROBLEM	25
III. METHOD.....	30
IV. RESULTS	44
V. DISCUSSION	73
VI. SUMMARY AND CONCLUSIONS	87
REFERENCES	94
APPENDIX A. Sample Stereograms and Target Stimuli	104
APPENDIX B. Duncan's New Multiple Range Test, Supplementary Analysis of Variance, Inter-Rater Reliability Ratings, Supplementary t Tests and Supplementary Product Moment Correlations	110
APPENDIX C. Sample Rating Scales	123
APPENDIX D. Individual Scores (Raw Data)	127

LIST OF TABLES

Table	Page
1. Means and Standard Deviations of Groups for Chronological Age, Education, Social Class, and Length of Hospitalization	35
2. Outline of Experimental Sequence	39
3. Analysis of Variance: Number of Males in Ten Unstructured and Ten Structured Telebinocular Presentations	45
4. Means and Standard Deviations of Males Seen in the Unstructured and Structured Telebinocular Presentation (Series A, Series D)	47
5. Analysis of Variance: Number of Males Seen in the Unstructured Telebinocular Presentation (Series A)	47
6. Analysis of Variance: Number of Males Seen in the Structured Telebinocular Presentation (Series B)	48
7. t Test between Number of Males Seen in the Unstructured and Structured Telebinocular Presentation (Series A, Series B)	48
8. Means and Standard Deviations of Time (in Seconds) Taken to Respond to Ten Individually Presented Pictures of Males and Females	49
9. Analysis of Variance: Time Taken Before Responding to Five Individually Presented Pictures of Men and Five Individually Presented Pictures of Women	51
10. Analysis of Variance: Time Taken Before Responding to Five Individually Presented Pictures of Men (Series D)	51
11. Analysis of Variance: Time Taken Before Responding to Five Individually Presented Pictures of Women (Series D)	52

Table	Page
12. Number of Male and Female Pictures Selected as the Two Liked Best out of a Series of Ten	53
13. Product Moment Correlations Between Severity of Paranoia, Depression, Dependency Variables and the Number of Males and Females seen in the Unstructured Telebinocular Presentation (Series A)	55
14. Product Moment Correlations Between Time to Respond to Ten Pictures of Males and Females and Severity of Illness	56
15. Means and Standard Deviations of the Number of Male, Female, Male-Female, and Unresolved Symbols Perceived Out of Ten Male-Female Stereograms (Series C)	57
16. Analysis of Variance: Number of Male Symbols Perceived out of Ten Telebinocular Presentations (Series C)	58
17. Analysis of Variance: Number of Female Symbols Perceived Out of Ten Telebinocular Presentations (Series C)	59
18. Analysis of Variance: Number of Male-Female Symbols Perceived Out of Ten Telebinocular Presentations (Series C)	59
19. Analysis of Variance: Number of Symbols Out of Ten Which Were Not Identifiable (Series C)	60
20. Means and Standard Deviations of the Number of Fluctuations Out of a Possible Five Which Occurred Under Prolonged Telebinocular Presentation (Series F)	61
21. Analysis of Variance: Number of Fluctuations Which Occurred Under Prolonged Telebinocular Presentation of Male-Female Stereograms (Series F).....	62
22. Means and Standard Deviations of the Number of Fluctuations Out of a Possible Five Which Occurred Under Prolonged Telebinocular Presentation (Series C)	62
23. Analysis of Variance: Number of Fluctuations Which Occurred Under Prolonged Telebinocular Presentation of Symbolic Male-Female Stereograms (Series G)	63
24. Means and Standard Deviations of the Number of Males Seen in the First Five Telebinocular Presentations and the Concluding Five Presentations Under Prolonged Exposure.....	64

Table	Page
25. Analysis of Variance: Number of Males Perceived in the First Five Telebinocular Presentations	64
26. Analysis of Variance: Number of Males Perceived in the Last Five Telebinocular Presentations Under Prolonged Exposure (Series F)	65
27. Analysis of Variance: Number of Males Perceived Out of Five in the First Telebinocular Presentation with the Number of Males Perceived in the Prolonged Presentation (Series A, Series F)	66
28. Means and Standard Deviations of the Number of Male, Female, Male-Female, and Unresolved Symbols Perceived out of Five Male-Female Stereograms (Series G)	67
29. Means and Standard Deviations of the Number of Positive, Negative, Ambivalent and Neutral Statements Concerning Pictures of Men and Women (Series D)	69
30. Product Moment Correlations Between the Number of Males Seen in the Unstructured Telebinocular Presentation and Age of Subject	70
31. Means, Standard Deviations and t Tests of the Number of Males Seen in the Initial Telebinocular Presentation with each Group Divided into those Taking Medication and Those Not Taking Medication	70

LIST OF FIGURES

Figure	Page
1. Minnesota Multiphasic Personality Inventory Profiles of Male Depressive Patients Com- pared with Profiles of a Similar Group of Patients Obtained by Dahlstrom and Prange (1960)	32
2. Minnesota Multiphasic Personality Inventory Profiles of Male Paranoid Patients Compared with Profiles of a Similar Group of Patients Obtained by Dahlstrom and Prange (1960)	33
3. Minnesota Multiphasic Personality Inventory Profiles of Male Depressive, Paranoid and Chronic Brain Syndrome Patients	34
4. Mean Number of Males Seen in Unstructured and Structured Telebinocular Presentation	46
5. Mean Time Taken to Respond to Individually Presented Pictures of Males and Females	50

DIFFERENTIAL PERCEPTION IN PARANOID SCHIZOPHRENIA AND DEPRESSION AS A FUNCTION OF STRUCTURE AND CONTENT

CHAPTER I

INTRODUCTION

From ancient times the clinical syndromes of paranoia and depression have held the attention of both the professional and lay person (Grinker, Miller, Sabshin, Nunn and Nunnally, 1961). This could be due to the often striking behavioral manifestations of each of the syndromes. The contrast between the suspiciousness, jealousy, and sensitivity of the paranoid and the apathy, guilt, and despair of the depressive have been well described by the novelist and playwright (Zilborg, 1941). However, a number of clinicians point up certain resemblances between the two syndromes. Both seem to develop from early infantile experiences associated with the parental figures. In paranoia an affect laden bond appears to develop in relation to the father or male figure while in depression the mother or female figure appears to be of prime importance (Freud, 1951; Bychowski, 1960). The manner in which patients representing these two nosological categories perceive other people and the perceptual - cognitive levels at which this takes place is the focus of this investigation.

Clinical Findings Regarding Paranoid Schizophrenia

While many writers, particularly of psychoanalytic persuasion, relate paranoia to repressed homosexuality, some do not. Some see the problem as being mainly a physical-chemical one (Norman, 1948; Kraines, 1957). There are others who prefer not to think of the difficulty in terms of homosexuality, but ascribe it to a general sexual maladjustment (Arieti, 1955). Bullard (1960) indicates that the paranoid patient prefers men because he feels uncomfortable with women. Sullivan (1947) feels that the paranoid patient expresses a more basic need for intimacy. Ovesey (1954, 1955) feels that the paranoid patient confuses his power strivings and dependency feelings with homosexual anxiety.

The psychoanalytic view which relates paranoia to repressed homosexuality is perhaps the best articulated of all the theories (Burr, 1912; Ferenczi, 1955; Jones, 1923; Payne, 1913; Starke, 1920). Such a notion stems largely from the writings of Sigmund Freud and are clearly enunciated in his analysis of the autobiography of Dr. Shreber (Freud, 1957). Freud, as a result of his own clinical experience and the study of the Shreber case, suggested that paranoid psychotic symptoms develop as a defense against emerging unconscious wishes. He states:

Yet we were astonished to find in all of these cases a defense against the homosexual wish was clearly recognizable at the very center of the conflict which underlay the disease, and that it was in an attempt to master an unconsciously reinforced current of homosexuality that they had all of them come to grief (Freud, 1957, p. 445).

The paranoid patient through his delusion thus endeavors to protect himself from his powerful unconscious homosexual feelings by means of the defense mechanisms of denial and projection. The denial, according

to Freud, is expressed in the paradigm, "I do not love him, I hate him," which becomes projected into, "He hates me." In this way the paranoid patient is able to rationalize his own hatred into, "I hate him because he persecutes me" (Fenichel, 1954). This whole process is unknown to the patient as it is unconscious. This theory therefore maintains that paranoid men have strong homosexual desires which are not permitted into the consciousness of the person. In regard to this notion Knight (1940) states:

This theory has been confirmed repeatedly in clinical experience of every psychoanalyst who has attempted to work with paranoid patients. An intense homosexual conflict is never absent in the male paranoiac and may be clearly discerned in the patient's history and clinical material in the early stages of the illness. Perhaps no psychoanalytical theory of psychoses rests on firmer foundation or has been less frequently attacked by critics of Freud (Knight, 1940, p. 149).

The Experimental Literature Regarding Paranoid Schizophrenia

The experimental literature, like most of the clinical literature, attacks the problem of paranoid schizophrenia in terms of its relation to homosexuality. Various techniques have been used in attempting to study this phenomenon. Daston (1956) used as his dependent variable the time required for a correct recognition of various classes of tachistoscopically presented words. He found that paranoid subjects recognized homosexual words significantly faster than did normal subjects or unclassified schizophrenic subjects. Zamansky (1958) presented pictures of males and females to a group of twenty hospitalized psychotic males in whom paranoid delusions were a dominant symptom and twenty hospitalized schizophrenic males in whom paranoid symptoms were absent. The dependent variable was the time spent in looking at the pictures. He found that

men with paranoid delusions looked significantly longer at pictures of men than they did of women. Gardner (1931) studied 120 patients diagnosed as 'paranoid dementia precox' and 'paranoid condition'. He found that 45 percent of the cases showed homosexual trends as indicated through symbolism in their delusions which he inferred to be homosexual. Gardner (1931) also found that those diagnosed as 'paranoid dementia precox' exhibited such trends in a greater percentage of cases than did cases diagnosed as 'paranoid condition.' It is difficult to deduce very much from this study because of the loose definition of homosexual symbolism and the lack of a control group. Klaf and Davis (1960) went through the psychiatric records of the United States Public Health Service Hospital, Ft. Worth, Texas for the period extending from 1943 to 1957. From these records they selected 150 male cases diagnosed as paranoid schizophrenia and a control group of 150 male non psychotic cases. They found in the paranoid group that 41.8 percent had homosexual pre-occupations during the illness as compared with 6 percent of the control group. To be included in this group the patient had to predominantly verbalize homosexual concern. The authors, however, did not delineate what this homosexual concern is or whether the patient feels he is homosexual or whether he feels that others are.

Planansky and Johnson (1962), using much the same method, studied 150 hospitalized male schizophrenic patients and found no significant relationship between the degree of paranoidness and homosexual concern in psychosis.

The contrasting results reflected in the foregoing studies indicates the difficulty in delineating homosexual concern in paranoia.

This is due in part to the manner in which homosexuality is defined as well as the manner in which the data was collected. All three of these studies relied on information which was gleaned in an a posteriori manner such as statements taken from hospital records. Such information is subject to many biases, distortions, and varied interpretations.

The relationship between homosexuality and paranoia has also been studied with the use of the Rorschach test although once again the results are somewhat ambiguous. Chapman and Reese (1953) found significantly more homosexual signs on the Rorschach test in disturbed schizophrenics than in a control group. Aronson (1952) found that paranoid patients produced more homosexual signs on the Rorschach than did either non paranoid psychotics or normal subjects although signs of disturbances in the sexual area were prominent within both psychotic groups. Zeichner (1955, 1956) in a series of studies was unable to confirm a relationship between psychosexual identifications in paranoia and also found his paranoid group did not differ significantly from the non paranoid group in their concept of male and female roles as measured by projective test responses.

Summary

The clinical and experimental findings regarding paranoid schizophrenia are quite ambiguous. The main disagreement appears to be over whether or not the paranoid patient is defending against homosexual impulses. Most all of the clinical writers on the subject note that male figures appear to be invested with considerable affect by the paranoid patient but some do not feel that this is homosexual in nature. What

is important is the notion that there is an affective bond between the paranoid and male figures. This affective bond may be positive (love) or negative (hate) in nature, but the outcome would be similar since in both cases there would be an investment of affect in male figures. For example, if the paranoid 'loved' males he would tend to focus on this loved object. Contrawise, if he 'hated' or was fearful of males he would of necessity have to be sensitive to them lest he endanger himself.

The affective bond which is said to exist between paranoid men and male figures is not always clearly found in the results of the experimental studies. The reason for this appears to be related to the method used in studying the relationship. Indirect methods such as those employed by Daston (1956), Aronson (1952), and Zemaneky (1958) appear to find such a relationship while more direct methods do not. One explanation for this divergence is that indirect methods are able to tap less conscious modes of functioning. In an investigation of the extent paranoid patients invest affect in male figures it would appear necessary to utilize indirect methods.

Clinical Findings Regarding Depression

The clinical notions regarding depression have come, for the most part, from psychoanalytic writers. Other writers, while leaning heavily on hereditary-constitutional factors in depression, nevertheless quote extensively from psychoanalytic literature when they try to link the precipitating factor to the depression (Grinker et al., 1961). It is important therefore to review the psychoanalytic literature regarding depression.

Freud (1957) in his paper on "Mourning and Melancholia" deals with the problem of depression. He asserts that melancholia may be the reaction to the loss of a love object. It was in the study of depression that Freud began to formulate his notions regarding the superego. He viewed the melancholic's hidden self-criticism as due to the fact that the conscience is split off from the ego. He indicates that the self reproaches of the melancholic are really reproaches against the love object which are redirected against the patient's own ego. In doing so, he emphasizes the importance of the mechanisms of introjection in depression. The melancholic introjects the lost love object (narcissistic identification and hate come into operation on the substitutive object). The patient's ego identifies with the introjected object (Rosenfeld, 1960).

In a later paper Freud (1957) states that the anxiety which the depressive patient feels is much akin to the anxiety once felt due to the separation from the good protecting mother. It is important to note, as Rosenfeld (1960) does, that Freud does not draw the conclusion that the persecutory internal figure may be a bad persecutory mother or father figure. It is clear however that Freud believes that the early introjection of the mother during the first year of life enters into the development of the superego.

Other psychoanalytic writers have pointed up the importance of the mother in the development of depression. Rado (1956) states:

The depressive spell is a desperate cry for love which is precipitated by an actual or imagined loss which the patient feels endangers his emotional and material security. In the simplest case the patient has lost his beloved one. The emotional over-reaction to this emergency unfolds unbeknown to the patient

himself, as an expiatory process of self punishment. By blaming and punishing himself for the loss he has suffered, he now wishes to reconcile the mother and to reinstate himself into her loving care. The aim image of the patient's repentance is the emotional and alimentary security which he, as an infant, enjoyed while clinging to his mother's feeding breast (p. 236).

Bychowski (1960) points out that "Vestiges of old introjective processes, to which the infantile ego once resorted in order to handle its losses and disappointments, remain enshrined in the unconscious ego, in the form of introjects" (p. 504). Nacht and Racamier (1960) write:

. . . depression may supervene the moment the subject is obliged to adopt a definite attitude toward his essential object which in the last resort is always the mother or mother substitute. In such cases the problem is usually solved by identification (p. 484).

Rosenfeld (1960) states:

It is characteristic in such situations that all earlier experiences of object loss are mobilized leading back to the earliest anxieties of the infant mother relationship (p. 512).

Similar positions are taken by Abraham (1953), Deutsch (1932), and Weiss (1932).

Of all the psychoanalytic writers perhaps Melanie Klein has the most written on the subject of depression. Klein (1946) in describing the manner in which parts of the self become split off and projected into objects stresses the importance of the relationship of the child with the mother. The mother has come to contain both the 'good' mother and the 'bad' mother as a result of early experiences at the breast. The bad part of the mother comes to be the bad part of the self. Much of the hatred against this part of the self is directed toward the mother (Rosenfeld, 1960). The mother comes to be of prime importance both as the good mother and the bad mother. When the infant wants to control

or harm the mother she will be seen as a persecutor while the good mother is seen as the ego ideal.

The importance of the mother-child relationship in the development of depressive illness has been substantiated by an intensive study of manic depressive illness (Cohen, Baker, Cohen, Fromm-Reichman and Weigert, 1954). These investigators found that the mother was usually the stronger and more determined parent whereas the father was usually the weakling. The mother was thought of as the moral authority in the family and as the more reliable of the parents (Cohen, et al., 1954). Similar findings were reported in a follow-up study by Gibson (1958).

The Experimental Literature Regarding Depression

The literature regarding depression has been reviewed by Bellak (1952), Kraines (1957), Arieti (1959), Roth (1960), and Grinker et al. (1961). Aside from the writings which are largely of a clinical descriptive nature the weight of experimental work appears to have been concerned with physiological, endocrinological, and neurological factors in depression. In this regard, Scott (1960) points out that "Psychologists have had amazingly little to say about depression, grief, elation and mourning . . ." (p. 497). Such a view is supported in the Hoch and Zubin (1952) edited book entitled Depression.

There are indications however that this situation is changing. Lichtenberg (1957) has classified depression according to ego functions evidenced in relation to tasks and to expectancies of success and failure in personality styles. Hamilton (1960) and Cutler and Kurland (1961) have developed rating scales for depression. Dahlstrom and Prange (1960)

have studied depression with the use of the M.M.P.I. Grinker et al. (1961) have recently undertaken a study of depression in which they tabulated information from the literature and then incorporated it into an inclusive questionnaire. A factor analysis of the data obtained revealed the existence of five factors which they feel are patterns of traits descriptive of the feelings and concerns of depressive patients.

The following factors were noted:

- I. A factor describing characteristics of hopelessness, helplessness, failure, sadness, unworthiness, guilt, and internal suffering. There is no appeal to the outside world; no conviction that receiving anything from the environment would change how the patients feel. There is self-concept of "badness."
- II. A factor describing characteristics of concern over material loss and an inner conviction that this feeling state (and the illness) could be changed if only the outside world would provide something.
- III. A factor describing characteristics of guilt over wrongdoing by the patient, wishes to make restitution, and a feeling that the illness was brought on by the patient himself and is deserved.
- IV. A factor describing characteristics of "free anxiety."
- V. A factor describing characteristics of envy, loneliness, martyred affliction, secondary gain, and gratification from the illness, and attempts, by provoking guilt, to force the world into making redress.

Summary

Perhaps the main psychological factor that can be gleaned from the foregoing literature regarding depression is the depressive's strong emotional attachment to the mother or female figure. The mother is the predominant figure in the family constellation. Whether she is seen as the good mother or the bad mother she nonetheless is the focus of consider-

able affective investment. It has been shown that the infantile loss of the mother is perhaps the prototype of all depression (Spitz, 1945). According to Freudian theory, later object losses are directly related to the loss of the mother at this early stage. The dependency seen so often in the depressive patient might well reflect the need to be taken care of and 'mothered.' It must be kept in mind that such feelings are largely unconscious.

Recent advances in the study of perception provide an opportunity and a method of investigating the psychopathological phenomenon (Blake and Ramsey, 1951; Cameron, 1951; Ittelson and Kutash, 1961; Tagiuri and Petrullo, 1958). This is particularly true in an investigation of paranoid schizophrenia and reactive depression. Patients in both of these nosological groups appear to have made strong emotional investments in either male or female figures. This investment is part and parcel of their illness and should be reflected in their perception of people.

Perception and Psychopathology

Perception has been an area of study from the early days of psychology, but it was not until the late 1950's that perception began to be studied from the point of view of the perceiving organism. Previous attempts had been made in this direction by Bartlett (1932) and the Freudian emphasis on the perceiving function of the ego led to Rorschach's classic set of inkblots. Such notions, however, were few and were not systematically developed. Those who were interested in perception placed their emphasis on a detailed analysis of the charac-

teristics of the external stimulus. The question that such experimenters asked can be summed up in the expression, "What does the environment do to the perceiver?" (Ittelson, 1961). The emphasis was placed on the object rather than the perceiver.

Within the last fifteen years a rather gross change has taken place in perception as the perceiver began to receive considerable attention. The question that began to be asked by the perceptual investigator was, "What does the perceiver do to the environment?" (Ittelson, 1961). Investigators began asking questions about the effect of various transitory motivational states on the perceiver (Bruner and Goodman, 1947) as well as more durable and longer motivational states of the organism (Postman, Bruner and McGinnies, 1948). The net result of these studies not only placed the perceiver back into perception, but also pointed up the importance of personality variables in the study of perception. The field of perception and the field of personality were no longer separate and diverse areas of study, but began to merge into one discipline. This new approach was called the 'new look' in perception (Bruner and Klein, 1960).

Concomitant with the rise in the effect of motivational variables in perception is the study of so called "person perception." This study found its parentage within the transactional school of psychology (Kilpatrick, 1952). The work in the area of person perception centers around the notion that the feelings and experiences of the observer influence the manner in which he perceives other people.

Transactionalists maintain that when one person perceives another person his perception is influenced by his own needs, wishes, and feelings.

These feelings are not always apparent to the perceiver who often attributes them to the person perceived rather than to himself.

The work of the transactional psychologists was not new to psychopathologists. Some years previously, the late H. S. Sullivan (1947) wrote:

Now, when it comes to the matter of perceiving another person, not only is there the object, this other person, and the perception of the emanations from the person, . . . but also the distorting and confusing and complicating factors of our past experience with other people who looked like this, sounded like this . . . (p. 5).

The transactionalists, along with the 'new look' psychologists, thus forged a link with the psychopathologists in the study of personality and abnormal psychology as these disciplines related to the process of perception. The importance of this union provided opportunity to examine experimentally basic questions of a clinical nature.

Some of these questions were of great importance to the clinician, but had not been verified through experimental procedures. Many of these questions had to do with the extent perception was altered by a strong emotional involvement, transitory and more permanent motivational states, levels of awareness, ambiguity of the stimulus and selective mechanisms, such as selective sensitization and perceptual defense.

Although literally hundreds of studies were done which attacked most of these problem areas, one study was designed in such a way as to include many of these issues. Blum (1954) argued that traumatic stimuli would have either of two fates--a low threshold or a high threshold--depending on their proximity to conscious awareness. He postulated that at low levels of awareness the individual would be more sensitive to

threatening impulses, but if the stimuli were close to awareness, defense would occur. Blum used the Blacky pictures and showed four pictures at a time, at an exposure level below any possibility of picture recognition. The subject was asked what picture of the four stood out the most. Before the next presentation, the subject was shown two of the pictures, one of which was designed to elicit anxiety and the other was neutral. More trials were run and it was expected that the subject would be more sensitive to the traumatic stimulus and would select it more than in the initial control series. This view was sustained at a significant statistical level. On the next series, the exposure duration was made longer and the subject was asked to locate a particular picture on each trial. On half of the trials the subject had to find the traumatic picture and on half the neutral picture. Blum (1954) predicted that the traumatic picture would be harder to find as the exposure duration was long enough to permit some awareness of the content of the pictures. The hypothesis was confirmed.

Blum's (1954) study indicated that sensitization can take place in relation to threatening stimuli. Other studies indicate that sensitization can take place in relation to positive stimuli as well. Postman and Leytham (1951) indicate that stimuli may have both positive or negative motivational significance. Parsons (1958) found that persons who have greater motivation to gain status perform at higher levels under failure and manifest perceptual sensitization to both esteem enhancing and threatening material.

Further support for the growing body of evidence suggesting the importance of motivational variables in the process of perception comes

from ongoing research at the Research Center for Mental Health of New York University (Bach and Klein, 1957; Klein, Spence, Holt and Gourevitch, 1958; Spence, 1964; Spence and Holland, 1962). These studies indicate that the registration of stimuli is distinct from experiential qualities in which we are made aware of things and events. This means that certain of an object's properties will be perceived (will be made aware of) while others may register but not be perceived (Klein, 1959).

Another result of these studies points up the crucial role of the 'state of consciousness' in determining perception. Klein (1959) indicates motives appear to vary in intensity depending upon the particular state of consciousness in which the organism is operating.

These experimental results tie in well with Freud's ideas regarding consciousness and perception and with the more recent work of Hartmann (1958) and Rapaport (1957). Klein (1959) summarizes psychoanalytic thinking regarding consciousness, motivation and perceptual findings. He points out that consciousness is a function of the ego but it cannot be identified with a particular quality of experience. Consciousness is not merely awareness of external events. Klein indicates that motives constantly govern cognitive organization but the motives implicated may vary due to levels of consciousness. Klein goes on to state:

A proper evaluation of the incursion of motives in the cognitive act must take into account the organization of the particular state of consciousness in which it occurs and the type of contact which characterizes it (p. 16).

In order to study the psychopathology of paranoid schizophrenia and depression the investigator must take into consideration not only the motivational factors which underlie the disease, but when these

motives are most potent and under what cognitive level of awareness they take place. There is ample evidence to suggest that the perceptual process offers an opportunity to investigate not only motivational variables in paranoid schizophrenia and depression, but various cognitive levels of awareness as well.

Perception and Paranoid Schizophrenia

Clinical findings as well as experimental evidence suggest that a patient's pathology should be evident in the manner in which he perceives the world and, in particular, other people. In paranoid states various clinicians have indicated that there appears to be a strong emotional attachment to, or investment in, male figures. This emotional attachment has been described in various ways, ranging from a homosexual involvement (Freud, 1957) to a need for intimacy (Sullivan, 1947). Such an attachment or investment should be in evidence in the manner in which paranoid patients perceive men.

The manifestations of this emotional investment, or attachment, toward male figures appears to be more evident in certain situations or contexts than in others. This is explicable when viewed in terms of structure (Sherif and Sherif, 1956) and states of consciousness (Klein, 1959). Sherif and Sherif (1956) point out the importance of taking into account perceptual structuring in endeavoring to understand human behavior. They indicate that a change in behavior may occur in an individual relative to a stimulus depending on whether the stimulus is unstructured or structured. They state that structured stimulus situations set limits to alternatives in psychological functioning, while in un-

structured situations alternatives in psychological functioning are increased. Thus, in unstructured stimulus situations the greater are the relative contributions of internal and external factors in the frame of reference.

By joining together the thinking of Klein (1959) and the Sherifs (1956), it would appear possible to understand why the paranoid's emotional investment in men is discernible in certain situations and not in others. In relatively unstructured situations a patient's state of consciousness is different than in a more structured situation. Both Sherif (1956) and Klein (1959) maintain that in unstructured situations emotional factors are more likely to have an effect. One might, therefore, expect that the paranoid's supposed emotional investment in men should be in evidence in unstructured stimulus situations. Specifically, when paranoid men are presented with a perceptual choice between men and women in a manner which gives them little structure due to the ambiguity of the stimulus, lack of knowledge regarding the tasks demands, and vague instructions, it seems reasonable to assume that internal factors, such as the emotional investment paranoid men are expected to have in male figures, would be manifest by a perceptual sensitivity to male figures. This reasoning is similar to that which accounts for the difference between responses to projective type tests and those which are more structured. When added structure is given to the subject by more overtly endeavoring to assess the patient's performance in relation to an area of emotional conflict for him, the patient's performance should become somewhat more 'reality oriented.' Thus, the paranoid patient

should react in a manner akin to non paranoid subjects under conditions of maximal structure.

Such an investigation should also focus on an exploration into the process of perception as it exists within the paranoid schizophrenic patient. It has been pointed out by Cameron (1951), for example, that in the paranoid patient the tendency is to organize ambiguous and distantly relevant material along with directly relevant information into strong hypotheses. Freud (1957) also pointed out that the paranoid is able to take an 'amoeba' of experience and project it into gigantic proportions. One would thus expect that the paranoid would formulate hypotheses about an ambiguous stimulus much faster than patients not suffering from paranoia. Else Frenkel-Brunswick (1948) reported findings of this nature in regard to what she described as 'rigid' personalities. Somewhat similar findings have also been reported in a group of chronic schizophrenics (Draguns, 1963).

In a study utilizing pictures of people Izard (1959) found that paranoid patients expressed significantly more unfavorable feelings toward the pictures than did a normal group. Paranoid patients also gave more responses that were ambivalent or internally inconsistent.

Perception and Depression

Whereas the male figure appears to be of paramount importance in paranoid symptomatology, the female figure is equally important in the dynamics of depression. The female figure, according to many clinicians, is invested with considerable affect by the depressive patient. Once again it would seem that this investment in, or attachment to, female

figures by depressives would result in sensitivity to females in perceptual choice situations which lack structure, as defined in the previous section, as compared with more structured situations.

In depression and paranoid schizophrenia there appears to be a strong investment in, or attachment to, female and male figures respectively. This investment or attachment should be reflected in differential perception by the patient groups when presented with relatively unstructured, ambiguous pictures of men and women in such a way that a choice between pictures is made by the patient, largely without the patient being aware he is making a choice. When added structure is given by increasing information about the task so as to accentuate the patient's area of conflict, the differences in perceptual choice in the respective patient groups should not be in evidence.

Perception and Symbolism

The role that symbols play in the perceptual-cognitive process has been under scrutiny for some time from a variety of viewpoints (Arieti, 1959; Goldstein, 1939; Miller, 1951; Hall, 1958). Psychoanalytic writers place considerable emphasis on the meaning of symbols, especially in dream interpretation. Similar emphasis is placed on the meaning of symbols in the interpretation of content in the Rorschach test. In psychoanalytic theory symbols can stand for, represent, or replace objects. According to Hall (1958) there are over 700 different symbols in psychoanalytic theory. Many of these symbols stand for 'maleness' or 'femaleness' and the perception of these particular symbols should represent a situation much like the perception of male and

female pictures described above. Those symbols which are associated with 'maleness' should be perceived more readily by paranoid patients and those associated with 'femaleness' should be perceived more readily by depressive patients in a choice situation.

Importance of the Perceptual Method Used in Studying Psychopathology

The method by which the perceptual process is studied, as outlined previously, is extremely important. The technique must be one in which it is possible to study the content of perception, levels of perception, the perception of people, and, in general, the perceptual process. Since the extent to which the patient is aware of this situation is important, the technique used must provide for perception at differing levels of structure so that different levels of awareness might be tapped.

During the last few years, an apparatus has begun to be used which makes it possible to study the clinical syndromes of paranoid schizophrenia and depression within a perceptual matrix, without violating the previously mentioned prerequisites. The technique is the telebinocular and appears to have much promise in perceptual research. Pettigrew and Allport (1958) feel that it "may offer a sensitive technique for studying a wide variety of directed state problems in perception" (p. 265). Cantril (1957) has pointed out its relevance in psychiatric research. The technique is advantageous as the observer is typically unaware that he himself is producing the perceptual effects he is observing. Even when binocular rivalry occurs the naive observer believes that he is passively observing a stimulus which is actually being varied by the experimenter (Ittelson, 1961).

Another advantage that the stereoscope possesses is pointed out by Van de Castle (1960):

Presenting different stimuli stereoscopically possesses a measurement advantage analogous to the psychophysical method of paired comparison judgment in that an actual conflict and rivalry situation between two competing perceptual processes is set up which may uncover response tendencies not readily apparent by the method of single stimulus presentation" (p. 458).

The telebinocular has been used to study binocular rivalry and fusion with the material being viewed consisting of dots, lines, and geometrical forms (Woodworth and Scholosberg, 1958). Recently, Engel (1956) began a series of experiments using meaningful figures instead of the traditional abstract material. He prepared a series of stereograms consisting of photographs, one of which was seen by the right eye and the other by the left eye. If one of the photographs was presented upside down and the other right side up, the upright face was seen as predominant, excluding the upside down one. It was not recognized as a superimposed pattern. In further work with this technique, Engel found that when photographs of the head of a statue and the photograph of the genital area of the same statue were presented by the same technique, the genital area tended to be suppressed. In similar work with the apparatus Cantril (1957) presented to two psychologists a stereogram which consisted of a picture of a statue depicting the Madonna with Child and another one of a statue of a young nude. One of the men looked into the stereoscope and saw a Madonna with Child. As he continued to look he exclaimed that she was undressing. The other saw the nude first and ended up seeing the Madonna with Child.

Bagby (1957) undertook a cross-cultural study with the use of the stereoscope. He created stereograms picturing some object, event,

or symbol of Mexico matched with an object or symbol of the United States. When these were shown to a group of American and Mexican school teachers, an overwhelming proportion of them "saw" the symbols that were in congruence with their own culture.

Hastorf and Myro (1959) presented pairs of stamps and photographs containing human faces hetero-ocularly (one right side up, the other upside down) for periods of 0.1 and 0.2 seconds. They found that significantly more right side up faces were seen. These results confirmed the findings of Engel even though the presentation time of the stimuli was considerably shorter.

Pettigrew, Allport and Barnett (1958) presented pairs of non identical photos of different racial types to South African subjects stereoscopically and found a significant correlation between the subject's own race and his judgment of the race of the individual seen binocularly in the stereoscope. The racial groups included Europeans, colored, Indians and African males and females.

Davis (1959) presented stereograms of two different typed words to subjects and found that words with low frequency of usage and words with a long association time tended to be suppressed.

Beloff and Beloff (1959) showed stereograms to college students in which one stereogram contained pictures of two strangers and one contained pictures of a stranger along with the picture of the subject. Only subjects who did not recognize themselves were used. They found that the stereogram consisting of the person and the stranger were rated as being more attractive than the stereogram consisting of the two strangers.

Daniels (1958) used the stereoscope to detect unconscious advertisement preference. He presented two advertisements stereoscopically to subjects and had them relate which one they saw. He felt that these advertisements that were seen were the ones that were more unconsciously appealing and therefore the ones that would sell the most products. He did not support this notion with any data except to assume that those advertisements perceived would lead the subject to purchase the advertised product later.

Kohn (1960) found that patients who were sensitive to conflict or emotional words in the stereoscope tended to show more fantasies involving these conflicts in T.A.T. stories than persons less responsive to emotional words.

Winchester (1960) gave 110 male undergraduates the anti-Semitism scale of Levinson and Sanford. Thirty of the subjects from each extreme were shown stereograms consisting of two non Jewish appearing photographs and two photographs of one Jewish and one non Jewish appearing persons. He found that anti-Semitic persons would identify more fused pictures as Jewish than the person who scored low in anti-Semitism.

Toch (1961) found that veteran law enforcement officers tended to see significantly more 'violent' scenes in a telebinocular situation composed of neutral pictures and violent pictures than did beginning police officers.

Kaufer and Riess (1960) presented a male and female symbol stereoscopically to their subjects and found that men and women perceived the symbol which represented their own sex significantly more than the symbol representing the opposite sex.

All of these studies indicate that the telebinocular is useful as an instrument which provides an indirect method of assessing personality characteristics in perception.

Summary

According to much of the literature paranoia is characterized by a strong emotional investment in, or attachment to, men. The depressive patient's pathology is more related to his relationship with female figures. The intensity of the emotional relationship appears to be exhibited behaviorally in varying degrees depending on the patient's state of conscious functioning.

During the last fifteen years the importance of the perceptual process in relation to person perception, to motivational states, and levels of consciousness has been emphasized. The needs, fears, ambitions, and attitudes of an individual are often reflected in his perception of others. The psychopathology of depressive and paranoid patients will be reflected in their perception. The telebinocular appears to be an instrument which can facilitate the perceptual investigation of paranoia and depression.

CHAPTER II

STATEMENT OF THE PROBLEM

The clinical categories of paranoid schizophrenia and depression have been described, studied and delineated by numerous authors. Although both nosological categories appear to have their origins in early childhood, the outcome has been considered to be different in each case. The male paranoid appears to invest considerable affect in male figures. Psychoanalytic theory maintains that this investment is homosexual in nature, but other clinical writers disagree, preferring to describe it as a basic need for intimacy, or a general sexual maladjustment. Some writers entirely discount such dynamic factors in paranoid states.

While the male paranoid patient is said to have a strong affective investment in men, the depressive patient appears to exhibit similar tendencies, but in regard to women. Although much has been written from a clinically descriptive point of view regarding paranoid schizophrenia and depression, there is much less written on these subjects from a research orientation.

One approach to the study of paranoid schizophrenia and depression would be to study the perceptual-cognitive behavior of patients with these disorders. Such a study of the pathology of paranoia and depression would take into consideration two important facts. The first

is that the manner in which objects, people, or events are perceived may well reflect the patient's basic areas of concern. A considerable body of evidence suggests that an individual's needs are reflected in his perception. Secondly, such a study would concern itself with the generally agreed upon fact that there are different levels of consciousness or states of awareness. The dynamics of paranoid patients appear to be related to male figures, while the dynamics of depressive patients appear to be related to female figures. One would expect their perception of pictures to reflect this orientation.

The telebinocular is an instrument which allows the patient to perceive pictures of men and women simultaneously so that he is largely unaware that he is viewing two pictures. The patient would thus have equal opportunity to "perceive" a man or a woman, and it is postulated that his perception will characteristically reflect his psychopathology. When the patient is given more structure in the form of cues relative to his area of emotional conflict, defensive and reality oriented behavior would result in a change in reported perceptions.

The paranoid schizophrenic patient appears to have a strong affective investment in men. This should be in evidence in his perception and should vary according to the amount of structure given in the situation. In relatively unstructured situations he will report seeing more men than women in the telebinocular situation. When he is given added structure in the form of more cues, and information relative to an area of emotional conflict, he will report perceiving fewer men. This reasoning leads to the following hypotheses:

1. Male paranoid patients, when compared with non paranoid men, will report seeing more male pictures than female pictures in relatively unstructured conditions.
2. Male paranoid patients, when compared with non paranoid men, will report seeing more pictures of females than pictures of males in more structured conditions.

It is well known that paranoid patients suffer in varying degrees with their illness, and that it varies in intensity from patient to patient, and within a patient from time to time. It seems reasonable to assume that the more severe the paranoid trends are in a patient, the more he will be sensitive to male pictures, rather than female, when these pictures are presented to him stereoscopically in relatively unstructured conditions. The following hypothesis therefore follows:

3. The greater the severity of the patient's paranoia, the more pictures of men he will report seeing in relatively unstructured conditions.

The depressive patient appears to have a strong affective bond in relation to female figures. This affective bond should be in evidence and should vary according to the level of structure under which the patient is operating at the time. Under unstructured conditions the depressive patient should perceive more pictures of women than of men when shown both simultaneously. Under structured conditions the opposite would appear to follow as such behavior reflects dependency and might connote negative meaning to the patient.

This leads to the following hypotheses:

4. Male depressive patients, when compared with non depressive

men, will report seeing more female pictures than male pictures in relatively unstructured conditions.

5. Male depressive patients, when compared with non depressive men, will report seeing more pictures of males than pictures females in more structured conditions.
6. The greater the severity of the patient's depression, the more pictures of women he will report seeing in relatively unstructured conditions.

Symbols are thought to be able to stand for or represent objects in the external world. It would appear that masculine and feminine symbols could have the same impact on paranoid schizophrenic and depressive patients as pictures of men and women. When presented symbols stereoscopically the paranoid patient should perceive significantly more male symbols than female symbols with the opposite being true of depressive patients.

7. Male paranoid patients, when compared with non paranoid men, will report seeing more male type symbols than female type symbols.
8. Male depressive patients, when compared with non depressive men, will report seeing more female type symbols than male type symbols.

A second aspect of the study will concern itself with the exploratory investigation of the perceptual process as it exists in the various groups. Following regular procedures, subjects will be exposed to longer viewing times in the telebinocular situation in an effort to elicit figure-ground fluctuations.

It is widely held that the main defense mechanism employed by the paranoid is projection. He ascribes his basic feelings to other people. On the other hand, the main defense mechanism of the depressive patient is one of introjection. The depressive reacts to external events as if they were subjective (English and English, 1958). As fluctuations occur over prolonged telebinocular exposure, one might expect that the depressive would ascribe the phenomenon to something that he was doing due to his own inadequacy, while the paranoid patient should ascribe the changes to something the experimenter was doing. The results of the increased telebinocular exposure may also be compared with the briefer first administration of the same series of stereograms in order to assess any difference in perception. Since the subjects have had considerably more information and cues regarding the situation and therefore it is considerably more structured, it seems reasonable to expect differences to exist between the first and second exposure to the same stimuli. The second administration should yield responses more like the other groups.

CHAPTER III

METHOD

Subjects

The experimental subjects consisted of 20 male patients who were classified as paranoid schizophrenic and 20 male patients classified as depressive. This latter group consisted of manic depressive, schizophrenic depressive and reactive depressive patients. These patients were from Central State Griffin Memorial Hospital, Norman, Oklahoma. The classification of the subjects was according to the American Psychiatric Association's Diagnostic and Statistical Manual - Mental Disorders (1952). Placement of the subjects into this classification was on the basis of a staff evaluation. This staff evaluation was made by a staff psychiatrist and the resident psychiatrist from the service as well as a clinical psychologist and a social worker. All patients received at least one staff evaluation upon leaving the admitting ward and many of the patients were evaluated a second time after being placed in another ward of the hospital. This second evaluation was usually independent of the first evaluation and was conducted by a different psychiatric team. Patients whose records revealed more than one classification were not utilized in this study as well as patients who had not been classified for three or more years. The M.M.P.I. was given to all of the subjects as a reliability check on the psychiatric

diagnosis. Of the 60 tests administered, 38 of them were scoreable and could be utilized. The remaining protocols could not be utilized mainly because the patients did not complete the items or left so many questions unanswered that it rendered the protocols useless.

The protocols were reviewed in light of the Dahlstrom and Prange (1960) study in which M.M.P.I.'s of paranoid and depressive male V.A. patients were compared. Patients in this study and the Dahlstrom and Prange (1960) study were classified by the same psychiatric criteria and the M.M.P.I. scores of both of the paranoid and the depressive groups were very similar (Figure 1, 2). The M.M.P.I. protocols obtained on the chronic brain syndrome patients were not consistently like the paranoid group or the depressive group, but showed similarities to each of the groups (Figure 3).

Two control groups were utilized. One of these consisted of 20 male employees at the Enid State School, Enid, Oklahoma. This group served as a control for emotional factors. A second control group consisted of 20 male patients classified as chronic brain syndrome since they are emotionally disturbed but their disturbance is thought to be related more to physiogenic factors rather than to psychogenic factors. The chronic brain syndrome patients were placed in this classification group by the same method previously described for the other patients. This group often had a separate neurological examination as well.

The four groups were equated for age, race, education, and occupational level (Table 1). Education and occupational level were determined by the two factor index of social position developed by Hollingshead (1957). This index takes into consideration occupational

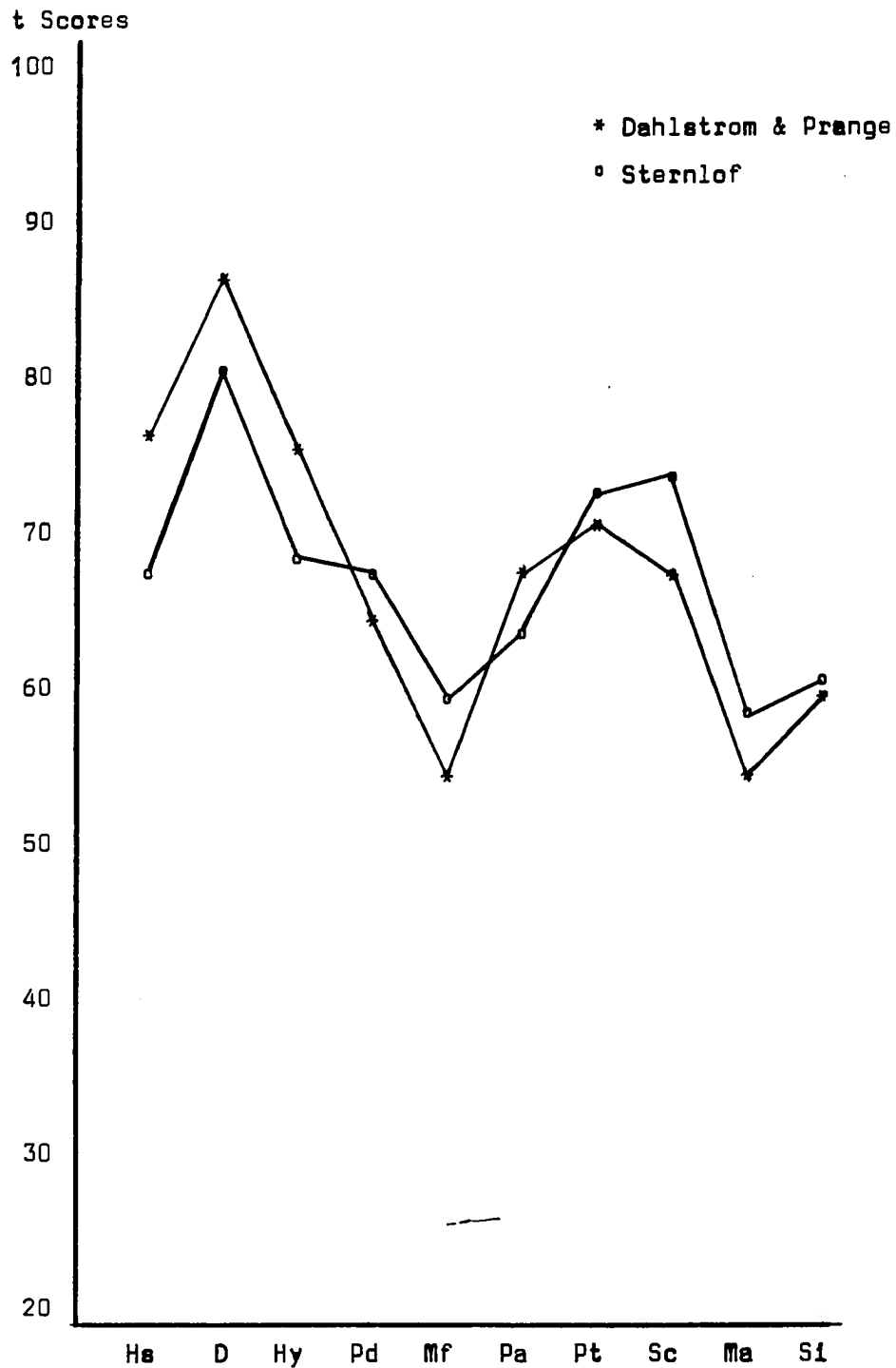


FIG. 1. MINNESOTA MULTIPHASIC PERSONALITY INVENTORY PROFILES OF MALE DEPRESSIVE PATIENTS COMPARED WITH PROFILES OF A SIMILAR GROUP OF PATIENTS OBTAINED BY DAHLSTROM AND PRANGE (1960)

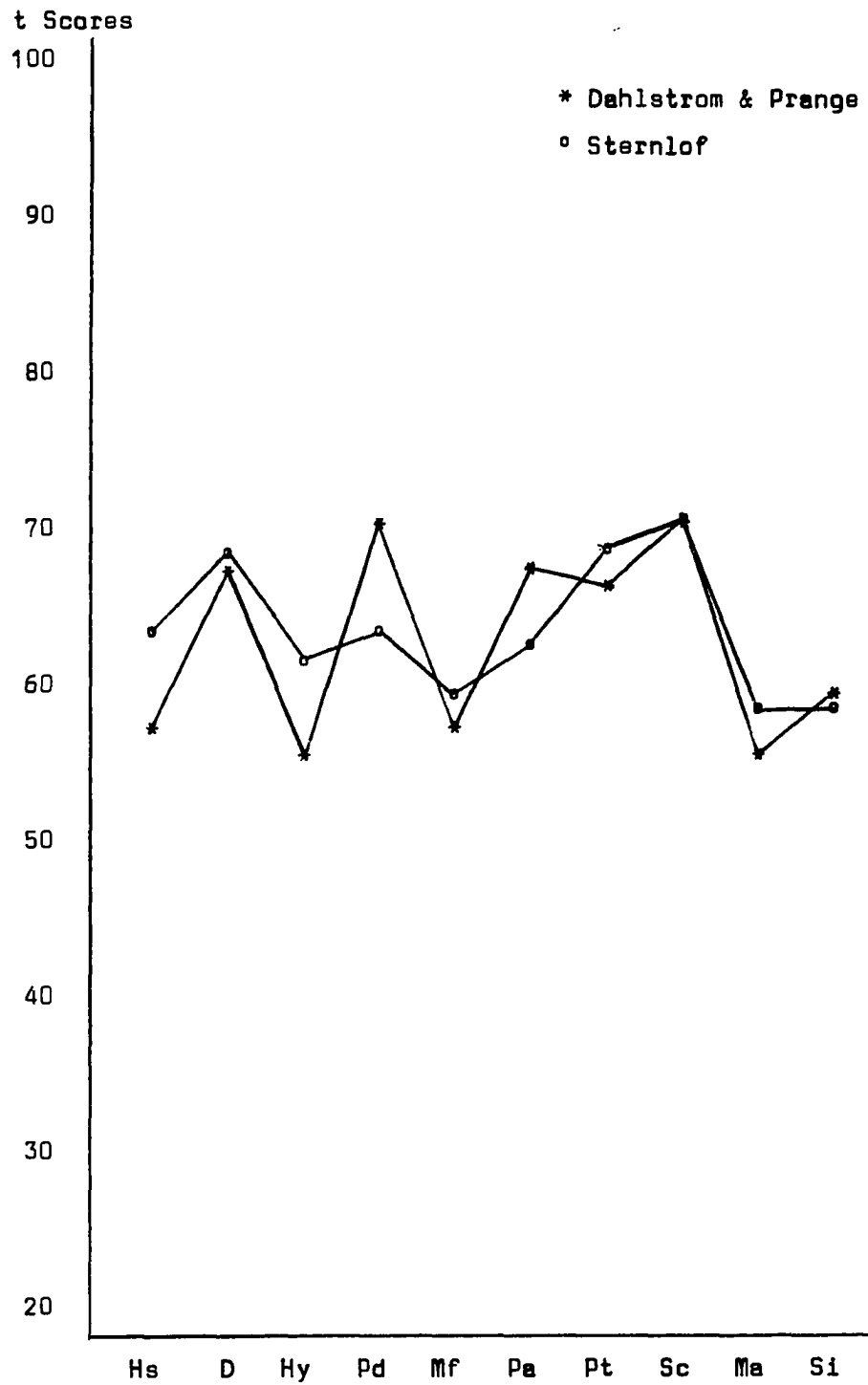


FIG. 2. MINNESOTA MULTIPHASIC PERSONALITY INVENTORY PROFILES OF MALE PARANOID PATIENTS COMPARED WITH PROFILES OF A SIMILAR GROUP OF PATIENTS OBTAINED BY DAHLSTROM AND PRANGE (1960)

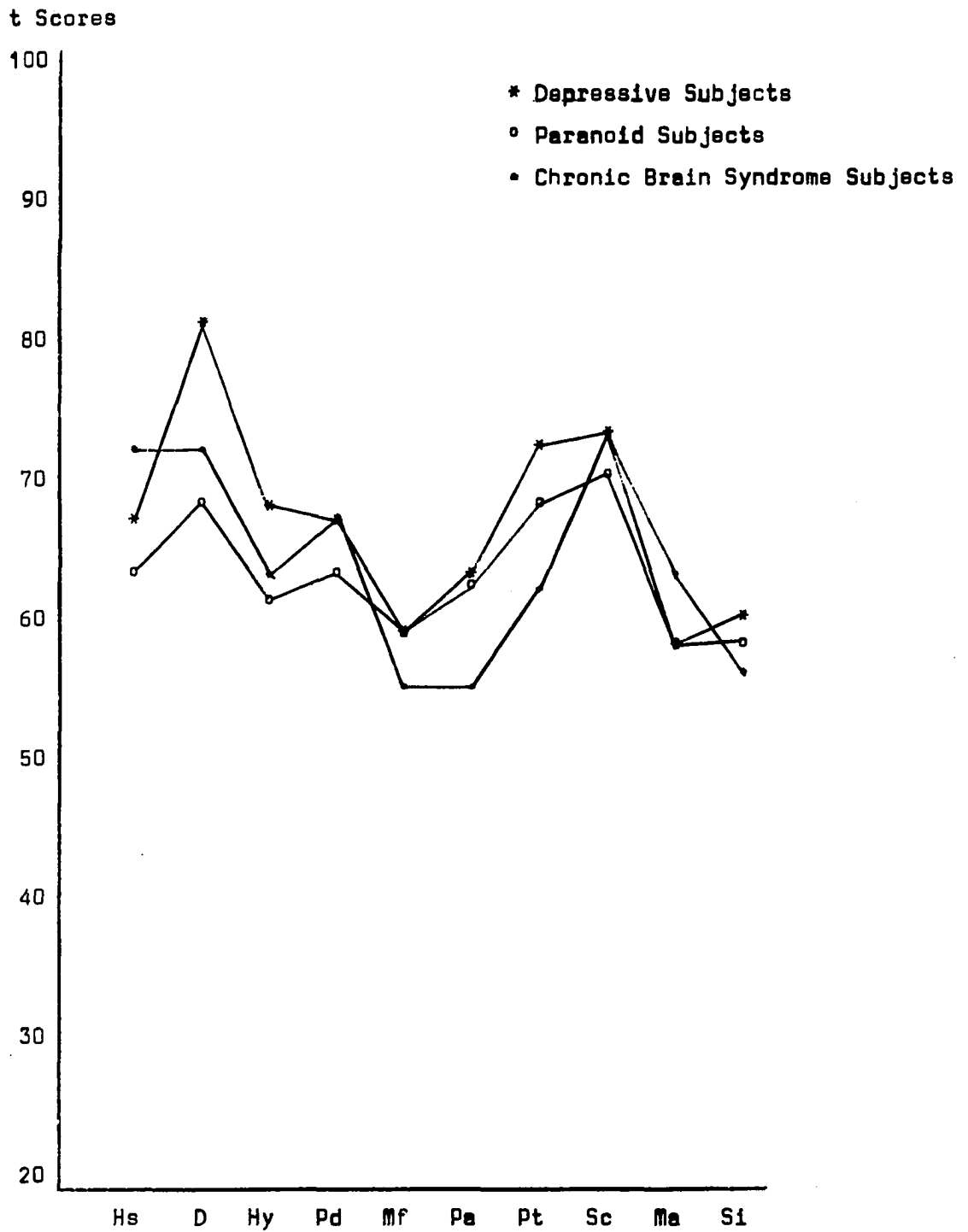


FIG. 3. MINNESOTA MULTIPHASIC PERSONALITY INVENTORY PROFILES OF MALE DEPRESSIVE, PARANOID AND CHRONIC BRAIN SYNDROME PATIENTS

level as well as educational level in determining the position of an individual in the status structure of society.

TABLE 1

MEANS AND STANDARD DEVIATIONS OF GROUPS FOR CHRONOLOGICAL AGE,
EDUCATION, SOCIAL CLASS AND LENGTH OF HOSPITALIZATION

Group		Age	Education	S. C. ^a	Months ^a Hosp.
Paranoid	Mean	41.10	10.65	4.40	11.65
	S. D.	10.60	2.90	.72	10.60
Depressive	Mean	45.15	10.55	4.40	6.05
	S. D.	10.60	2.90	.72	9.30
Chronic Brain Syndrome	Mean	51.40	10.35	4.30	14.60
	S. D.	8.00	2.90	.90	14.00
Control	Mean	45.05	11.30	4.40	--
	S. D.	18.05	2.35	.49	--

^aS. D. = Social Class; Hosp. = Length of Hospitalization in Months

The subjects in the study all had binocular vision within the 'normal' limits as ascertained by a visual survey test which was administered prior to the experimental procedure. All of the subjects comprising the patient group have been hospitalized under three years (Table 1).

Each of the subjects in the paranoid, depressive, and chronic brain syndrome groups were rated by two psychiatrists on a seven point scale along the following dimensions:

1. Severity of paranoia
2. Severity of depression

3. Amount of homosexual concern
4. Amount of homosexuality projected to others
5. Amount of homosexual concern directed toward self
6. Amount of dependence displayed
7. Amount of dependence displayed toward women
8. Amount of dependence displayed toward men

Sample rating scales are presented in Appendix C.

Results of the pilot study indicated that patients in both groups were taking similar kinds of medication. An analysis of the kind of drugs taken and the dosage revealed no correlation between medication, dosage, and nosological category (Sternlof, 1963). The kind and amount of medication taken by the patients was not controlled for in this study. Drug information was recorded, however, and patients were divided into those who were taking drugs and those who were not.

Apparatus and Materials

The experimental room was located in the same building where the patients were housed. All of the patients therefore were acquainted with the area where the experiment took place.

The telebinocular used in this study was the Keystone #46, manufactured by the Keystone View Company, Meadesville, Pennsylvania. It is similar to the apparatus used in previous investigations (Davis, 1959; Winchester, 1960). The apparatus was found to discriminate between paranoid and depressive subjects in an earlier study conducted by the author (Sternlof, 1963).

The black and white photographs employed as target stimuli (stereograms) in the telebinocular were selected from a college yearbook. All of

the photographs were of the same size and comprised the same spatial area. Consideration was given to the tilt of the head and the position of the shoulders in order to promote perceptual fusion. Forty photographs which most encouraged binocular fusion as judged by a panel of three judges were organized into twenty pairs consisting of a male and female in each pair. A typical stereogram is presented in Appendix A.

Ten individual pictures were used in the experimental procedure also. Five of these pictures were of men and five of women. These pictures were also procured from a college yearbook and were of the same general size as those used in the stereograms. A typical picture is presented in Appendix A. Ten stereograms consisting of a male and a female symbol were also included. The male-female symbols are presented in Appendix A.

Experimental Design and Procedures

Differential perceptual effects are expected between unstructured and structured tasks. The moment increased structure is imposed in the situation and hence more information is available to the subject, the experimental subjects' responses should change. It is necessary therefore that the experimental design permit the more unstructured tasks to appear before the more structured tasks. This is particularly true in the telebinocular situation in which the subject is afforded opportunity to view the stereograms in a relatively unstructured manner and his perception in this situation is compared with his perception when added structure and information are afforded him. If the structured situation were given first and the unstructured task second, the subject's increased information would contaminate the second variable and would tend

to negate any differential effects.

The subjects were individually tested in the experiment by the author. They were interviewed prior to the experiment in a manner designed to acquaint them with the nature of the experiment and to secure routine background information. They were told that they would be given a visual test and then would be shown some pictures and asked to describe what they saw and some other general questions. They were told that the whole experiment would take about thirty minutes. The subject was seated at a table in front of the examiner. The telebinocular was moved into position in front of the subject when it was needed and left to one side when it was not in use. After these general instructions and arrangements were made the experimental procedure was initiated. The following procedures are outlined briefly in Table 2 and described in detail on the following pages.

1. Visual test. Instructions:

I am going to show you a picture and I will ask you some questions about it. Please place your forehead on the machine so that it touches the forehead rest (experimenter indicates). Is it comfortable? (Experimenter adjusts apparatus so it is comfortable.) Now, I would like you to open both of your eyes. Do you have them open? It is important that you keep both of your eyes open. You may close your eyes between the pictures that I show you, but each time that I say, "Ready," please open them again.

A short visual test from the Keystone Visual Test series was then administered. This test is able to discriminate between individuals with visual problems and those not so afflicted. The test series was administered in the telebinocular and served to acquaint the subject with the apparatus. Those subjects who had difficulty with binocular vision were clearly indicated as the test necessitates that the subject

TABLE 2
OUTLINE OF EXPERIMENTAL SEQUENCE

Condition	Time	Stimulus Conditions	Response Measured
. Visual Test	5 - 8 min.	Test stereograms.	Response to stereogram, pass or fail.
. Unstructured Telebinocular Situation (A)	8 - 10 min.	Ten unstructured stereograms of male-female pictures.	Verbatim report of subjects with reference to content perceived.
. Structured Telebinocular Situation (B)	8 - 10 min.	Ten structured stereograms, same type but different pictures as in Condition 2. Added information that both male and female pictures are included.	Same as Condition 2.
. Unstructured Telebinocular Situation (C)	6 - 8 min.	Ten stereograms of male-female symbolic objects.	Kind of object perceived.
. Individual Pictures (Timed) (D)	5 - 10 min.	Ten individual pictures. Instructions to tell what kind of person he thinks individual in picture is.	Time to respond to each of ten pictures. Kind and number of statements made.
. Individual Pictures (Choice) (E)	2 - 4 min.	Ten individual pictures. Instructions to choose two of the pictures which are liked best.	Sex of person in picture shown.
. Structured Telebinocular Situation (F)	6 - 12 min.	Five male-female stereograms shown for one minute. Introspective reports of subjects. Instructions to tell what is seen.	Number of fluctuations and comparison with response given in Series A.
. Structured Telebinocular Situation (G)	6 - 12 min.	Five male-female symbolic stereograms shown for one minute. Same stereograms as appeared in Series C. Introspective reports of subjects. Instructions to report what is seen.	Number of fluctuations, kind and number of symbols perceived.

use both visual fields. Thirty-three subjects were eliminated from the study because of binocular visual problems and are not included in the total N of 80. The Keystone Visual Test is a standard visual screening test and is widely used by optometrists and ophthalmologists.

After the visual test was completed the subject was told that he could sit back and relax.

2. Unstructured telebinocular situation (A). Instructions:

I am going to show you a picture of a person and I would like you to give me your general impression of what the person is like. You may say anything you want to about the person. I will show you the picture very briefly so please tell me each time when you are ready. Remember to keep both eyes open.

The subject was then given a series of ten stereograms consisting of a picture of a man and a woman in each stereogram. These ten stereograms were presented in random order in order to control for eye dominance. The data was examined also to ascertain if the subject had been responding mainly with one eye. If such a patterning of a response occurred the subject was not included in the results.

The total viewing time for each of the ten stereograms was from 2 to 3 seconds. All of the subject's responses to the ten stereograms were written down with the sex of the individual perceived noted in particular. Upon completion of this series of telebinocular presentations a brief rest period ensued.

3. Structured telebinocular situation (B). Instructions:

Now I am going to show you some more pictures. Some of these pictures will be of men and some of them will be of women. Once again, I would like you to give me your general impression of what you think the person is like. You may say anything you want to about the person. I will show you the picture very briefly again and will ask you if you are ready to see the next one. Here is the first picture.

The subject was shown ten stereograms consisting of a picture of a man and a woman in each stereogram. The examiner once again recorded the responses of the subjects. This situation in the experimental procedure differs from the unstructured part of the series which preceded it as the additional information that pictures of both men and women were included in the series. The viewing time for each stereogram was from 2 to 3 seconds.

4. Unstructured telebinocular situation (C). Instructions:

Now I am going to show you some pictures which will not be of people and I want you to tell me what you see. Please tell me what it looks like to you. Once again, I will show it very briefly and will ask you each time if you are ready for the next picture. Are you ready?

The subject was shown randomly ten stereograms consisting of a symbolic representation of a male and a symbolic representation of a female in each stereogram. For example, a picture of a banana was paired with a picture of an apple. A study by Kaufer et al. (1960) suggests that perceptual sensitization might take place at a symbolic level. If this is true, the results should be similar to those obtained with the male-female stereograms. (These stereograms are shown in Appendix A.)

Once again the stereograms were shown in random order for 2 to 3 seconds. The subjects were given opportunity to relax and the telebinocular was placed to one side.

5. Individual pictures (timed) (D). Instructions:

Now I am going to show you five pictures of men and five of women and I would like you to tell me what kind of a person you think he or she is. You may tell me anything you want to about the person in the picture that I will show you. I will give you the pictures one at a time. Ready? Here is the first one.

The length of time taken before the subject responded to the pictures was noted by the experimenter without the subject being aware that he was being timed on this dimension. The subject therefore should not be as defensive about his behavior as he would be if he knew that he was being examined as to the amount of time it was taking him. The verbatim reports in response to the pictures were recorded as well.

6. Individual pictures (choice) (E). Instructions:

Now I am going to spread out before you all of the ten pictures I just showed you and I would like you to pick out two of the pictures that you like the very best. You may pick out any two pictures that you like. (If the subject asks if his choice can be of only men or only women or one of each, he will be told that his choice can be any way he wants it to be.)

This part of the experiment gave the subject opportunity to state his preference in a very obvious manner and a very conscious manner. This is different from the choice presented in the telebinocular situation where he was unaware of making a choice, or in the timed individual picture sequence where he was unaware he was being timed. The subject's choices were noted by the examiner.

7. Structured telebinocular situation (F). Instructions:

Now we are going to make use of the machine again. I am going to show you some pictures, but will show them to you for a longer period of time than I did before. I would like you to report to me what you see. Please keep both eyes open as you have been doing and tell me what you see. Be sure to tell me if the picture changes at all. I will tell you when we will go to the next picture. Are you ready? Here is the first one.

Here the first five stereograms of Series A were repeated. They were shown for a one minute period. The longer viewing time permitted increased fluctuations to occur. The verbatim reports of the subjects were recorded. They were examined to ascertain whether fluctuations

took place and were compared with their original responses to the same stereograms in Series A.

8. Structured telebinocular situation (G). Instructions:

I am going to show some more pictures for a longer period of time which will not be of people and I want you to tell me what you see. Please tell me if the picture changes at all as you look at it.

Here the first five stereograms of Series C were repeated. They were shown for a one minute period and the verbatim reports of the subjects were examined and fluctuations were noted.

CHAPTER IV

RESULTS

Since differential effects were predicted among the paranoid and depressed groups on the same conditions, the hypotheses will be discussed in relation to these conditions. The first condition deals with the effect of unstructure - structure on the perception of male-female stereograms displayed in a telebinocular. The four hypotheses which relate to these are:

1. Male paranoid patients, when compared with non paranoid men, will report seeing more male pictures than female pictures in relatively unstructured conditions.
2. Male paranoid patients, when compared with non paranoid men, will report seeing more pictures of females than pictures of males in more structured conditions.
4. Male depressive patients, when compared with non depressive men, will report seeing more female pictures than male pictures in relatively unstructured conditions.
5. Male depressive patients, when compared with non depressive men, will report seeing more pictures of males than pictures of females in more structured conditions.

These hypotheses state, in essence, that perception of males by the different groups is a function of the degree of structure. An over-

all analysis of variance (Table 3) confirms this notion since a significant interaction was found ($p < .001$). (Shown graphically in Fig. 4.)

TABLE 3
ANALYSIS OF VARIANCE: NUMBER OF MALES IN TEN UNSTRUCTURED
AND TEN STRUCTURED TELEBINOCULAR PRESENTATIONS

Source	<u>d.f.</u>	SS	MS	F	<u>p</u>
Total	159	388.98			
Between Subjects	79	219.98	2.78		
Groups (G)	3	65.08	21.69	10.64	.001
Error (b)	76	154.90	2.04		
Within Subjects	80	169.00			
Structure (S)	1	.90	.90	.69	
G x S	3	69.00	23.00	17.69	.001
Error (w)	76	99.10	1.30		

The group means and standard deviations regarding the number of males perceived in the unstructured and structured telebinocular presentations are listed in Table 4.

An analysis of variance of these data relating to a comparison of the four groups on the unstructured condition is presented in Table 5. There is a significant difference between the groups on this dimension ($p < .001$). Utilizing Duncan's New Multiple Range test (Edwards, 1962), it is evident that the paranoid patients perceive significantly more of the stereograms as being male than the other three groups in the unstructured telebinocular situation ($p < .01$). In the same condition the two control groups were not significantly different but the depressed group reported significantly fewer males than the two control groups

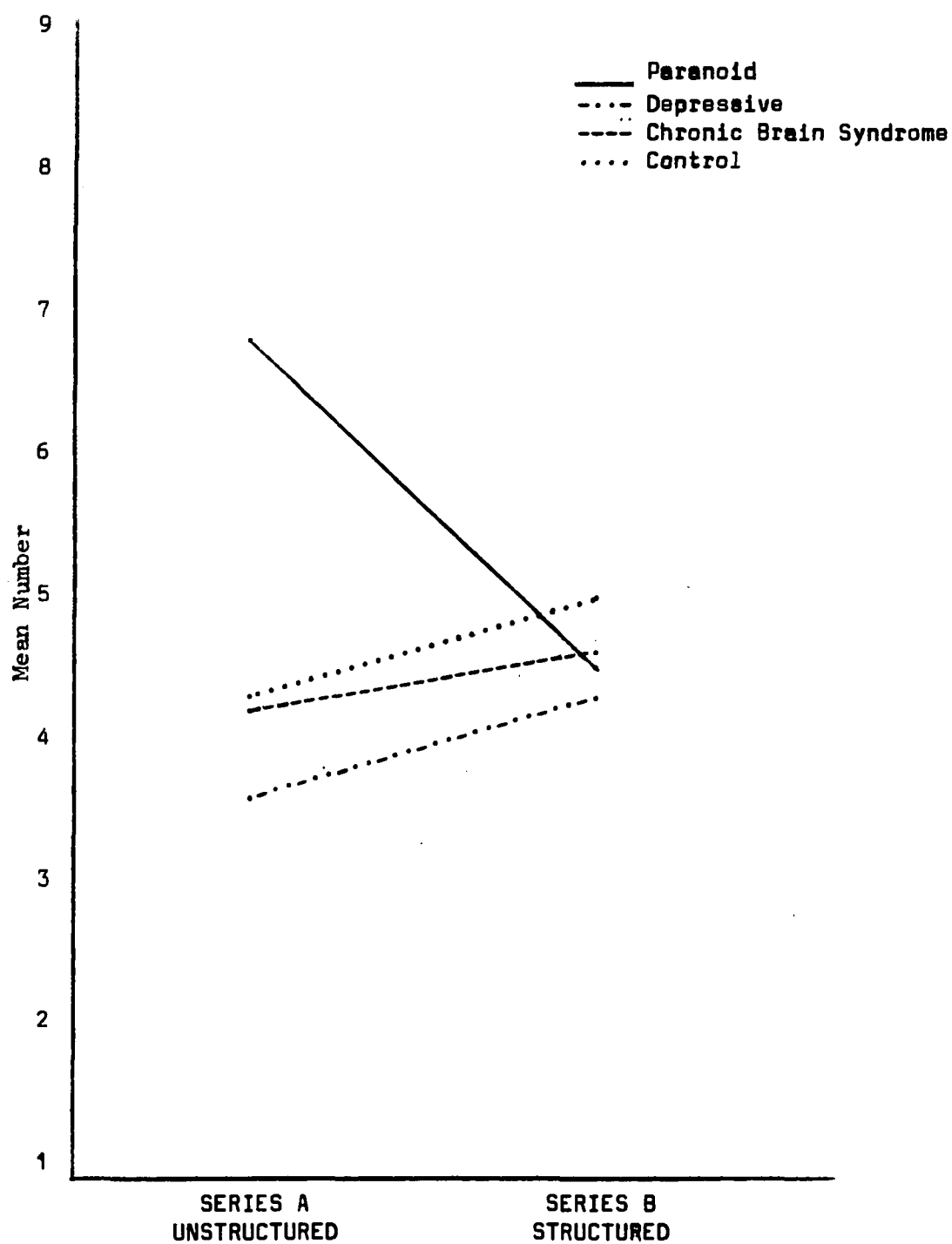


FIG. 4. MEAN NUMBER OF MALES SEEN IN UNSTRUCTURED AND STRUCTURED TELEBINOCULAR PRESENTATION

($p < .01$) and the paranoid group. Results of the Duncan New Multiple Range test are presented in the Appendix. Since this comparison was made on the number of males seen in the unstructured telebinocular presentation it follows that the depressed group perceived significantly more females.

TABLE 4

MEANS AND STANDARD DEVIATIONS OF MALES SEEN IN THE UNSTRUCTURED AND STRUCTURED TELEBINOCULAR PRESENTATION (SERIES A, SERIES B)

Group	Unstructured (A)		Structured (B)	
	Mean	S. D.	Mean	S. D.
Paranoid (n 20)	6.85	1.10	4.45	1.64
Depressive (n 20)	3.55	1.24	4.25	1.51
Chronic Brain Syndrome (n 20)	4.20	.98	4.60	1.10
Control (n 20)	4.25	.94	4.95	1.02

TABLE 5

ANALYSIS OF VARIANCE: NUMBER OF MALES SEEN IN THE UNSTRUCTURED TELEBINOCULAR PRESENTATION (SERIES A)

Source	d.f.	SS	MS	F	p
Total	79	133.69			
Among Means	3	127.94	42.64	18.62	.001
Within Conditions	76	17.45	.23		

An analysis of variance between the groups under structured conditions is presented in Table 6. There is no significant difference between the groups under this condition.

TABLE 6

ANALYSIS OF VARIANCE: NUMBER OF MALES SEEN IN THE STRUCTURED TELEBINOCULAR PRESENTATION (SERIES B)

Source	d.f.	SS	MS	F	p
Total	79	133.69			
Among Means	3	5.24	1.75	1.03	--
Within Conditions	76	128.45	1.69		

A comparison between the number of males seen in the unstructured telebinocular presentation with the number of males seen in the structured telebinocular presentation is presented in Table 7.

TABLE 7

t TEST BETWEEN NUMBER OF MALES SEEN IN THE UNSTRUCTURED AND STRUCTURED TELEBINOCULAR PRESENTATIONS (SERIES A, SERIES B)

Group	Unstructure (A) Mean	Structure (B) Mean	t	p
Paranoid	6.85	4.45	6.74	.001 ^a
Depressive	3.55	4.25	1.89	.05
Brain Syndrome	4.20	4.60	1.07	--
Control	4.25	4.95	2.21	.05

^aone-tail test

Another finding relates to the idea that the observed behavior of paranoid and depressive patients may differ from non paranoid and depressive subjects. Each subject was presented ten individual pictures of men and women and was timed, without his knowledge, on the length of time he took looking at the picture before a response was made. The group means and standard deviations on this dimension are presented in Table 8.

TABLE 8
MEANS AND STANDARD DEVIATIONS OF TIME (IN SECONDS) TAKEN TO RESPOND
TO TEN INDIVIDUALLY PRESENTED PICTURES OF MALES AND FEMALES

Group	Male		Female	
	Mean	S. D.	Mean	S. D.
Paranoid	8.04	3.58	4.37	1.94
Depressive	4.93	2.27	7.46	4.19
Chronic Brain Syndrome	4.30	1.31	4.59	1.80
Control	4.63	1.25	5.17	1.85

An overall analysis of variance of these data is presented in Table 9 and is shown graphically in Figure 5. These data reveal an overall interaction effect between the time taken to respond to individually presented pictures of men and women among the groups ($p < .005$).

An analysis of variance of these data pertaining to the time taken to respond to individually presented pictures of men is presented in Table 10. These data indicate a significant difference between the groups regarding the time taken to respond to pictures of men ($p < .001$). Indivi-

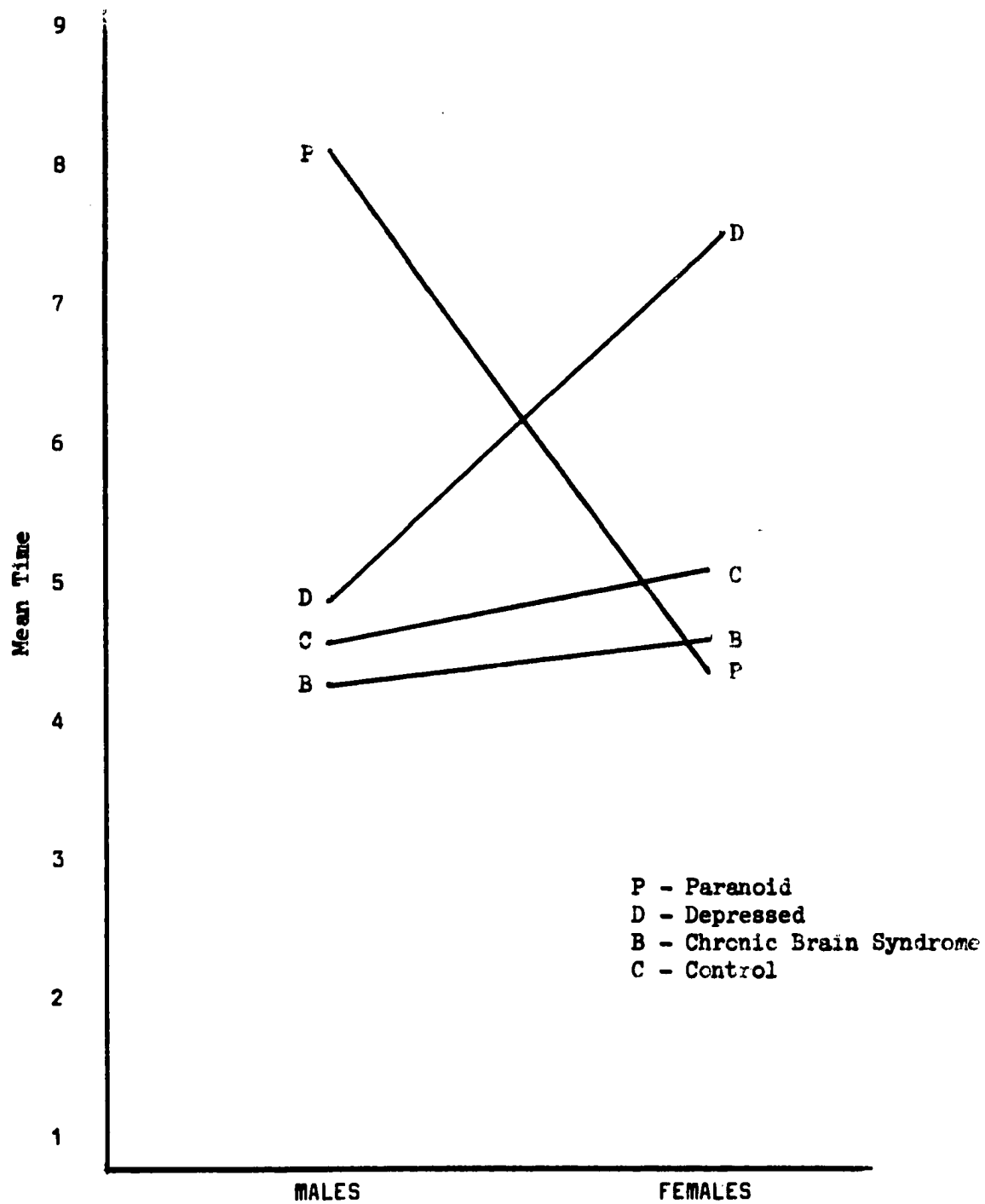


FIG. 5. MEAN TIME TAKEN TO RESPOND TO INDIVIDUALLY PRESENTED PICTURES OF MALES AND FEMALES

dual comparisons among the groups reveal a significant difference between the paranoid group and the other three groups ($p < .01$) on the time taken before responding to pictures of men. There was no significant difference between the other three groups on this dimension. Paranoid patients looked longer at pictures of men before responding than the other three groups.

TABLE 9

ANALYSIS OF VARIANCE: TIME TAKEN BEFORE RESPONDING TO FIVE INDIVIDUALLY PRESENTED PICTURES OF MEN AND FIVE INDIVIDUALLY PRESENTED PICTURES OF WOMEN (SERIES D)

Source	<u>d.f.</u>	SS	MS	F	<u>p</u>
Total	159	1274.77			
Between Subjects	79	883.95	11.19		
Groups (G)	3	97.37	32.46	3.14	.05
Error (b)	76	786.58	10.35		
Within Subjects	80	390.82			
Sex (S)	1	.23	.09		
G x S	3	202.14	67.38	27.17	.005
Error (w)	76	188.43	2.48		

TABLE 10

ANALYSIS OF VARIANCE: TIME TAKEN BEFORE RESPONDING TO FIVE INDIVIDUALLY PRESENTED PICTURES OF MEN (SERIES D)

Source	<u>d.f.</u>	SS	MS	F	<u>f</u>
Total	79	600.03			
Among Means	3	180.26	60.09	10.89	.001
Within Conditions	76	419.77	5.52		

An analysis of variance on the time taken before responding to women is found in Table 11. A significant difference between the groups on this condition was found ($p < .01$). Individual comparison on the time spent before responding to pictures of females revealed a significant difference between the depressed group and the paranoid and chronic brain syndrome group ($p < .01$) and with the control group ($p < .05$). Depressive patients looked longer at pictures of women before responding than the other groups.

TABLE 11

ANALYSIS OF VARIANCE: TIME TAKEN BEFORE RESPONDING TO FIVE INDIVIDUALLY PRESENTED PICTURES OF WOMEN (SERIES D)

Source	<u>d.f.</u>	SS	MS	F	<u>p</u>
Total	79	674.52			
Among Means	3	120.27	40.09	5.50	.01
Within Conditions	76	554.25	7.29		

Another finding is consistent with these hypotheses. Each subject was asked to choose two pictures which he liked the best from the ten pictures of men and women presented to him. These data are found in Table 12. No difference in the number of male and female pictures selected by the group was found. The result of the pilot study indicated that paranoid patients would choose significantly more women than man, but this was not substantiated in this study (Sternlof, 1963). The results coincide, however, with the findings in the unstructure-structure

TABLE 12

NUMBER OF MALE AND FEMALE PICTURES SELECTED AS THE TWO
LIKED BEST OUT OF A SERIES OF TEN

Group	Male	Female	χ^2	p
Paranoid	17	23	.90	--
Depressive	16	24	1.60	--
Chronic Brain Syndrome	20	20		
Control	20	20		

condition, i.e., that with the imposition of structure the four groups do not differ.

The next set of hypotheses concern the severity of the patient's illness with the manner in which the patient functions on the tasks presented to him. The hypotheses pertinent to this issue are:

3. The greater the severity of the patient's paranoia, the more pictures of men he will report seeing in relatively unstructured conditions.
6. The greater the severity of the patient's depression, the more pictures of women he will report seeing in relatively unstructured conditions.

In order to investigate this question, the patients were rated by their ward psychiatrist along a seven point scale of severity of paranoia and depression. All subjects were rated on these scales regardless of their classification of illness. The psychiatrists also rated each

patient along the following dimensions:

1. Degree of homosexual concern displayed
2. Amount of homosexual concern projected toward others
3. Degree of homosexual concern in relation to self
4. Degree of dependence displayed
5. Degree of dependence displayed toward women
6. Degree of dependence displayed toward men

The results of the Pearson Product Moment Correlations on these data are contained in Table 13. These results must only be considered very tentatively as it was impossible to utilize two psychiatrists ratings as planned and also because each psychiatrist had a large number of patients to care for and hence were not intimately familiar with all of the patients to rate them accurately. Since only one psychiatrist rated the patients, reliability measures were precluded.

The five psychiatrists were unable to differentially rate the patients on the items having to do with homosexual concern so the results are not presented in Table 13. On the paranoid group only four patients out of twenty had ratings which deviated from 1 on the scale. In the depressed group there were three patients and in the chronic brain syndrome group there were two patients which deviated from 1 on the scale.

The results found in Table 13 indicate a significant correlation exists between severity of depression and the number of females seen in the unstructured telebinocular presentation ($p < .05$). This finding occurs in all of the three patient groups. The more depressed the patient is, whether he is classified as a paranoid schizophrenic, depressed, or

TABLE 13

PRODUCT MOMENT CORRELATIONS BETWEEN SEVERITY OF PARANOIA, DEPRESSION,
DEPENDENCY VARIABLES AND THE NUMBER OF MALES AND FEMALES SEEN
IN THE UNSTRUCTURED TELEBINOCULAR PRESENTATION (SERIES A)

Variable	Paranoid	Depressive	C. B. S.
Severity of paranoia compared with the number of males seen in the unstructured telebinocular presentation.	-.04	-.22	.02
Severity of depression compared with the number of females seen in the unstructured telebinocular presentation.	.52*	.50*	.52*
Amount of dependence displayed compared with the number of females seen in the unstructured telebinocular presentation	.08	-.19	-.12
Amount of dependence displayed toward women compared with the number of females seen in the unstructured telebinocular presentation.	.17	-.27	-.01
Amount of dependence displayed toward men compared with the number of males seen in the unstructured telebinocular presentation	-.14	-.14	-.12

* Significant at the .05 level.

chronic brain syndrome, the more male-female stereograms he 'saw' as being female. No other correlation proved to be significant. Severity of paranoia compared with the number of males seen in the unstructured telebinocular situation yielded no correlation within the paranoid group ($r = -.04$) and within the chronic brain syndrome group ($r = .02$) and was somewhat negatively correlated within the depressive group ($r = -.22$). These foregoing

results support hypothesis 6 but do not support hypothesis 3.

Somewhat higher correlations, although still not significant, were obtained when the psychiatric ratings on severity of paranoia and depression was compared with the time spent looking at pictures of men and women. A Pearson Product Moment r of .42 was obtained between severity of depression and the time taken before responding to pictures of females (Series D) and an r of .32 between severity of paranoia and the time taken to respond to pictures of men (Table 14). Additional correlations between severity of illness and the time dimensions are presented in Appendix B.

TABLE 14

PRODUCT MOMENT CORRELATIONS BETWEEN TIME TO RESPOND TO TEN
PICTURES OF MALES AND FEMALES AND SEVERITY OF ILLNESS

Variable	r	p
Severity of paranoia compared with the amount of time spent looking at pictures of men.	.31	--
Severity of depression compared with the amount of time spent looking at pictures of women.	.42	.10

The last two hypotheses concern whether or not symbolic representation of male and female figures will have similar effects on the perceptual process as actual pictures of males and females do. Hypotheses 7 and 8 bear on this question and are stated as follows:

7. Male paranoid patients, when compared with non paranoid men, will report seeing more male type symbols than female type symbols.

8. Male depressive patients, when compared with non depressive men, will report seeing more female type symbols than male type symbols.

An examination of these data reveal that the patients had four possible responses to the symbols. These were a male symbol, a female symbol, a male-female symbol, or some response indicating the subject did not know what the symbol was. These data were examined by three judges and the percent of total agreement as to the kind of symbols reported perceived was 77 percent, 82 percent, and 83 percent respectively among the judges.

The means and standard deviations of the number of male, female, male-female, and "don't know" symbols reported perceived in the initial telebinocular presentation is found in Table 15.

TABLE 15

MEANS AND STANDARD DEVIATIONS OF THE NUMBER OF MALE, FEMALE, MALE-FEMALE, AND UNRESOLVED SYMBOLS PERCEIVED OUT OF TEN MALE-FEMALE STEREOGRAMS

Group		Male	Female	M-F ^a	DK ^a
Paranoid	Mean	2.25	3.25	3.45	1.05
	S. D.	1.40	1.22	1.91	1.39
Depressive	Mean	1.80	3.15	4.40	.65
	S. D.	1.47	1.35	2.15	1.06
Chronic Brain Syndrome	Mean	1.80	2.95	2.95	2.30
	S. D.	1.47	1.07	1.96	2.12
Control	Mean	1.00	3.05	5.45	.50
	S. D.	.30	1.36	1.91	.87

^aM-F = Male-Female Symbol; DK = Don't Know Symbol

The analysis of variance on the male symbolic data is contained in Table 16. An overall significance is found among the groups ($p < .05$). Comparison of the means revealed a significant difference between the paranoid group and the control group ($p < .01$), but no differences among the chronic brain syndrome group, the depressive group and the control group on the number of males perceived (Appendix B)

TABLE 16

ANALYSIS OF VARIANCE: NUMBER OF MALE SYMBOLS PERCEIVED OUT OF TEN TELEBINOCULAR PRESENTATIONS (SERIES C)

Source	<u>d.f.</u>	SS	MS	F	<u>p</u>
Total	79	158.39			
Among Means	3	16.24	5.41	2.89	.05
Within Conditions	76	142.15	1.87		

Table 17 contains the analysis of variance on the number of female symbols perceived by the groups. A significant F was not found indicating that the groups did not differ on this dimension.

Table 18 contains the analysis of variance of the number of Male-Female combinations seen by the subjects across the groups. A significant difference is found ($p < .001$). A comparison of the means indicates a significant difference between the control group and the paranoid group on this dimension ($p < .01$), but not between the chronic brain syndrome and the depressed groups (Appendix B).

TABLE 17

ANALYSIS OF VARIANCE: NUMBER OF FEMALE SYMBOLS PERCEIVED
OUT OF TEN TELEBINOCULAR PRESENTATIONS

Source	<u>d.f.</u>	SS	MS	F	<u>p</u>
Total	79	127.20			
Among Means	3	1.00	.33	1.98	--
Within Conditions	76	126.20	1.66		

TABLE 18

ANALYSIS OF VARIANCE: NUMBER OF MALE-FEMALE SYMBOLS PERCEIVED OUT
OF TEN TELEBINOCULAR PRESENTATIONS (SERIES C)

Source	<u>d.f.</u>	SS	MS	F	<u>p</u>
Total	79	388.69			
Among Means	3	73.04	24.35	5.87	.001
Within Conditions	76	315.65	4.15		

An overall analysis of variance on the number of symbols which were not perceived as either male or female is contained in Table 19. There was a significant difference among the groups on this dimension ($p < .001$). The chronic brain syndrome group differed significantly from the control group and the depressive group on this dimension ($p < .01$) and from the paranoid group ($p < .05$) (Appendix B). It is clear therefore that the chronic brain syndrome group had the most difficulty in being able to identify the symbols.

TABLE 19

ANALYSIS OF VARIANCE: NUMBER OF SYMBOLS OUT OF TEN
WHICH WERE NOT IDENTIFIABLE (SERIES C)

Source	d.f.	SS	MS	F	p
Total	79	206.75			
Among Means	3	40.05	13.35	6.10	.001
Within Conditions	76	166.70	2.19		

The data pertaining explicitly to hypotheses 7 and 8 are not clear cut. Male paranoid patients did perceive significantly more of the symbols as being male than the control group, but not when compared with the depressive group and the chronic brain syndrome group. Thus, hypothesis 7 is only partially confirmed. Depressive patients did not differ from the other groups on the number of female symbols perceived which was contrary to hypothesis 8.

Besides investigating the foregoing hypotheses, additional information was gleaned from the subjects regarding other aspects of the perceptual process. All subjects were shown a second time five of the stereograms containing pictures of a man and a woman previously seen in Series A and five of the stereograms containing male and female symbols previously seen in Series C. Subjects were allowed to look at each of these stereograms for one minute. During this segment of the experiment the subjects were asked to report what they saw and if there was any change in their perception as they looked at the stereogram. Their responses were tape

recorded. If the subjects reported a change in their perception of a single stereogram of a man and woman they were assigned a score of 1. If no change occurred they were assigned a score of 0. Since five stereograms were presented, a total score of five was the highest any subject could receive while a score of zero was the lowest score he could receive. It was impossible to assess any more fluctuation other than in this rather gross manner. The percent of total agreement as to the occurrence of fluctuations among three judges was 75 percent, 84 percent and 90 percent (Appendix B).

Means and standard deviations regarding the number of fluctuations occurring within the groups of male-female stereograms is presented in Table 20. An analysis of variance on these data is found in Table 21. There was a significant difference between the groups ($p < .001$). A comparison of the means of the groups reveal a significant difference between the control group and the other three groups ($p < .01$). No difference existed between the remaining three groups (Appendix B).

TABLE 20

MEANS AND STANDARD DEVIATIONS OF THE NUMBER OF FLUCTUATIONS OUT OF A POSSIBLE FIVE WHICH OCCURRED UNDER PROLONGED TELEBINOCULAR PRESENTATION (SERIES F)

Groups	Mean	S. D.
Paranoid	1.75	1.55
Depressive	1.65	1.58
Chronic Brain Syndrome	.95	.86
Control	3.50	1.69

TABLE 21

ANALYSIS OF VARIANCE: NUMBER OF FLUCTUATIONS WHICH OCCURRED
UNDER PROLONGED TELEBINOCULAR PRESENTATION OF
MALE-FEMALE STEREOGRAMS (SERIES F)

Source	<u>d.f.</u>	SS	MS	F	<u>p</u>
Total	79	240.89			
Among Means	3	70.64	23.55	10.51	.01
Within Conditions	76	170.25	2.24		

The fluctuations which occurred while the subjects were viewing the male-female symbols were also examined (Series G). The criterion for scoring remained the same as in the previous section. Means and standard deviations regarding the number of fluctuations which occurred during this presentation is presented in Table 22.

TABLE 22

MEANS AND STANDARD DEVIATIONS OF THE NUMBER OF FLUCTUATIONS OUT OF A
POSSIBLE FIVE WHICH OCCURRED UNDER PROLONGED TELEBINOCULAR
PRESENTATION (SERIES G)

Groups	Mean	S. D.
Paranoid	.63	.86
Depressive	1.06	.81
Chronic Brain Syndrome	.55	.92
Control	1.94	1.15

An analysis of variance on these data is presented in Table 23. A significant difference existed between the groups ($p < .001$). Once again, the control group was significantly different from the other three groups on the number of fluctuations which occurred ($p < .01$). No difference existed among the remaining three groups (Appendix B).

TABLE 23

ANALYSIS OF VARIANCE: NUMBER OF FLUCTUATIONS WHICH OCCURRED
UNDER PROLONGED TELEBINOCULAR PRESENTATION OF SYMBOLIC
MALE-FEMALE STEREOGRAMS (SERIES G)

Source.	d.f.	SS	MS	F	p
Total	79	83.09			
Among Means	3	15.44	5.15	5.72	.01
Within Conditions	76	68.25	.90		

In summary, the results indicate that the control group perceived more fluctuations while viewing both the symbolic stereograms and the male-female stereograms than the other groups. In each case, the hospitalized groups did not differ from each other on these conditions.

Since each subject was allowed to see five of the same stereograms a second time it was possible to compare his initial responses to each of the sets of stereograms. The means and standard deviations for this comparison are found in Table 24. An analysis of variance on the number of males seen in the first five stereograms (Series C) is presented in Table 25. A significant difference exists between the groups

TABLE 24

MEANS AND STANDARD DEVIATIONS OF THE NUMBER OF MALES SEEN IN THE FIRST FIVE TELEBINOCULAR PRESENTATIONS AND THE CONCLUDING FIVE PRESENTATION UNDER PROLONGED EXPOSURE (SERIES C, F)

Group	Initial Exposure		Prolonged Exposure	
	Mean	S. D.	Mean	S. D.
Paranoid	3.30	.99	2.95	.97
Depressive	1.70	.84	2.55	1.00
C. B. S.	1.85	.74	2.30	.78
Control	1.95	.86	2.85	1.19

TABLE 25

ANALYSIS OF VARIANCE: NUMBER OF MALES PERCEIVED IN THE FIRST FIVE TELEBINOCULAR PRESENTATIONS

Source	<u>d.f.</u>	SS	MS	F	<u>p</u>
Total	79	194.80			
Among Means	3	32.90	10.96	5.15	.01
Within Conditions	76	161.90	2.13		

on this condition ($p < .01$). A comparison among the means of the groups indicates a significant difference exists between the paranoid group and the other three groups ($p < .01$). The depressive group, chronic brain syndrome group and the control group did not differ significantly from each other (Appendix B). Thus, the same general effect showed up in the

first five unstructured telebinocular presentations as was present after ten stereograms were given except that there was no difference between the depressed group and the control and chronic brain syndrome groups whereas there was after ten presentations.

An analysis of variance of the number of males seen out of five stereograms in the second telebinocular presentation under prolonged exposure (Series F) is found in Table 26.

TABLE 26

ANALYSIS OF VARIANCE: NUMBER OF MALES PERCEIVED IN THE LAST FIVE TELEBINOCULAR PRESENTATIONS UNDER PROLONGED EXPOSURE (SERIES F)

Source	d.f.	SS	MS	F	p
Total	79	87.89			
Among Means	3	5.24	1.75	1.60	--
Within Conditions	76	82.65	1.09		

A significant difference between the means was not found. This indicates that the groups perceived the stereograms differently than they had the first time they viewed the same stereograms. One might speculate that this might be due to increased structure although an overall analysis of variance between the first and second presentation of the same stereograms did not yield a significant interaction among the groups by structure condition (Table 27).

Since five of the male-female symbols were presented for a prolonged period (Series G) it was possible to compare the number of male,

female, male-female combinations, and "don't know" responses which existed between the groups. The means and standard deviations on these data are found in Table 28.

TABLE 27

ANALYSIS OF VARIANCE: NUMBER OF MALES PERCEIVED OUT OF FIVE IN THE FIRST TELEBINOCULAR PRESENTATION WITH THE NUMBER OF MALES PERCEIVED IN THE PROLONGED PRESENTATION (SERIES A, F)

Source	d.f.	SS	MS	F	p
Total	159	291.25			
Between Subjects	79	108.75	1.38		
Groups (G)	3	28.10	9.37	8.84	.001
Error (b)	76	80.65	1.06		
Within Subjects	80	182.50	2.28		
Conditions (C)	1	8.56	8.56	3.96	.01
G x C	3	10.04	3.35	1.55	--
Error (w)	76	163.90	2.16		

The percent of total agreement among the ratings of three judges as to the kind of symbols reported perceived in Series G was 91 percent, 93 percent and 91 percent (Appendix B). The analysis of variance on these data are presented in Appendix B. There was no significant difference between the groups in the number of different symbols perceived. This is in contrast with the results obtained when the symbols were exposed briefly in Series C. The length of exposure as well as more information regarding the situation had an effect. It is interesting to note that the chronic brain syndrome group were not markedly different than the other groups on the "don't know" category. This implies that with a longer

viewing time this group was able to resolve the perceptual ambiguity which caused them difficulty under conditions of briefer exposure.

TABLE 28

MEANS AND STANDARD DEVIATIONS OF THE NUMBER OF MALE, FEMALE, MALE-FEMALE, AND UNRESOLVED SYMBOLS PERCEIVED OUT OF FIVE MALE-FEMALE STEREOGRAMS (SERIES G)

Group		Male	Female	M-F	DK
Paranoid	Mean	.55	1.85	2.40	.15
	S. D.	.67	.96	1.20	.36
Depressive	Mean	.50	1.33	2.89	.22
	S. D.	.69	.88	1.04	.42
Chronic Brain Syndrome	Mean	.28	1.66	2.83	.22
	S. D.	.56	1.20	1.42	.42
Control	Mean	.35	1.05	3.25	.25
	S. D.	.57	.92	1.37	.52

During the segment of the experiment when subjects were being recorded on the amount of time they looked at pictures of males and females (Series D), further data was obtained. The subjects were asked to comment about what kind of person the individual in the picture was like. They were told they could say anything about the person in the picture they wished to.

The subject's responses were recorded and divided into the following classes:

1. Negative statements regarding the person in the picture.

This would include such statements as, "I think this person is dishonest."

2. Positive statements regarding the person in the picture.

This would include such statements as, "He is a hard working, nice looking man. Someone you would like to know."

3. Ambivalent statements. Such statements included both positive and negative aspects. For example, "He is basically a nice person, but he might cheat you if he had a chance."

4. Neutral statements. Such statements were neither positive, negative, nor ambivalent. Descriptions of the person rather than any other comments were the most frequent in this group. Statements such as, "He is wearing a shirt, tie, and has wavy hair," were contained in the typical statements which fit into this category.

Each of these four classes of statements were compared across the groups with separate comparisons being made for the statements made about the five male pictures and the five female pictures. Total agreement among three judges was 87 percent, 93 percent and 84 percent for statements regarding female pictures and 78 percent, 89 percent and 87 percent for the male pictures (Appendix B). The means and standard deviations are found in Table 29. An analysis of variance on each of these eight conditions was done and can be found in Appendix B. These data reveal no significant differences among the groups on the number of positive, negative, ambivalent and neutral statements made in regard to the individually presented pictures. Once again, there appears to be evidence that the level of conscious functioning at which a person is operating has considerable effect on whether certain motivational variables can be observed or not.

TABLE 29

MEANS AND STANDARD DEVIATIONS OF THE NUMBER OF POSITIVE, NEGATIVE, AMBIVALENT AND NEUTRAL STATEMENTS CONCERNING PICTURES OF MEN AND WOMEN (SERIES D)

Group		Positive		Negative		Neutral		Ambivalent	
		M	F	M	F	M	F	M	F
Paranoid	Mean	1.85	1.95	.15	.30	2.80	2.40	.20	.35
	S. D.	1.90	1.86	.48	.90	2.10	2.20	.87	.82
Depressive	Mean	1.32	1.42	.37	.21	3.21	3.16	.11	.21
	S. D.	1.51	1.57	.89	.41	1.88	1.96	.13	.52
Chronic Brain Syndrome	Mean	1.53	1.41	.00	.24	3.41	3.35	.06	.00
	S. D.	1.94	1.69	.00	.55	1.88	2.03	.70	.00
Control	Mean	1.85	2.10	.40	.50	2.60	2.30	.15	.10
	S. D.	1.68	1.70	.58	.83	1.70	1.72	.48	.30

It is important to note that the groups were comparable except that the subjects in the chronic brain syndrome group were older, on the average, than the subjects in the other three categories and that some patients were on drugs and others were not. In order to investigate the first issue a Pearson Product Moment Correlation was done between the age of the subject and the number of males and females he saw in the unstructured telebinocular presentation. These correlations are presented in Table 30. None of the correlations were significant which tends to indicate that age was not a factor in the subject's perception of the stereograms. Although the chronic brain syndrome group was older their increased age apparently did not effect the results.

The second question can be answered by comparing the perception of those in each group who were taking drugs with those who were not on

TABLE 30

PRODUCT MOMENT CORRELATIONS BETWEEN THE NUMBER OF MALES SEEN IN THE
UNSTRUCTURED TELEBINOCULAR PRESENTATION AND AGE OF SUBJECT

Group	r	p
Paranoid	-.11	--
Depressive	-.13	--
Chronic Brain Syndrome	-.18	--
Control	-.02	--

any medication. The results of this comparison can be found in Table 31.

TABLE 31

MEANS, STANDARD DEVIATIONS AND t TESTS OF THE NUMBER OF MALES SEEN IN
THE INITIAL TELEBINOCULAR PRESENTATION WITH EACH GROUP DIVIDED
INTO THOSE TAKING MEDICATION AND THOSE NOT

Group		Drug	No Drug	t	p
Paranoid	Mean	6.80 (n 18)	6.50 (n 2)	.35	--
	S. D.	1.15	.61		
Depressive	Mean	3.60 (n 9)	3.50 (n 11)	.17	--
	S. D.	1.48	.99		
Chronic Brain Syndrome	Mean	4.10 (n 12)	4.30 (n 8)	.42	--
	S. D.	.77	1.23		

These results indicate that medication apparently had little effect on
the results of this study.

Summary

All hypotheses were tested by appropriate statistical technique with the following results:

1. Male paranoid patients, when compared with non paranoid men, will report seeing more male pictures than female pictures in relatively unstructured conditions.

This hypothesis is confirmed.

2. Male paranoid patients, when compared with non paranoid men, will report seeing more pictures of females than pictures of males in more structured conditions.

This hypothesis as stated is not confirmed. However, when paranoid patients were compared on the number of males seen in Series A and the number of males seen in Series B significantly fewer men were seen in Series B.

3. The greater the severity of the patient's paranoia, the more pictures of men he will report seeing in relatively unstructured conditions.

This hypothesis is rejected.

4. Male depressive patients, when compared with non depressive men, will report seeing more female pictures than male pictures in relatively unstructured conditions.

This hypothesis is confirmed.

5. Male depressive patients, when compared with non depressive men, will report seeing more pictures of males than pictures of females in more structured conditions.

This hypothesis, as stated, is rejected. Depressive patients did, however, see more male pictures in Series B than they saw in Series A.

6. The greater the severity of the patient's depression, the more pictures of women he will report seeing in relatively unstructured conditions.

This hypothesis is confirmed.

7. Male paranoid patients, when compared with non paranoid men, will report seeing more male type symbols than female type symbols.

This hypothesis is partially substantiated. Paranoid patients saw more male symbols than the control group, but did not differ on this condition from the other groups. They also saw as many female symbols as the other groups.

8. Male depressive patients, when compared with non depressive men, will report seeing more female type symbols than male type symbols.

This hypothesis is rejected.

Additional findings tend to suggest the following:

1. Non hospitalized subjects tend to perceive stereograms as fluctuating or changing more than hospitalized patients. This occurs whether or not the stimuli are of people or objects.

2. Chronic brain syndrome patients have more difficulty in naming stereograms of symbols.

3. Paranoid, depressive, chronic brain syndrome and control subjects do not differ from each other in the statements made about people depicted in photographs.

4. Drugs apparently have little effect on the perception of male-female stereograms.

5. Age apparently has little or no effect in the perception of male-female stereograms.

CHAPTER V

DISCUSSION

The discussion will be concerned first with the results bearing on the specific questions posed by the experiment and will then proceed to the broader aspects of the results.

Paranoid Schizophrenia and Perception

In agreement with hypothesis 1 presented in Chapter II, paranoid subjects reported perceiving significantly more of the male-female stereograms as being men than did non paranoid subjects. This effect was present throughout the first ten stereograms. This finding adds further credence to the theoretical and clinical notion linking paranoia with an investment in or attachment to the male figure. The patients had equal opportunity to 'perceive' a man or a woman yet these results indicate an apparent sensitization to the male figure.

These data can also be interpreted in view of the ideas advanced by the 'new look' psychologists (Bruner and Klein, 1960) as well as the transactionalist psychologists (Kilpatrick, 1952) who maintain that a person perceives the world, in part, in accordance with his own needs, emotions, fears and motives. The fact that paranoid subjects did report perceiving more men than women in the first telebinocular presentation is thus consistent with both current thought regarding perception and

and with the psychodynamic theory of paranoia.

Another finding of major importance is that added structure altered the behavior of the experimental subjects. It is important to note here that the telebinocular situation was largely the same, i.e., the manner of presentation and the length of exposure remained the same, but the instructions differed. In the first telebinocular presentation (Series A) subjects were given vague instructions to "tell me something about the person" whereas the second set of instructions noted the fact that the task had something to do specifically with men and women. The latter is decidedly more direct, and openly brings into focus the purported emotional conflict. The net result of this added structure, through increased information input and increased exposure to the task, results in a reported 'change' in perception. It was found that the two experimental groups did not differ from the two control groups with the imposition of greater structure.

The effect of structure on the behavior of the paranoid is again in evidence in Series E where the paranoid patient is asked to choose two preferred pictures out of a series of five pictures of men and five pictures of women. The paranoid patient in this situation actually chose more female pictures than male although the difference, when compared with the other three groups, was not significant. This task bears directly on the patient's supposed emotional conflict and is quite overt and highly structured.

Additional data supporting the importance of the structure dimension in the study of paranoia comes from Series D in which the subjects were instructed to describe the person depicted and the time taken

to respond to the picture was recorded. While the content of the responses yielded no differential data, the time dimension did give differential results--the paranoid patients had a longer response latency to male pictures than did other groups. While this situation is somewhat different than the unstructured telebinocular situation, it may have some similarity in that the subjects were unaware of being timed on this condition. However, the findings from Series D pose a problem in interpretation. The notion of increased sensitization to male figures would not in itself account for the delayed reaction time in responding to pictures of men. It would appear that the explanation for this phenomena lies in the very dynamics of paranoia itself as propounded by several theorists. Knight (1940) and White (1961) make the case that in paranoia strong ambivalent feelings exist. The paranoid patient both 'loves' men and at the same time 'hates' men. If such reasoning is accurate, it would seem that the paranoid patient, when given a picture of a man and asked to comment about the man, would be placed in a rather intense approach-avoidance situation. This well might be the case for two reasons. The male picture itself might evoke very ambivalent feelings and if viewed in terms of an approach-avoidance situation would produce a longer response latency. A more plausible explanation, however, appears to be related both to the picture itself and to the task demands. The patient was asked to comment about the person depicted in the photograph. If the paranoid patient has strongly ambivalent feelings about men such an assignment would also place him in an approach-avoidance situation which many empirical studies suggest result in a longer response latency (Woodworth and Schlosberg, 1958).

When no such conflict exists, as in the case of responding to female pictures, the response latency for paranoid patients is similar to other groups. If the relationship between the paranoid patient and male figures were merely positive or negative one would not expect a delayed reaction time before responding. It would appear to be evident only in cases where strongly ambivalent feelings existed.

The postulation of an intense but ambivalent emotional attachment to men is also capable of explaining the perceptual sensitization. As noted in Chapter I, many experimenters (Blum, 1954; Parsons, 1958; Postman, 1951) have suggested that the degree of emotional support is related to 'sensitization' regardless of positive or negative connotation.

Another explanation is possible to account for these results. For example, Zamansky (1958) found that paranoid patients looked longer at pictures of men than at women when the patient was unaware he was being examined on this aspect of his behavior. He interpreted this to mean that paranoid patients were attracted to men. The results of this study are consistent with his interpretation, i.e., sensitization to male figures, but such an explanation would not account for the time delay before responding to the picture. If it were merely attraction, the question arises as to why the paranoid patients did not respond readily. A more likely explanation, and one which seems to be more congruent with the theoretical notion about paranoia, is that the delay results from a conflictual approach-avoidance situation. As posited previously, such a notion would account for a delay in responding.

Depression and Perception

In accordance with hypothesis 5, depressive patients reported seeing significantly more of the male-female stereograms as being female than the other groups. This is consonant with both the theoretical data regarding depression and current thinking regarding the influence of motives on perception. As in the case of paranoia, this effect was in evidence only under conditions of diminished structure. When more structure was afforded the depressive patients by giving him more information about the task and by focusing more openly and intently on a supposed problem area for the patient, no difference was found between depressive subjects and the other subjects. The effects of added structure was also in evidence in Series E where depressive patients did not choose significantly more female pictures than male pictures as the ones preferred.

In Series D the depressive group of patients looked significantly longer at pictures of females before responding than at pictures of males when compared with the other three groups. An interpretation of these data follows the reasoning advanced previously for similar data in relation to paranoid schizophrenia. The literature regarding depression is replete with the idea that the female figure is viewed in an intensively ambivalent manner by the depressive patient. Melanie Klein (1947) points out that the female figure is seen as both the "good mother" and the "bad mother." Nacht et al. (1960) state:

In the dynamics of aggression in a neurotic depression an important role is played by the frustrating object, originally maternal, both loved and hated to which the patient is bound by obvious oral fixation (p. 488).

The response latency to female pictures might be explicable when viewed in terms of an approach-avoidance gradient situation. The depressive patient has strongly ambivalent feelings about females and when asked to comment on a picture of a female the response latency might well be due to the fact that he is placed in an approach-avoidance situation. His problem on a concrete level is whether he will say something positive or negative about the picture which, because of his intense ambivalent feelings, it is not something easily accomplished. This results in a delay before a response is made. Many empirical studies indicate that approach-avoidance situations often produce a longer response latency (Woodworth and Schlosberg, 1958).

Another finding in relation to depressed patients should be noted. Depressed patients differ from chronic brain syndrome patients on both the unstructured dimensions (Series A and Series D). This is interesting in light of the fact that chronic brain syndrome patients are characterized as a group as being somewhat depressed (Coleman, 1956). Cameron (1956) also lists depression as the first symptom or sign in evidence in brain tumor cases. This depression usually results from an inability to perform as adequately as they did before due to some difficulty within the central nervous system. One can infer that the depression of the chronic brain syndrome patient is different from the depression of the depressive patient. The loss of function experienced by the chronic brain syndrome patient apparently differs from the loss of a loved object experienced by the depressive patient. Another reason for such a finding might be that the chronic brain syndrome patients are

often quite a heterogeneous group and the results might have been different if this were not the case.

In concluding this section it appears that depressive patients do invest affect in female figures and this is in evidence more in unstructured, disguised situations than in more structured or overt situations.

Symbols and Perception

Theoretical notions indicate that symbols could stand for or represent objects in the external world (Hall, 1958). In light of this, it was hypothesized that paranoid and depressive patients would respond to male and female symbols in a manner similar to the presentation of pictures of men and women in a telebinocular presentation.

Because it was more difficult to achieve good fusion among all of the symbolic stereograms, the subjects' responses had to be broken down into male, female, a combination of male and female, and a response indicating the subject did not know how to resolve what he saw.

Paranoid patients did report seeing significantly more of the fused male and female symbols as being male than the control group and although no significant difference existed between the paranoid group and the other two patient groups the means were in the predicted direction. No difference existed among the four groups in regard to the number of female symbols perceived. Control subjects perceived more of the stereograms as being both male and female than the paranoid group and the chronic brain syndrome group but no difference existed between the control and depressive groups.

The findings regarding the perception of the symbolic stereograms are on the whole unclear. There is some indication that the paranoid patients do tend to see more of the male-female symbols as being male, but the depressive group does not differ from the other groups in regard to the perception of female symbols. The control group saw significantly more of the pictures as being both male and female. This latter finding might give a hint to a possible explanation of the symbolic findings on the whole. One can interpret these results to mean that the patient groups, excluding the depressive group, tended to resolve the ambiguity of the poorly fused stereogram in an either-or manner, that is, they reported one percept rather than two. One could speculate that they took the line of least resistance in this regard. This notion has some validity as it was the examiner's impression that control subjects seemed to see the task in terms of themselves personally and thus wanted to report every nuance of change in order to make a good showing. This was not necessarily the case for the patient groups. A notable exception were the depressed subjects who seemed a little more 'ego involved' and resolved the symbols in terms of their being both male and female and thus differ significantly from the chronic brain syndrome group and the paranoid group.

An interesting finding in regard to the perception of symbols is reflected when the groups are compared on the number of symbols which could not be identified or labeled. A significant difference between the chronic brain syndrome subjects and the other three groups was found. The chronic brain syndrome subjects had difficulty in organizing the fused symbols into a meaningful whole. Such difficulty reflects

their pathology since brain damaged patients traditionally are thought to have difficulty in organizing and conceptualizing their perceptual world particularly if it is ambiguous (Goldstein, 1939; Piotrowski, 1957).

Severity of Illness and Perception

Two of the hypotheses in this study pertained to the severity of the patient's illness and the number of fused pictures he resolved as being male or female. Severity of illness was based on psychiatric ratings. Patients were also rated on dependency and homosexuality. A significant correlation was obtained on only one parameter. Part of this is due to the fact that the patient-psychiatrist ratio in the hospital is very high and as a consequence psychiatrists were unfamiliar with some of the patients. The main contact a psychiatrist would have with a patient would be during the initial diagnostic work up. After this evaluation the psychiatrist's contact with the patient was sometimes rather limited. As a result any conclusions reached from this aspect of the study can only be understood as tentative and subject to further verification.

The one condition on the severity scales which was significant occurred in all of the groups although it was hypothesized for the depressive group only. Patients who were rated as being very depressed saw significantly more females in the unstructured telebinocular presentation. This occurred regardless of whether they were in the depressive, paranoid, or chronic brain syndrome group. One reason for the significant correlation between severity and the number of females seen might be due to the fact that depression is perhaps somewhat easier

to rate than paranoia. If the correlations are valid (there is reason to suspect that they might be since these patients came from several different areas of the hospital and were rated by five different psychiatrists) then it would appear that a depressed person would be more sensitive to women no matter under what psychiatric classification he fell. If this is the case, it would appear that depression, whether transitory or more permanent, is somehow linked to the female figure. It would indicate that when a patient is depressed he is more likely to be sensitive to women. One would have to test such an idea out by repeated telebinocular exposure at varying times in the patient's life. In rating the patients, several psychiatrists pointed out that while a certain patient was paranoid he had been somewhat depressed in recent weeks. It would be interesting to investigate such cases of a space of time.

Effects of Prolonged Telebinocular Exposure

When subjects were exposed to a prolonged telebinocular presentation, fluctuations, or changes, in the perception of the male-female stereograms were more strongly in evidence than when the exposure was much briefer. When the groups were compared on the changes taking place while viewing the male-female stereograms under conditions of prolonged exposure the control group reported more fluctuations taking place than the other three groups. The three patient groups did not differ significantly on this condition. The control group also reported more fluctuations under prolonged exposure of the male-female symbols than the other groups. Once again, no difference existed among the three patient groups.

There appear to be at least two explanations for these results. One explanation is that the patient group as a whole are more rigid in their perception than individuals without gross emotional problems. Hospitalized patients thus might be viewed as more constricted in their perception. Another explanation, which might be more parsimonious, is that in order to assess the fluctuations or changes taking place in the patient's perception, their verbalizations had to be relied upon. Hospitalized patients may not have reported all they saw as did the control group. It has been pointed out previously that the subjects tended to get more 'ego involved' in the task and thus may have been more willing to try to report what their perception consisted of. Perhaps related to this point is the impression gleaned by the examiner that the patient group, particularly the paranoid and chronic brain syndrome patients, became somewhat irritable during the prolonged exposure sequence (Series F, G). When asked if the picture changed they would report that it hadn't and several made remarks to the effect they doubted it would change.

Another important finding was obtained in the prolonged exposure sequence. The groups did not differ on the number of men and women they reported seeing. This is interesting in light of the fact they were viewing the same stereograms they had seen previously in Series A. In Series A the groups did perceive the stereograms differentially but they did not differ in Series F. This seems to imply that structure was still having an effect on the reported perception of the subjects.

Inferences Regarding Personality from Perception of Photographs

The subjects were asked to comment about five pictures of men and five pictures of women regarding the "kind of person the individual in the picture was like." No significant difference existed between the groups in regard to the kind of statements that were made about the person depicted in the photograph regardless of the sex of the individual shown.

The finding lends further credence to the idea that it is difficult to assess components of personality such as homosexuality and dependence without using some kind of disguised device.

Structure, States of Awareness and Perception

In this experiment it was found that paranoid and depressive patients perceive fused pictures of men and women differentially. This difference in perception appears to be related to the amount of structure, information, and overall knowledge the patient has regarding the situation. With increased structure no significant differences occurred between the groups whereas in the unstructured situation differences did exist.

An interpretation of these data might be described under the rubric of 'ego defense.' This is the psychoanalytic notion that the ego prevents the emergence of certain impulses from being expressed in awareness. When the ego becomes aware of the nature of the task and its ramifications, defenses arise which alter the organisms reaction.

The difficulty with this interpretation is that it appears to attribute to the ego an independent existence of its own somewhat apart

from the organism itself. This problem appears to be dealt with the most efficaciously in the work of the 'ego psychologists' (Klein, 1959; Hartmann, 1939; Rapaport, 1951). These writers particularly Klein (1959) avoid making the ego a kind of homunculus preferring to emphasize 'states of awareness.' As outlined in Chapter I, the argument is made that the effect of motives, or in this case emotional investment, on cognitive organization and perceptual functions, varies with states of consciousness. In situations with relatively little structure a person's state of awareness is decidedly different than under more structured conditions.

At the most general level then, the results of this experiment support the heuristic value of the approach of the 'ego psychologists' who seek to relate psychodynamics from psychoanalysis to more traditional approaches of psychology.

Future Research Directions

This study tends to support the growing body of evidence that the telebinocular is a useful technique for studying a wide variety of problems. This technique is particularly effective as the subject is generally unaware that he is influencing the perceptual effects he is observing. In this study very few of the subjects made any reference to the fact that they were actually observing two pictures, especially in the first half of the experiment. They generally attributed the change to something the experimenter was doing or to some such idea that they "didn't get much sleep the night before." Most of the subjects did not comment on the phenomenon.

Since the telebinocular is portable one is not restricted in using it in one location and hence the experimenter is not confined to one place of operation. In using the telebinocular it is important to pay heed to the stereograms used. Considerable time and effort must be used in making sure accurate fusion takes place. The more similar the objects are, the more they will tend to fuse.

Further research possibilities are engendered by this study. The first possibility concerns a replication of this study with female subjects. The theoretical literature on paranoid schizophrenia indicates paranoia is a defense against homosexuality in women also. It follows that female paranoid schizophrenics should report seeing more women in an unstructured telebinocular presentation. Considerable controversy exists in the literature regarding this notion (Bibrung, 1928; De Sauvage, 1924). Klaf (1960), after reviewing the literature, indicates that only two non psychoanalytic cases reported deal with the question of homosexuality and paranoid schizophrenia in women.

Further work should be done with depressive patients, particularly to assess whether or not transitory depression is intimately associated with the female figure. Further work should also be done using the telebinocular with brain damaged patients, especially if descriptive reports could be obtained regarding how they were able to resolve what they were perceiving.

Since the report of perception is so crucial in a study such as this one perhaps some physiological measure could be obtained concomitant with the subject's perception. This perhaps would give some hint to whether defense took place at the level of perceptual report or at the level of perception itself.

CHAPTER VI

SUMMARY AND CONCLUSIONS

The literature regarding paranoid schizophrenia in males indicates that these patients have a strong emotional investment in men. This relationship has been seen variously as due to repressed homosexuality, a general sexual maladjustment, or confused power strivings. Psychoanalytic writers have been the most vocal on the issue and perhaps have the best articulated view on the etiology of paranoia. They maintain that the basis of paranoia is repressed homosexual wishes which are not permitted into consciousness. Regardless of their theoretical position most writers describe an intensive affective bond between paranoid patients and male figures.

In contrast to paranoia, depression is characterized by a strong emotional investment in women. Depression is linked by many writers to the loss of a real or imagined love object which is very much akin to an earlier experience of object loss, particularly the loss of the mother by the child. The patient longs to be taken care of again and wants to assume a dependent role in relation to women. Hostility and aggression toward females also play a prominent role in the dynamics of depression as the mother is seen as both 'good' and 'bad.' An affective investment in females is generally agreed upon by most theorists.

The present study was designed to investigate paranoid schizophrenia and depression within a perceptual-cognitive framework. It was reasoned that if a picture of a man and a picture of a woman were presented simultaneously in stereoscopic fashion the paranoid patient would perceive significantly more pictures of men than non paranoid subjects while depressive patients would perceive significantly more pictures of women. Such findings, it was felt, would be the case only if the subject was unaware of the basic nature of the task and his perception would change with added structure and information. In other words, the patient's reported perception would vary according to his 'knowledge' of the situation. Various psychological explanations such as altered states of awareness and the concept of 'defense' were used to explain why this should occur.

Other hypotheses were set forth which included the notion that the more severe the patient's pathology, the more intense his behavior would be in reporting seeing males if he were paranoid and women if he were depressed. Another hypothesis related to the idea that symbolic representations of men and women would have the same effect on the subject as would the perception of the male-female stereograms.

The apparatus used for examining the phenomenon was the Keystone #46 Telebinocular, a device used in other studies of the same general nature. This apparatus allows simultaneous exposure of two pictures which, if properly placed, will fuse. The subject is typically unaware that he is seeing two pictures and that he is influencing what he perceives.

Four groups of subjects were studied: 20 paranoid schizophrenics, 20 depressives, 20 chronic brain syndrome patients and 20 male employees

of a school for the mentally retarded. The groups were equated on relevant variables. All of the patients were placed in these respective nosological categories after psychiatric examination.

The experimental procedure began with a short form of the Keystone Visual Test in order to ascertain if the subjects had binocular vision and to ascertain if they were able to 'fuse' pictures. If they successfully completed this test the experiment proper began. They were shown ten stereograms consisting of a picture of a man and woman in each stereogram. These stereograms were presented in random order so that a picture of a man or a woman did not always appear in the same position, i.e., always on the left. The subjects were told they would be shown a picture of a person and were asked to "tell something about the person." It was noted whether they resolved the stereogram in terms of it being male or female. This constituted Series A.

The subjects were then shown ten more male-female stereograms in a similar fashion except they were told in this series some of the pictures would be of men and some of women. Once again, their responses were noted. This constituted Series B.

Next the subjects were shown ten stereograms composed of a male symbol and a female symbol in each stereogram. The subjects were asked to relate what they saw. Their responses were noted. This constituted Series C.

In the next series of pictures the telebinocular was placed to one side and the subjects were individually presented five pictures of men and five pictures of women. The subject was handed the picture and asked to tell something about the person in the picture. They were told they could say anything they wanted to about the person depicted in the photograph. The amount of time they looked at the photographs before

responding was recorded. Their verbalizations in regard to the persons were tape recorded. This constituted Series D.

After completing this series all of the ten pictures were placed in front of the subject so that he was able to peruse all of them together. He was then asked to choose two of the pictures which he liked the best. This constituted Series E.

The telebinocular was again used as the subject was shown the first five stereograms of Series A a second time except that he was allowed to look at each stereogram for 60 seconds. Once again he was asked to report what he saw and if there was any change in what he saw as he looked at it. This constituted Series F.

The subjects were then shown the first five stereograms of Series C (symbols) for a period of 60 seconds each and their responses were tape recorded. This constituted Series G.

The findings were:

1. Paranoid schizophrenic patients reported perceiving significantly more of the stereograms in the unstructured telebinocular presentation (Series A) as being male.

2. No difference existed between the reported perception of the paranoid group and the other groups in the structured telebinocular presentation (Series B).

3. Paranoid schizophrenic patients looked significantly longer before responding at individually presented pictures of men than the other three groups (Series D).

4. Paranoid schizophrenic patients did not differ from the chronic brain syndrome patients and the control subjects on the time

spent looking at individually presented pictures of women before responding. Paranoid schizophrenic patients did not differ significantly from the other groups in their choice of two pictures out of ten male and female pictures which they liked the best (Series E).

5. Paranoid schizophrenic patients perceived significantly more of the fused symbols as being a male symbolic object than the control group. The means of the paranoid group were higher than the other patient groups on this condition, but it was not significant (Series C).

6. Depressive patients reported perceiving significantly more of the stereograms in the unstructured telebinocular presentation as being female (Series A).

7. Depressive patients did not differ from the other groups in their perception of the stereograms in the structured telebinocular presentation (Series B).

8. Depressive patients looked significantly longer before responding to individually presented pictures of women than the other three groups (Series D).

9. Depressive patients did not differ from the chronic brain syndrome patients and the control subjects on the time spent looking at individually presented pictures of men before making a response (Series D).

10. A significant correlation was found between severity of depression and the number of females reported perceived in all three patient groups.

11. Control subjects perceived significantly more fluctuations taking place than the other three groups (Series F, G).

12. Control patients resolved significantly more of the male-female symbol stereograms as being both male and female than the para-

noid and chronic brain syndrome groups.

13. Chronic brain syndrome patients differed significantly from the other three groups on being unable to give a name to telebinocularly presented symbols (Series C).

14. No difference existed between the groups on the number of male and female pictures selected as the ones liked best (Series E).

15. No significant difference existed between the groups on the number of symbols perceived as being female.

16. No significant difference existed between the groups on the number of pictures reported perceived as being male under prolonged exposure (Series G).

17. No significant difference existed between the groups in their comments regarding the individually presented pictures of men and women (Series D).

18. The groups did not differ significantly when compared on the amount of dependence displayed in relation to self, men and women and the number of women seen in the unstructured telebinocular presentation.

These findings confirm the hypotheses that paranoid schizophrenic patients have an intense investment of affect in male figures and depressive patients have a strong emotional investment in female figures. This effect is most manifest under conditions of minimal structure. With greater structure either a delayed response or no difference in the perception of male-female stereograms was found.

It is postulated that the affective investment by both groups is not only intense but ambivalent. Such an interpretation could account

for the two main findings: (1) sensitization under conditions of minimal structure (results from intensity of emotional investment) and (2) delayed response under more structured conditions (result of an approach-avoidance conflict situation).

The results of this study also suggest that the patient groups are somewhat rigid in their perception in comparison with a control group. There is also some indication that depression, no matter how transitory, is related to the female figure. These findings also tend to suggest that symbols can stand for or represent male and female figures although more work in this area is needed. The findings of this study also indicate that the telebinocular is a useful device in helping to ascertain certain personality characteristics which may not be amenable to more direct methods.

The findings appear to be congruent with current notions regarding personality and perception in general, and with contemporary ego psychology in particular.

REFERENCES

- Abraham, K. Notes on the psychoanalytical investigation and treatment of manic-depressive insanity and allied conditions. In Selected papers of New York: Basic Books 1953.
- Alderstein, A. The humascope: a modified stereoscope. J. Psychol., 1958, 45, 109-113.
- American Psychiatric Association, Mental Hospital Service. Diagnostic and statistical manual - mental disorders. Washington, D. C.: American Psychiatric Association, 1952.
- Arieti, S. Interpretation of schizophrenia. New York: R. Brunner Co., 1955.
- Arieti, S. Manic depressive psychosis. In S. Arieti (Ed.) American handbook of psychiatry, Vol. 1. New York: Basic Books, 1959, 419-454.
- Arieti, S. (Ed.) American handbook of psychiatry, Vol. 1. New York: Basic Books, 1959.
- Aronson, M. L. A study of the Freudian theory of paranoia by means of the Rorschach test. J. proj. Tech., 1952, 16, 397-411.
- Bach, S. & Klein, G. S. The effects of prolonged subliminal exposure of words. Amer. Psychol., 1957, 30, 397-398.
- Bagby, J. W. A cross-cultural study of perceptual predominance in binocular rivalry. J. abnorm. soc. Psychol., 1957, 54, 331-334.
- Bartlett, F. C. Remembering. Cambridge, England: Cambridge University Press, 1932.
- Beck, A. & Hurvich, M. Psychological correlates of depression. In T. R. Sarbin (Ed.), Studies in behavior pathology. New York: Holt, Rinehart and Winston, 1961, 228-233.
- Becker, E. Toward a comprehensive theory of depression: a cross disciplinary appraisal of objects, games and meaning. J. nerv. ment. Dis., 1962, 135, 1, 26-35.

- Bellek, L. Manic depressive psychosis and allied conditions. New York: Grune & Stratton, 1952.
- Beloff, H. & Beloff, J. Unconscious self evaluating using a stereoscope. J. abnorm. soc. Psychol., 1959, 59, 275-278.
- Bibrung, E. Klinische beitrage zur paranoisfrage. Inter Zeit fur Psychoanal., 1928, 14, 508-517.
- Blake, R. R. & Ramsey, C. V. (Ed.) Perception: an approach to personality. New York: Ronald Press, 1951.
- Blum, G. S. An experimental reunion of psychoanalytic theory with perceptual vigilance and defense. J. abnorm. soc. Psychol., 1954, 49, 94-98.
- Bruner, J. S. Personality dynamics and the process of perceiving. In R. R. Blake & C. V. Ramsey (Ed.), Perception: an approach to personality. New York: Ronald Press, 1951, 121-147.
- Bruner, J. S. (Ed.) Contemporary approaches to cognition. Cambridge: Harvard University Press, 1957.
- Bruner, J. S. & Goodman, C. C. Value and need as organizing factors in perception. J. abnorm. soc. Psychol., 1947, 42, 33-44.
- Bruner, J. S. & Klein, C. S. New look in perception in retrospect. In B. Kaplan and S. Wapner (Ed.), Perspectives in psychological theory. New York: International University Press, 1960.
- Bruner, J. S. & Postman, L. Emotional selectivity in perception and reaction. J. Pars., 1947, 16, 69-77.
- Bullard, D. Psychotherapy of paranoid patients. A. M. A. Arch. Gen. Psychiat., 1960, 2, 137-141.
- Burr, C. W. The biography of a patient with paranoid dementia praecox. Amer. J. Psychiat., 1912, 69, 107-117.
- Bychowski, G. Homosexuality and psychosis. In S. Lorand and M. Balint (Ed.), Perversions - psychodynamics and therapy. New York: Random House, 1956, 97-130.
- Bychowski, G. Symposium on depressive illness, IV. The structure of chronic and latent depressions. Int. J. Psychoanal., 1960, 41, 504-508.
- Cameron, N. The development of paranoid thinking. Psychol. Rev., 1943, 50, 219.

- Cameron, N. Perceptual organization and behavior pathology. In R. R. Blake and C. V. Ramsey (Ed.), Perception: an approach to personality. New York: Ronald Press, 1951, 283-306.
- Cameron, N. Paranoid condition and paranoia. In S. Arieti (Ed.), American handbook of psychiatry, Vol. 1. New York: Basic Books, 1959, 508-539.
- Campbell, J. D. Manic-depressive disease. Philadelphia: J. B. Lippincott Co., 1963.
- Cantril, H. Perception and interpersonal relations. Amer. J. Psychiat., 1957, 114, 119-126.
- Chapman, A. H. & Reese, D. G. Homosexual signs in Rorschachs of early schizophrenics. J. clin. Psychol., 1953, 9, 30-33.
- Cohen, B. D., Serf, Rita, & Huston, P. E. Perceptual accuracy in schizophrenia, depression and neurosis and effects of amytal. J. abnorm. soc. Psychol., 1956, 52, 363-367.
- Cohen, M. B., Baker, G., Cohen, R. A., Fromm-Reichman, Freida, & Weigert, E. An intensive study of twelve cases of manic-depressive psychosis. Psychiat., 1954, 17, 103-137.
- Coleman, J. D. Abnormal psychology (2nd ed.). Chicago: Scott, Foresman Co., 1956.
- Cutler, R. P. & Kurland, H. D. Clinical quantification of depressive reactions. A. M. A. Arch. gen. Psychiat., 1961, 5, 280-285.
- Dahlstrom, W. G. & Prange, A. J. Characteristics of depressive and paranoid schizophrenia reactions on the Minnesota Multiphasic Personality Inventory. J. nerv. ment. Dis., 1960, 131, 513-522.
- Daniels, H. A visual perception laboratory in commercial research. Percept. mot. Skills, 1958, 8, 331-338.
- Daston, P. G. Perception of homosexual words in paranoid schizophrenia. Percept. mot. Skills, 1956, 6, 45-55.
- Daston, P. G., King, G. F. & Armitage, S. G. Distortion in paranoid schizophrenia. J. consult. Psychol., 1953, 17, 50-53.
- Davis, D. R. & Cullen, J. M. Disorganization of perception in neurotics and psychotics. Amer. J. Psychol., 1958, 71, 229-237.
- Davis, J. A. Personality, perceptual defense and stereoscopic presentation. J. abnorm. soc. Psychol., 1959, 56, 398-402.

- De Sauvage, Nolting, W. J. J. Ueber den verfolgungswahn beun bein. Int. Zeit fur Psychoanal., 1924, 10, 300-302.
- Deutsch, Helene. Psychoanalysis of the neuroses. London: Hogarth Press, 1932.
- Draguns, J. G. Responses to cognitive and perceptual ambiguity in chronic and acute schizophrenics. J. abnorm. soc. Psychol., 1963, 1, 24-30.
- Eagle, M. The effects of subliminal stimuli of aggressive content upon conscious cognition. J. Pers., 1959, 27, 578-600.
- Edwards, A. L. Experimental design in psychological research. New York: Holt, Rinehart & Winston, 1962.
- Engel, E. The role of content in binocular resolution. Amer. J. Psychol., 1956, 69, 87-91.
- Engel, E. Binocular methods in psychological research. In F. P. Kilpatrick (Ed.), Explorations in transactional psychology. New York: New York University Press, 1961, 290-305.
- English, H. B. & English, Ava C. Dictionary of psychological and psychoanalytic terms. New York: Longmans, Green Co., 1958.
- Fenichel, O. The psychoanalytic theory of neurosis. New York: Norton Co., 1945.
- Ferenczi, S. Selected papers of New York: Basic Books, Inc., 1955.
- Frenkel-Brunswick, Else. Intolerance of ambiguity as an emotional and perceptual personality variable. J. Pers., 1948, 18, 104-141.
- Freud, Anna, Hartmann, H. & Kris, E. (Ed.) The psychoanalytic study of the child. New York: International University Press, 1945.
- Freud, S. The origins of psychoanalysis letters to Wilhelm Fliess, Drafts and notes: 1887 - 1902. New York: Basic Books, 1957.
- Freud, S. Psychoanalytic notes upon an autobiographical account of a case of paranoia. In Collected papers of . . ., Vol. II. London: Hogarth Press, 1957, 390-470.
- Freud, S. A case of paranoia running counter to the psychoanalytic theory of the disease (1915). In Collected papers of . . ., Vol. II. London: Hogarth Press, 1957, 150-161.
- Freud, S. The psychogenesis of a case of homosexuality in women (1920). In Collected papers of . . ., Vol. II. London: Hogarth Press, 1957, 202-231.

- Freud, S. A note upon the mystic writing pad (1925). In Collected papers of . . ., Vol. V. London: Hogarth Press, 1957, 175-180.
- Freud, S. The collected papers of London: Hogarth Press, 1957, 5 Vols.
- Freud, S. Mourning and melancholia. In J. Rickman and C. Brenner (Ed.), A general selection from the works of Sigmund Freud. Garden City, N. J.: Doubleday Anchor Books, 1957, 124-140.
- Gardner, G. E. Evidences of homosexuality in one hundred and twenty unanalyzed cases with paranoid content. Psychoanal. Rev., 1931, 18, 57-62.
- Gibson, R. The family background and early life experience of the manic-depressive patient. Psychiat., 1958, 1, 21.
- Goldstein, K. The organism: a holistic approach to biology derived from pathological data on man. New York: American Book, 1939.
- Granger, C. W. Personality and visual perception. J. ment. Sci., 1963, 99, 8-43.
- Grauer, D. Homosexuality and the paranoid psychoses as related to the concept of narcissism. Psychoanal. quart., 1955, 24, 516-526.
- Grinker, R. R., Miller, J., Sabshin, M., Nunn, R., & Nunnally, J. D. The phenomena of depression. New York: Harper Brothers, 1961.
- Guthell, E. A. Reactive depressions. In S. Arieti (Ed.), American handbook of psychiatry, Vol. I. New York: Basic Books, 1959, 345-352.
- Hall, C. S. A cognitive theory of dream symbols. In C. F. Reed, I. E. Alexander & S. S. Tomkins (Ed.), Psychopathology: a source book. Cambridge: Harvard University Press, 1958, 258-274.
- Hamilton, M. A rating scale for depression. J. neurol. neurosurg. Psychiat., 1960, 23, 56.
- Harnik, J. Introjection and projection in the mechanism of depression. International J. Psychoanal., 1932, 13, 425.
- Hartmann, H. Ego psychology and the problem of adaption. New York: International University Press, 1960.
- Hastorf, A. H. & Myro, G. The effect of meaning on binocular rivalry. Amer. J. Psychol., 1959, 72, 393-400.
- Henderson, D. K. & Batchelor, I. Henderson and Gillespies textbook of psychiatry. London: Oxford University Press, 1962.

- Hinsie, L. & Campbell, R. Psychiatric dictionary (3rd ed.). New York: Oxford University Press, 1960.
- Hoch, P. & Zubin, J. (Ed.) Depression. New York: Grune & Stratton, 1954.
- Hollingshead, A. S. & Redlich, F. C. Social classes and mental illness. New York: Wiley, 1958.
- Ittelson, W. H. Perceptual theory and personality dynamics. In W. H. Ittelson and S. B. Kutash (Ed.), Perceptual changes in psychopathology. New Brunswick, N. J.: Rutgers University Press, 1961.
- Ittelson, W. H. & Kutash, S. B. (Ed.) Perceptual changes in psychopathology. New Brunswick, N. J.: Rutgers University Press, 1961.
- Ittelson, W. H. & Slack, C. W. The perception of persons as visual objects. In R. Tagiuri & L. Petrullo (Ed.), Person perception and interpersonal behavior. Stanford: Stanford University Press, 1958.
- Izard, C. E. Paranoid schizophrenia and normal subjects perceptions of photographs of human faces. J. consult. Psychol., 1959, 23, 119-124.
- Jones, E. Papers on psychoanalysis. London: Bailliere, Tindall and Co., 1923.
- Kaplan, B. & Wapner, S. Perspectives in psychological theory: essays in honor of Heinz Werner. New York: International University Press, 1960.
- Kaufer, G. & Riess, G. F. Stereoscopic perception as a tool in psychotherapeutic research. Percept. mot. Skills, 1960, 10, 241-242.
- Kilpatrick, F. P. (Ed.) Human behavior from the transactional point of view. Princeton: Institute for Associational Research, 1952.
- Klaf, F. S. & Davis, C. A. Homosexuality and paranoid schizophrenia: a survey of 150 cases and controls. Amer. J. Psychiat., 1960, 116, 1070-1075.
- Klein, G. S. The personal world through perception. In R. R. Blake & G. V. Ramsey (Ed.), Perception: an approach to personality. New York: Ronald Press, 1951, 328-355.
- Klein, G. S. Consciousness in psychoanalytic theory, some implications for current research in perception. J. Amer. Psychoanal. Ass., 1959, 7, 5-34.
- Klein, G. S., Spence, D. P., Holt, R. R. & Gourevitch, S. Cognition without awareness: subliminal influence upon conscious thought. J. abnorm. soc. Psychol., 1958, 57, 255-266.

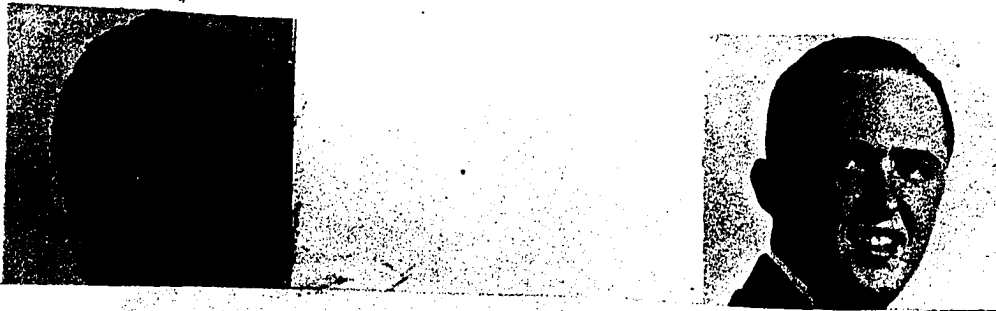
- Klein, H. R. & Horwitz, W. A. Psychosexual factors in the paranoid phenomena. Amer. J. Psychiat., 1949, 105, 697-701.
- Klein, Melanie. Notes on some schizoid mechanisms. Int. J. Psychoanal., 1946, 27.
- Klein, Melanie. Symposium on depressive illness, V. A note on depression in the schizophrenic. Int. J. Psychoanal., 1960, 41, 509-511.
- Knight, R. The relationship of latent homosexuality to the mechanism of paranoid delusions. Bull. Menninger Clin., 1940, 4, 149-159.
- Kohn, H. Some personality variables associated with binocular rivalry. Psychol. Rev., 1960, 10, 9-13.
- Kraines, S. H. Mental depressions and their treatment. New York: Macmillan Co., 1957.
- Kutash, S. G. Perceptual flexibility and mental health. In W. H. Ittelson and S. B. Kutash (Ed.), Perceptual changes in psychopathology. New Brunswick, N. J.: Rutgers University Press, 1961, 19-35.
- Lichtenberg, P. A definition and analysis of depression. A. M. A. Arch. neurol. Psychiat., 1957, 77, 519.
- Lo Scivto, L. & Hartley, E. Religious affiliation and open mindedness in binocular resolution. Percept. mot. Skills, 1963, 17, 427-430.
- Lorand, S. & Balint, M. Perversions: psychodynamics and therapy. New York: Random House, 1956.
- MacAlpine, I. & Hunter, R. The Shreber case. Psychoanal. Quart., 1955, 22, 328-371.
- Miller, C. W. The paranoid syndrome. Arch. neurol. Psychiat., 1941, 45, 953-963.
- Miller, J. G. Unconscious processes and perception. In R. R. Blake and G. V. Ramsey (Ed.), Perception: an approach to personality. New York: Ronald Press, 1951.
- Modlin, H. C. Psychodynamics and management of paranoid states in women. Arch. gen. Psychiat., 1963, 8, 3.
- Nacht, S. & Racamier, P. C. Symposium on depressive illness II, depressive states. Int. J. Psychoanal., 1960, 41, 481-496.
- Norman, J. Q. Evidence and clinical significance of homosexuality in 100 unanalyzed cases of dementia praecox. J. nerv. ment. Dis., 1948, 107, 484.

- Noyes, A. Modern clinical psychiatry (3rd ed.). Philadelphia: W. B. Saunders Co., 1949.
- Ovesey, L. The homosexual conflict: adaptational analysis. Psychiat., 1954, 17, 245-250.
- Ovesey, L. The pseudohomosexual anxiety. Psychiat., 1956, 18, 17-25.
- Ovesey, L. Pseudohomosexuality, the paranoid mechanism and paranoia: an adaptational revision of classical Freudian theory. Psychiat., 1955, 18, 163-173.
- Parsons, O. A. Status need and performance under failure. J. Pers., 1958, 26, 123-138.
- Payne, C. R. Freudian contributions to the paranoia problem. Psychoanal. Rev., 1913, 1, 93-100.
- Pettigrew, T. F., Allport, G. W. & Barnett, E. D. Binocular resolution and perception of race in South Africa. Brit. J. Psychol., 1958, 49, 265-278.
- Piotrowski, Z. A. Perceptanalysis. New York: MacMillan Co., 1957.
- Planansky, K. & Johnson, R. The incidence and relationship of homosexuality and paranoid features in schizophrenia. J. ment. Sci., 1962, 108, (456), 604-615.
- Postman, L., Bruner, J. S., & McGinnies, E. M. Personal values as selective factors in perception. J. abnorm. soc. Psychol., 1948, 43, 142-154.
- Rado, S. Psychoanalysis of behavior. New York: Grune & Stratton, 1956.
- Rapaport, D. Cognition, cognitive organization and consciousness. In J. S. Bruner (Ed.), Contemporary approaches to cognition. Cambridge: Harvard University Press, 1957.
- Rosenfeld, H. Symposium on depressive illness VI, a note on the precipitating factor. Int. J. Psychoanal., 1960, 41, 512-513.
- Roth, M. Depressive states and their borderlands: classification, diagnosis and treatment. Comprehen. Psychiat., 1960, 1, 135.
- Salzman, L. Paranoid state - theory and therapy. A. M. A. Arch. gen. Psychiat., 1960, 2, 679-693.
- Schreber, D. P. Memoirs of my mental illness. I. MacAlpine & R. A. Hunter (trans.). London: Dawson Co., 1955.
- Schwartz, D. A. A review of the 'paranoid' concept. A. M. A. Arch. gen. Psychiat., 1963, 8, 349-361.

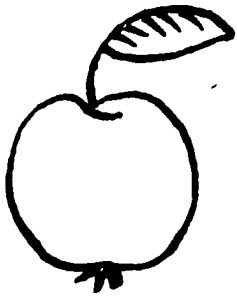
- Scott, W. C. M. A psychoanalytic concept of the origin of depression. Brit. med. J., 1948, 1, 538-540.
- Scott, W. C. M. Symposium on depressive illness III, depression, confusion and multivalence. Int. J. Psychoanal., 1960, 51, 497-503.
- Sherif, M. & Sherif, Carolyn. An outline of social psychology. New York: Harper & Brothers, 1956.
- Spence, D. P. The multiple effects of subliminal stimuli. J. Pers., 1961, 29, 40-53.
- Spence, D. P. Conscious and preconscious influences on recall: another example of the restricting effects of awareness. J. abnorm. soc. Psychol., 1964, 68, 92-99.
- Spence, D. P. & Holland, B. The restricting effects of awareness: a paradox and explanation. J. abnorm. soc. Psychol., 1962, 64, 163-174.
- Spitz, R. Hospitalism. An inquiry into the genesis of psychiatric conditions in early childhood. In Anna Freud, H. Hartmann, & E. Kris (Ed.), The psychoanalytic study of the child, 1954, 53-74.
- Starcke, A. The reversal of the libido sign in delusions of persecution. Int. J. Psychoanal., 1920, 1, 235-239.
- Sternlof, R. E. Paranoid schizophrenia and homosexuality: telebinocular findings. Paper read at Oklahoma State Psychological Association, Oklahoma City, October, 1963.
- Sullivan, H. S. Conceptions of modern psychiatry. Washington: William Alanson White Foundation, 1947.
- Sullivan, H. S. The interpersonal theory of psychiatry. New York: Norton Co., 1953.
- Tagiuri, R. & Petrullo, L. Person perception and interpersonal behavior. Stanford: Stanford University Press, 1958.
- Thompson, Clara. Changing concepts of homosexuality in psychoanalysis. Psychiat., 1947, 10, 183-189.
- Toch, H. H. & Schults, R. Readiness to perceive violence as a result of police training. Brit. J. Psychol., 1961, 52, 389-393.
- Tomkins, S. S. (Ed.) Psychopathology: a source book. Cambridge: Harvard University Press, 1958, 258-274.
- Van de Castle, R. L. Perceptual defense in a binocular rivalry situation. J. Pers., 1960, 28, 448-462.

- Walters, O. A methodological critique of Freud's Shreber analysis. Psychoanal. Rev., 1955, 42, 321-342.
- Weiss, E. Clinical aspects of depression. Psychoanal. Quart., 1944, 13, 445.
- White, R. The mother conflict in Schreber's psychosis. Int. J. Psychoanal., 1961, 42, 55-73.
- Wiederman, G. H. Survey of psychoanalytic literature on overt male homosexuality. J. Amer. Psychoanal. Ass., 1962, 10, 386-409.
- Winchester, T. Binocular rivalry and prejudice. Unpublished Ph.D. dissertation, Denver University, 1960.
- Woodworth, R. S. & Schlosberg, H. Experimental psychology. New York: Henry Holt, 1950.
- Zamansky, H. S. An investigation of the psychoanalytic theory of paranoid delusions. J. Pers., 1958, 26, 410-425.
- Zeichner, A. Psychosexual identification in paranoid schizophrenia. J. Proj. Tech., 1955, 19, 67-77.
- Zeichner, A. Conception of masculine and feminine roles in paranoid schizophrenia. J. Proj. Tech., 1956, 20, 348-354.
- Zilborg, G. A history of medical psychology. New York: W. W. Norton Co., 1941.

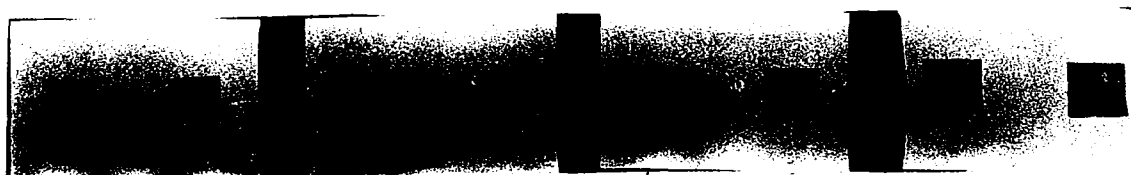
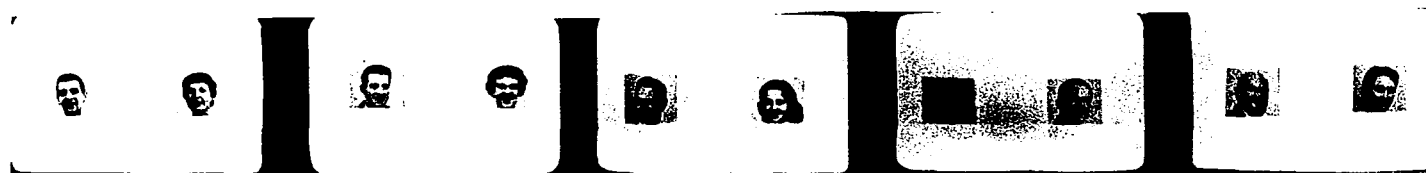
APPENDIX A. SAMPLE STEREOGRAMS AND TARGET STIMULI



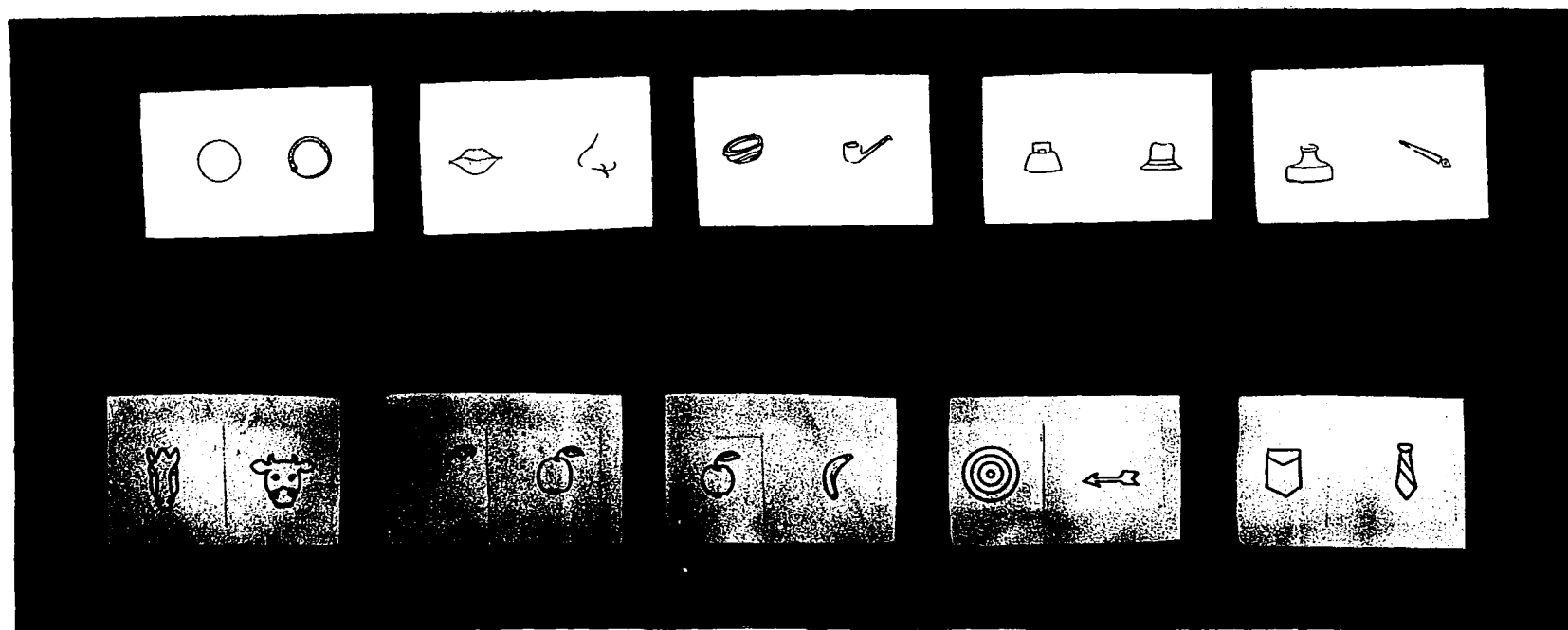
SAMPLE MALE-FEMALE STEREOGRAM



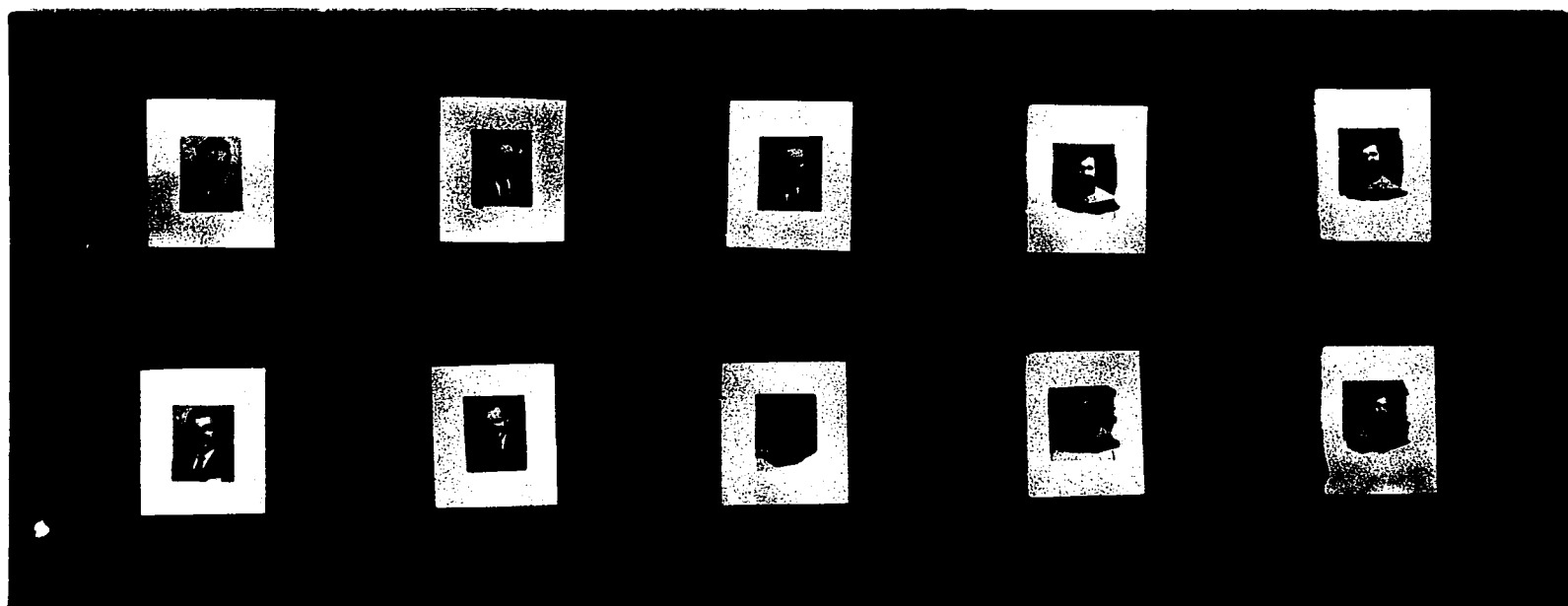
SAMPLE MALE-FEMALE SYMBOLIC STEREOGRAM



TARGET MALE-FEMALE STEREOGRAMS



TARGET SYMBOLIC MALE-FEMALE STEREOGRAMS



INDIVIDUALLY PRESENTED PICTURES OF MEN AND WOMEN

APPENDIX B. DUNCAN'S NEW MULTIPLE RANGE TEST
SUPPLEMENTARY ANALYSIS OF VARIANCE
INTER-RATER RELIABILITY RATINGS
SUPPLEMENTARY t TESTS
SUPPLEMENTARY PRODUCT MOMENT CORRELATIONS

DUNCAN'S NEW MULTIPLE RANGE TEST: NUMBER OF MALE PICTURES SEEN
IN THE UNSTRUCTURED TELEBINOCULAR PRESENTATION (SERIES A)

	Depressed	C. B. S	Control	Paranoid	p	.01
	3.55	4.20	4.25	6.85		
3.55		.65	.70	3.30	R ₂	.402
4.20			.05	2.65	R ₃	.419
4.25				2.60	R ₄	.413

DUNCAN'S NEW MULTIPLE RANGE TEST: NUMBER OF MALE PICTURES SEEN
IN THE STRUCTURED TELEBINOCULAR PRESENTATION (SERIES B)

	Depressed	Paranoid	C. B. S.	Control	p	.01
	4.25	4.45	4.60	4.95		
4.25			.35	.70	R ₂	1.09
4.45				.50	R ₃	1.14
4.60				.35	R ₄	1.17

DUNCAN'S NEW MULTIPLE RANGE TEST: TIME TAKEN TO RESPOND TO
INDIVIDUALLY PRESENTED PICTURES OF MEN (SERIES D)

	C. B. S.	Control	Depressed	Paranoid	p	.01
	4.30	4.63	4.93	8.04		
4.30		.33	.63	3.74	R ₂	1.90
4.63			.30	3.41	R ₃	2.06
4.93				3.11	R ₄	2.12

DUNCAN'S NEW MULTIPLE RANGE TEST: TIME TAKEN TO RESPOND TO
INDIVIDUALLY PRESENTED PICTURES OF WOMEN (SERIES D)

	Paranoid	C. B. S.	Control	Depressed	p	.01
	4.37	4.59	5.17	7.45		
4.37		.22	.80	3.09	R ₂	2.27
4.59			.58	2.87	R ₃	2.37
5.17				2.29	R ₄	2.43

DUNCAN'S NEW MULTIPLE RANGE TEST: NUMBER OF MALE SYMBOLS
SEEN IN TELEBINOCULAR PRESENTATION (SERIES C)

	Control	C. B. S.	Depressed	Paranoid	p	.01
	1.00	1.80	1.80	2.26		
1.00		.80	.80	1.25	R ₂	1.14
1.80				.45	R ₃	1.19
1.80				.45	R ₄	1.23

DUNCAN'S NEW MULTIPLE RANGE TEST: NUMBER OF FEMALE SYMBOLS
SEEN IN TELEBINOCULAR PRESENTATION (SERIES C)

	C. B. S.	Control	Depressed	Paranoid	p	.01
	2.95	3.05	3.15	3.25		
2.95		.10	.20	.30	R ₂	1.05
3.05			.10	.20	R ₃	1.12
3.15				.10	R ₄	1.15

DUNCAN'S NEW MULTIPLE RANGE TEST: NUMBER OF SYMBOLS SEEN
AS A COMBINATION OF MALE AND FEMALE (SERIES C)

	C. B. S.	Paranoid	Depressed	Control	p	.01
	2.95	3.45	4.40	5.45		
2.95		.50	1.45	2.50	R ₂	1.72
3.45			.95	2.00	R ₃	1.79
4.40				1.05	R ₄	1.04

DUNCAN'S NEW MULTIPLE RANGE TEST: NUMBER OF SYMBOLS WHICH
WERE NOT IDENTIFIABLE (SERIES C)

	Control	Depressed	Paranoid	C. B. S.	p	.01
	.50	.65	1.05	2.30		
.50		.15	.55	1.80	R ₂	1.26
.65			.40	1.65	R ₃	1.31
1.05				1.25	R ₄	1.36

DUNCAN'S NEW MULTIPLE RANGE TEST: NUMBER OF FLUCTUATIONS SEEN
IN PROLONGED STEREOSCOPIC PRESENTATION (SERIES F)

	C. B. S.	Depressed	Paranoid	Control	p	.01
	.95	1.65	1.75	3.50		
.95		.70	.80	2.55	R ₂	1.26
1.65			.10	1.85	R ₃	1.31
1.75				1.75	R ₄	1.35

DUNCAN'S NEW MULTIPLE RANGE TEST: NUMBER OF FLUCTUATIONS SEEN
IN PROLONGED STEREOSCOPIC PRESENTATION (SERIES G)

C. B. S.	Paranoid	Depressed	Control	p	.01
.55	.63	1.06	1.94		
.55		.51	1.39	R ₂	.80
.63		.43	1.31	R ₃	.83
1.06			.88	R ₄	.85

DUNCAN'S NEW MULTIPLE RANGE TEST: NUMBER OF MALES SEEN IN THE
FIRST FIVE TELEBINOCULAR PRESENTATIONS (SERIES A)

Depressed	C. B. S.	Control	Paranoid	p	.01
1.70	1.90	2.00	3.30		
1.70	.20	.30	1.60	R ₂	1.23
1.90		.10	1.40	R ₃	1.28
2.00			1.30	R ₄	1.31

DUNCAN'S NEW MULTIPLE RANGE TEST: NUMBER OF MALES SEEN IN THE
FIRST FIVE TELEBINOCULAR PRESENTATIONS (SERIES F)

C. B. S.	Depressed	Control	Paranoid	p	.01
2.30	2.60	2.90	3.00		
2.30	.30	.60	.70	R ₂	.91
2.60		.30	.40	R ₃	.95
2.90			.10	R ₄	.99

ANALYSIS OF VARIANCE (SUPPLEMENTARY): NUMBER OF NEUTRAL STATEMENTS
MADE CONCERNING INDIVIDUALLY PRESENTED PICTURES OF FEMALES

Source	<u>d.f.</u>	SS	MS	F	<u>p</u>
Total	75	323.30			
Among Means	3	15.79	5.26	1.23	--
Within Conditions	72	307.41	4.27		

ANALYSIS OF VARIANCE (SUPPLEMENTARY): NUMBER OF AMBIVALENT STATEMENTS
MADE CONCERNING INDIVIDUALLY PRESENTED PICTURES OF FEMALES

Source	<u>d.f.</u>	SS	MS	F	<u>p</u>
Total	75	20.78			
Among Means	3	1.27	.42	1.56	--
Within Conditions	72	19.51	.27		

ANALYSIS OF VARIANCE (SUPPLEMENTARY): NUMBER OF POSITIVE STATEMENTS
MADE CONCERNING INDIVIDUALLY PRESENTED PICTURES OF FEMALES

Source	<u>d.f.</u>	SS	MS	F	<u>p</u>
Total	75	224.74			
Among Means	3	7.24	2.41	.79	--
Within Conditions	72	217.50	3.02		

ANALYSIS OF VARIANCE (SUPPLEMENTARY): NUMBER OF NEGATIVE STATEMENTS
MADE CONCERNING INDIVIDUALLY PRESENTED PICTURES OF FEMALES

Source	<u>d.f.</u>	SS	MS	F	<u>p</u>
Total	75	38.42			
Among Means	3	1.00	.33	.63	--
Within Conditions	72	37.42	.52		

ANALYSIS OF VARIANCE (SUPPLEMENTARY): NUMBER OF NEUTRAL STATEMENTS
MADE CONCERNING INDIVIDUALLY PRESENTED PICTURES OF MALES

Source	<u>d.f.</u>	SS	MS	F	<u>p</u>
Total	75	282.99			
Among Means	3	7.71	2.57	.67	--
Within Conditions	72	275.28	3.82		

ANALYSIS OF VARIANCE (SUPPLEMENTARY): NUMBER OF AMBIVALENT STATEMENTS
MADE CONCERNING INDIVIDUALLY PRESENTED PICTURES OF MEN

Source	<u>d.f.</u>	SS	MS	F	<u>p</u>
Total	75	22.68			
Among Means	3	.20	.07	2.13	--
Within Conditions	72	22.48	.31		

ANALYSIS OF VARIANCE (SUPPLEMENTARY): NUMBER OF POSITIVE STATEMENTS
MADE CONCERNING INDIVIDUALLY PRESENTED PICTURES OF MALES

Source	<u>d.f.</u>	SS	MS	F	<u>p</u>
Total	75	241.41			
Among Means	3	3.96	1.32	.40	--
Within Conditions	72	237.45	3.30		

ANALYSIS OF VARIANCE (SUPPLEMENTARY): NUMBER OF NEGATIVE STATEMENTS
MADE CONCERNING INDIVIDUALLY PRESENTED PICTURES OF MALES

Source	<u>d.f.</u>	SS	MS	F	<u>p</u>
Total	75	21.74			
Among Means	3	1.97	.66	2.44	--
Within Conditions	72	19.77	.27		

ANALYSIS OF VARIANCE (SUPPLEMENTARY): NUMBER OF SYMBOLS
PERCEIVED AS MALE IN SERIES G

Source	<u>d.f.</u>	SS	MS	F	<u>p</u>
Total	75	30.53			
Among Means	3	.92	.31	.74	--
Within Conditions	72	29.61	.41		

ANALYSIS OF VARIANCE (SUPPLEMENTARY): NUMBER OF SYMBOLS
PERCEIVED AS FEMALE IN SERIES G

Source	<u>d.f.</u>	SS	MS	F	<u>p</u>
Total	75	82.95			
Among Means	3	7.45	2.48	2.36	--
Within Conditions	72	75.50	1.05		

ANALYSIS OF VARIANCE (SUPPLEMENTARY): NUMBER OF SYMBOLS
PERCEIVED AS MALE-FEMALE IN SERIES G

Source	<u>d.f.</u>	SS	MS	F	<u>p</u>
Total	75	130.11			
Among Means	3	7.28	2.43	1.42	
Within Conditions	72	122.83	1.71		

ANALYSIS OF VARIANCE (SUPPLEMENTARY): NUMBER OF SYMBOLS
WHICH WERE NOT IDENTIFIABLE IN SERIES G

Source	<u>d.f.</u>	SS	MS	F	<u>p</u>
Total	75	14.63			
Among Means	3	.11	.37	1.85	--
Within Conditions	72	14.52	.20		

INTER-RATER RELIABILITY ON KIND AND NUMBER OF SYMBOLS PERCEIVED
IN SERIES G (PERCENT OF TOTAL AGREEMENT)

	Rater B	Rater C
Rater A	.91	.93
Rater B		.91

INTER-RATER RELIABILITY ON KIND AND NUMBER OF STATEMENTS MADE
CONCERNING INDIVIDUALLY PRESENTED PICTURES OF FEMALES
(PERCENT OF TOTAL AGREEMENT)

	Rater B	Rater C
Rater A	.87	.93
Rater B		.84

INTER-RATER RELIABILITY ON KIND AND NUMBER OF STATEMENTS MADE
CONCERNING INDIVIDUALLY PRESENTED PICTURES OF MALES
(PERCENT OF TOTAL AGREEMENT)

	Rater B	Rater C
Rater A	.78	.89
Rater B		.87

INTER-RATER RELIABILITY ON THE NUMBER OF FLUCTUATIONS OCCURRING
IN SERIES F (PERCENT OF TOTAL AGREEMENT)

	Rater B	Rater C
Rater A	.75	.84
Rater B		.90

INTER-RATER RELIABILITY ON THE NUMBER AND KIND OF SYMBOLS PERCEIVED
IN SERIES C (PERCENT OF TOTAL AGREEMENT)

	Rater B	Rater C
Rater A	.82	.77
Rater B		.83

MEANS, STANDARD DEVIATIONS, AND *t* TESTS ON THE NUMBER OF MALES SEEN
IN SERIES A BETWEEN MARRIED AND SINGLE SUBJECTS

Group		Married	Single	<i>t</i>	<i>p</i>
Paranoid	Mean	7.60	6.70	4.41	.001
	S. D.	1.24	.99		
Depressive	Mean	3.71	3.17	.86	--
	S. D.	1.24	1.07		
Chronic Brain Syndrome	Mean	4.28	4.15	.27	--
	S. D.	.28	1.03		
Control	Mean	4.15	4.43	1.93	--
	S. D.	1.03	2.29		

MEANS, STANDARD DEVIATIONS, AND *t* TESTS ON THE AMOUNT OF TIME SPENT
LOOKING AT PICTURES OF MALES BETWEEN MARRIED AND
SINGLE SUBJECTS (SERIES D)

Group		Married	Single	<i>t</i>	<i>p</i>
Paranoid	Mean	7.10	8.20	1.60	--
	S. D.	.19	3.77		
Depressive	Mean	4.88	5.03	.01	--
	S. D.	1.95	2.92		
Chronic Brain Syndrome	Mean	4.80	4.02	1.40	--
	S. D.	1.40	.32		
Control	Mean	4.46	4.94	.79	--
	S. D.	1.28	1.14		

MEANS, STANDARD DEVIATIONS, AND *t* TESTS ON THE AMOUNT OF TIME SPENT
LOOKING AT PICTURES OF FEMALES BETWEEN MARRIED AND
SINGLE SUBJECTS (SERIES D)

Group		Married	Single	<i>t</i>	<i>p</i>
Paranoid	Mean	3.73	4.48	2.07	--
	S. D.	.21	1.98		
Depressive	Mean	7.90	6.40	.76	--
	S. D.	4.47	1.62		
Chronic Brain Syndrome	Mean	5.26	4.23	1.22	--
	S. D.	2.35	1.22		
Control	Mean	4.94	5.60	.73	--
	S. D.	2.00	1.47		

PRODUCT MOMENT CORRELATIONS BETWEEN SEVERITY OF PARANOIA, DEPRESSION,
DEPENDENCY VARIABLES AND THE AMOUNT OF TIME TAKEN BEFORE
RESPONDING TO PICTURES OF MALES AND FEMALES (SERIES D)

Variable	Paranoid r	Depressive r	C. B. S. r
Severity of paranoia compared with the amount of time spent looking at pictures of men.	.31	-.48	-.23
Severity of depression compared with the amount of time spent looking at pictures of women.	-.17	.42	-.21
Amount of dependence displayed compared with the amount of time spent looking at pictures of women.	-.05	-.09	-.21
Amount of dependence displayed toward women compared with the amount of time spent looking at pictures of women.	-.06	-.01	.23
Amount of dependence displayed toward men compared with the amount of time spent looking at pictures of men.	.01	-.25	-.08

APPENDIX C. SAMPLE RATING SCALES

SAMPLE PSYCHIATRIC RATING SCALE FOR SEVERITY
OF PARANOIA AND DEPRESSION

To:

I would appreciate it if you would rate the following patient,
_____, as to how severe you
think his depression is. 7 indicates that, in your judgment, he is
very depressed and 1 indicates that he is not very depressed, with
the intervening points indicating various degrees of severity.

Degree of Severity of Depression

1 2 3 4 5 6 7

Would you now rate the same patient, _____,
as to how severe you think his paranoia is. 7 indicates that, in your
judgment he is very paranoid and 1 indicates that he is not very para-
noid, with the intervening points indicating various degrees of severity.

Degree of Severity of Paranoia

1 2 3 4 5 6 7

Thanks,

Dick Sternlof

SAMPLE PSYCHIATRIC RATING SCALE FOR
AMOUNT OF HOMOSEXUAL CONCERN

Please rate the following patient, _____,
as to the amount of homosexual concern he displays. 7 indicates that
he has considerable homosexual preoccupation while 1 indicates little
homosexual concern with the corresponding points indicating various
degrees of homosexual concern. Circle the number which seems most
applicable to the patient.

1 2 3 4 5 6 7

Now, please rate the amount of projected homosexual concern the
patient exhibits, i.e. sees others as homosexual or believes that
others see him as homosexual. 1 indicates that he projects very little
homosexuality, while 7 indicates that the patient projects considerable
homosexuality to others.

1 2 3 4 5 6 7

Now please rate the amount of homosexual concern the patient
exhibits in regard to himself. (Does he think he is a homosexual?)
1 indicates very little homosexual preoccupation in regard to himself
while 7 indicates considerable homosexual preoccupation in regard to
himself.

1 2 3 4 5 6 7

SAMPLE RATING SCALE FOR AMOUNT OF
DEPENDENCE DISPLAYED

Please rate the following patient, _____,
as to the amount of dependence he displays. 7 indicates that he is a
very dependent person while 1 indicates that he is not very dependent
with the intervening points representing varying degrees of dependence.
Circle the number which seems the most applicable to the patient.

1 2 3 4 5 6 7

Now, please rate the amount of dependence the patient directs
toward women. 1 indicates that he is not very dependent on women,
while 7 indicates that the patient is very dependent on women.

1 2 3 4 5 6 7

Now please rate the amount of dependence the patient directs
toward men. 1 indicates that he is not very dependent on men, while
7 indicates the patient is very dependent on men.

1 2 3 4 5 6 7

Thank you,

Dick Sternlof

APPENDIX D. INDIVIDUAL SCORES (RAW DATA)

INDIVIDUAL SCORES ON SERIES A, SERIES B, AND SERIES C

SUBJECT NO.	SERIES A Unstructured		SERIES B Structured		SERIES C Symbols			
	M	F	M	F	M	F	MF	DK
Paranoid Subjects								
1	9	1	3	7	1	1	8	0
2	8	2	4	6	3	4	3	0
3	6	4	3	7	4	5	0	1
4	6	4	2	8	3	4	2	1
5	6	4	2	8	3	4	2	1
6	6	4	5	5	3	2	4	1
7	9	1	7	3	3	1	4	2
8	7	3	5	5	3	2	5	0
9	8	2	6	4	3	2	4	1
10	6	4	5	5	3	5	2	0
11	7	3	4	6	2	3	2	3
12	6	4	4	6	4	4	1	1
13	6	4	3	7	0	5	5	0
14	9	1	6	4	3	4	3	0
15	6	4	2	8	0	4	2	4
16	6	4	7	3	0	3	2	5
17	6	4	5	5	1	3	6	0
18	7	3	7	3	0	4	6	0
19	7	3	3	7	2	2	5	1
20	6	4	6	4	4	3	3	0
Depressed Subjects								
21	6	4	5	5	2	5	3	0
22	4	6	6	4	2	2	6	0
23	2	8	4	6	3	2	4	1
24	5	5	3	7	3	3	4	0
25	5	5	6	4	2	2	4	2
26	3	7	3	7	0	2	7	1

INDIVIDUAL SCORES ON SERIES A, B, AND C - Cont.

SUBJECT NO.	SERIES A		SERIES B		SERIES C			
	M	F	M	F	M	F	MF	DK
27	3	7	6	4	4	2	4	0
28	5	5	2	8	0	1	9	0
29	4	6	4	6	1	5	3	1
30	2	8	2	8	4	3	1	2
31	3	7	6	4	2	3	5	0
32	3	7	3	7	1	5	4	0
33	4	6	5	5	5	2	1	2
34	1	9	1	9	0	4	2	4
35	3	7	4	6	1	5	4	0
36	2	8	6	4	2	6	2	0
37	3	7	4	6	0	3	7	0
38	5	5	6	4	0	2	8	0
39	4	6	5	5	3	3	4	0
40	4	6	4	6	1	3	6	0
Chronic Brain Syndrome Subjects								
41	5	5	5	5	1	3	6	0
42	5	5	4	6	1	2	7	0
43	3	7	6	4	0	4	6	0
44	4	6	3	7	3	2	3	2
45	4	6	5	5	4	4	2	0
46	5	5	3	7	3	3	4	0
47	4	6	3	7	4	2	4	0
48	5	5	5	5	5	2	0	3
49	6	4	7	3	1	1	4	4
50	3	7	2	8	0	3	2	5
51	4	6	5	5	1	2	1	6
52	3	7	3	7	0	3	4	3
53	5	5	2	8	1	4	3	2
54	3	7	5	5	2	3	3	2

INDIVIDUAL SCORES ON SERIES A, B, AND C - Cont.

SUBJECT NO.	SERIES A		SERIES B		SERIES C			
	M	F	M	F	M	F	MF	DK
55	2	8	6	4	0	3	4	3
56	4	6	5	5	1	1	1	7
57	5	5	6	4	3	5	0	2
58	4	6	6	4	2	4	3	1
59	5	5	6	4	3	4	2	1
60	5	5	5	5	1	4	0	5
Control Subjects								
61	5	5	5	5	0	3	7	0
62	5	5	4	6	0	3	7	0
63	3	7	6	4	1	4	4	1
64	4	6	3	7	0	3	7	0
65	4	6	5	5	1	5	4	0
66	5	5	3	7	2	3	5	0
67	4	6	3	7	1	3	5	1
68	5	5	5	5	0	6	4	0
69	6	4	7	3	1	3	6	0
70	3	7	2	8	1	4	5	0
71	4	6	5	5	2	1	5	2
72	3	7	3	7	0	0	10	0
73	5	5	2	8	1	2	7	0
74	3	7	5	5	1	4	5	0
75	2	8	6	4	0	3	4	3
76	4	6	5	5	1	3	5	1
77	5	5	6	4	4	4	2	0
78	4	6	6	4	2	4	2	2
79	5	5	6	4	1	2	7	0
80	5	5	5	5	1	1	8	0

INDIVIDUAL SCORES ON SERIES D AND SERIES E

SUBJECT NO.	Time		SERIES D Statements Re Males				Statements Re Females				SERIES E Choice	
	M	F	P	N	A	NT	P	N	A	NT	M	F

Paranoid Subjects												
1	16.4	5.8	1	0	4	1	1	0	3	1	1	1
2	4.0	2.6	2	1	0	2	0	0	0	5	1	1
3	5.4	3.2	0	0	0	5	0	0	0	5	0	2
4	6.4	4.8	0	0	0	5	0	0	0	5	1	1
5	14.6	6.8	1	0	0	4	2	0	0	3	1	1
6	10.8	7.8	3	2	0	0	3	1	1	0	1	1
7	7.0	3.2	2	0	0	3	3	0	0	2	1	1
8	6.6	2.4	3	0	0	2	3	1	1	0	1	1
9	7.9	4.6	0	0	0	5	1	0	0	4	1	1
10	5.8	3.4	5	0	0	0	5	0	0	0	0	2
11	5.2	4.0	0	0	0	5	1	0	0	4	1	1
12	4.2	3.0	5	0	0	0	5	0	0	0	1	1
13	6.4	3.4	5	0	0	0	3	0	2	0	2	0
14	9.0	2.8	0	0	0	5	0	0	0	5	0	2
15	4.6	2.2	0	0	0	5	5	0	0	0	0	2
16	7.2	4.0	0	0	0	5	0	0	0	5	1	1
17	8.6	3.0	2	0	0	3	1	0	0	4	0	2
18	12.4	7.2	0	0	0	5	0	0	0	5	2	0
19	13.6	9.2	3	0	0	2	1	4	0	0	1	1
20	4.6	4.0	5	0	0	0	5	0	0	0	1	1
Depressive Subjects												
21	7.0	9.2	1	0	0	4	0	0	0	5	1	1
22	6.4	9.4	0	1	0	4	0	1	0	4	0	2
23	8.0	12.0	-	-	-	-	-	-	-	-	-	-
24	5.5	7.8	3	1	1	0	4	0	1	0	1	1
25	3.8	8.0	2	0	0	3	0	0	0	5	1	1
26	2.2	3.8	0	0	0	5	2	0	0	3	1	1

[illegible]

INDIVIDUAL SCORES ON SERIES D AND E - Cont.

SUBJECT NO.			SERIES D								SERIES E	
	M	F	P	N	A	NT	P	N	A	NT	M	F
55	4.8	5.2	5	0	0	0	4	0	0	1	2	0
56	2.4	3.2	0	0	0	5	0	0	0	5	1	1
57	4.5	4.0	1	0	0	4	0	0	0	5	2	0
58	4.2	2.8	2	0	0	3	3	0	0	2	1	1
59	4.0	5.4	0	0	0	5	0	0	0	5	1	1
60	4.4	5.8	4	0	0	1	4	0	0	1	0	2
Control Subjects												
61	4.2	4.6	3	0	0	2	3	1	0	1	1	1
62	4.0	2.8	0	1	0	4	3	0	1	1	1	1
63	6.2	10.2	0	0	0	5	0	0	0	5	1	1
64	2.2	2.2	4	0	0	1	4	0	0	1	1	1
65	4.2	4.0	0	0	0	5	0	0	0	5	1	1
66	4.8	5.8	0	0	2	3	0	1	0	4	1	1
67	5.2	6.0	2	1	0	2	2	0	1	2	1	1
68	4.0	3.6	3	0	0	2	4	0	0	1	1	1
69	2.4	2.2	4	0	0	1	3	2	0	0	2	0
70	6.4	5.6	3	0	0	2	1	0	0	4	0	2
71	2.4	2.8	0	1	0	4	0	1	0	4	1	1
72	4.2	5.0	0	0	0	5	0	0	0	5	1	1
73	6.0	4.8	0	0	0	5	0	0	0	5	1	1
74	5.4	5.8	4	0	1	0	4	1	0	0	0	2
75	4.8	5.2	4	0	0	1	4	0	0	1	2	0
76	2.4	3.2	2	0	0	3	3	0	0	2	1	1
77	4.5	4.0	4	1	0	0	5	0	0	0	2	0
78	4.2	2.8	3	2	0	0	2	3	0	0	1	1
79	4.0	5.4	0	1	0	4	1	1	0	3	1	1
80	4.4	5.8	1	1	0	3	3	0	0	2	0	2

INDIVIDUAL SCORES ON SERIES A (INITIAL 5 STEREOGRAMS), SERIES F
(PROLONGED 5 STEREOGRAMS), SERIES C (INITIAL 5 SYMBOLS),
AND SERIES G (PROLONGED 5 SYMBOLS)

SUBJECT NO.	SERIES A		SERIES F		SERIES C				SERIES G			
	Initial 5		Prolonged 5		Initial 5				Prolonged 5			
	M	F	M	F	M	F	MF	DK	M	F	MF	DK
Paranoid Subjects												
1	4	1	4	1	0	0	5	0	1	0	4	0
2	5	0	3	2	2	1	2	0	0	0	5	0
3	3	2	3	2	1	3	0	1	1	4	0	0
4	2	3	3	2	1	1	2	1	0	1	4	0
5	3	2	2	3	2	2	0	1	1	2	1	1
6	2	3	2	3	2	1	2	0	0	2	3	0
7	5	0	5	0	1	0	3	1	2	2	1	0
8	3	2	2	3	2	1	2	0	1	2	1	0
9	4	1	4	1	1	1	2	1	0	3	2	0
10	3	2	3	2	2	2	1	0	0	2	3	0
11	2	3	2	3	1	2	1	1	0	2	2	1
12	3	2	2	3	1	2	1	1	1	1	3	0
13	4	1	2	3	0	1	4	0	1	1	2	1
14	5	0	3	2	2	2	0	1	0	2	3	0
15	3	2	2	3	0	1	2	2	2	2	1	0
16	2	3	2	3	0	2	2	1	0	2	3	0
17	2	3	4	1	0	2	3	0	0	3	2	0
18	3	2	5	0	0	2	2	1	1	1	3	0
19	5	0	3	2	2	2	1	0	0	3	2	0
20	3	2	3	2	2	2	1	0	0	3	2	0
Depressive Subjects												
21	3	2	3	2	2	2	1	0	0	0	5	0
22	1	4	3	2	1	1	3	0	0	1	4	0
23	2	3	2	3	1	1	1	2	0	0	5	0
24	3	2	3	2	2	2	1	0	0	0	5	0

INDIVIDUAL SCORES ON SERIES A, F, C, AND G - Cont.

SUBJECT NO.	SERIES A		SERIES F		SERIES C				SERIES G			
	M	F	M	F	M	F	MF	DK	M	F	MF	DK
25	2	3	1	4	1	0	3	1	2	1	2	0
26	2	3	3	2	1	0	3	1	0	0	5	0
27	1	4	2	3	3	0	0	2	1	2	1	1
28	1	4	2	3	0	1	4	0	0	1	2	2
29	1	4	1	4	1	2	1	1	1	2	2	0
30	1	4	1	4	3	0	0	2	1	0	4	0
31	2	3	2	3	2	0	3	0	0	1	3	1
32	1	4	1	4	0	2	3	0	0	1	4	0
33	3	2	4	1	4	0	1	0	0	2	3	0
34	1	4	4	1	0	0	2	3	0	1	4	0
35	0	5	5	0	1	1	3	0	1	2	1	1
36	1	4	2	3	1	2	2	0	0	0	3	0
37	2	3	3	2	0	2	3	0	0	2	3	0
38	3	2	3	2	0	1	4	0	1	3	1	0
39	2	3	3	2	1	2	2	0	0	2	3	0
40	2	3	3	2	1	2	2	0	0	0	5	0
Chronic Brain Syndrome Subjects												
41	2	3	3	2	1	1	3	0	0	0	5	0
42	3	2	3	2	0	1	4	0	0	2	3	0
43	1	4	3	2	0	1	3	1	1	1	3	0
44	1	4	2	3	1	0	3	1	0	0	4	1
45	2	3	2	3	2	2	1	0	0	0	5	0
46	2	3	2	3	2	1	2	0	0	0	5	0
47	2	3	1	4	3	1	1	0	0	4	0	1
48	2	3	3	2	3	0	0	2	2	1	1	1
49	3	2	2	3	0	0	2	3	0	1	4	0
50	2	3	2	3	0	1	2	2	0	4	1	0
51	1	4	2	3	0	1	1	3	1	2	2	0
52	1	4	1	4	0	1	2	2	0	2	3	0

INDIVIDUAL SCORES ON SERIES A, F, C, AND G - Cont.

SUBJECT NO.	SERIES A		SERIES F		SERIES C				SERIES G			
	M	F	M	F	M	F	MF	DK	M	F	MF	DK
53	2	3	4	1	0	3	1	1	-	-	-	-
54	2	3	3	2	1	2	1	1	-	-	-	-
55	0	5	3	2	0	2	2	1	0	2	3	0
56	2	3	1	4	0	0	0	5	0	2	3	0
57	3	2	3	2	1	2	0	2	1	2	1	1
58	2	3	2	3	-	-	-	-	0	2	3	0
59	2	3	2	3	2	1	1	1	0	3	2	0
60	2	3	2	3	1	1	0	3	0	2	3	0
Control Subjects												
61	2	3	4	1	0	2	3	0	0	0	5	0
62	3	2	5	0	0	1	4	0	0	1	4	0
63	3	2	3	2	1	1	2	1	0	0	5	0
64	1	4	3	2	0	1	4	0	0	0	5	0
65	2	3	2	3	0	2	3	0	2	1	2	0
66	2	3	3	2	1	0	4	0	0	0	5	0
67	1	4	1	4	1	0	3	1	1	2	1	1
68	1	4	1	4	0	2	2	1	0	1	2	2
69	3	2	2	3	1	0	4	0	1	2	2	0
70	4	1	4	1	1	1	3	0	1	0	4	0
71	2	3	4	1	1	0	3	1	0	1	3	1
72	1	4	5	0	0	0	5	0	0	1	4	0
73	2	3	4	1	0	1	4	0	0	2	3	0
74	2	3	3	2	1	2	2	0	0	1	4	0
75	2	3	2	3	0	2	1	2	1	2	1	1
76	2	3	2	3	0	2	2	1	0	0	3	0
77	2	3	1	4	2	2	1	0	0	2	3	0
78	2	3	3	2	1	1	1	2	1	3	1	0
79	0	5	2	3	1	1	3	0	0	2	3	0
80	2	3	3	2	0	0	5	0	0	0	5	0

M.M.P.I. t SCORES

S. No.	Hs	D	Hy	Pd	Mf	Pa	Pt	Sc	Ma	Si
Paranoid Subjects										
1	65	72	55	67	51	79	95	119	68	69
2	62	60	53	81	63	70	79	88	68	61
3	67	68	58	62	53	65	66	71	48	67
4	41	34	40	57	47	62	54	65	91	43
5	67	65	56	64	39	41	66	44	45	63
6	85	111	84	39	78	70	105	90	38	77
7	80	80	75	67	61	50	60	57	48	56
8	54	46	64	74	71	79	56	65	58	46
9	75	84	82	71	57	65	77	71	53	47
10	47	65	51	53	67	59	44	51	58	40
11	72	65	75	69	55	53	66	92	65	56
12	75	84	76	67	69	62	73	59	58	58
16	49	65	51	62	51	50	56	50	48	65
20	44	46	40	55	59	67	58	55	65	58
Depressive Subjects										
21	65	108	71	69	84	67	89	101	65	70
22	95	96	76	81	51	82	105	107	65	76
23	41	60	40	50	59	79	48	36	35	64
24	106	101	86	90	71	79	69	113	78	82
26	54	63	53	67	50	56	75	76	53	72
28	75	72	56	53	42	56	74	81	63	33
29	72	89	89	76	61	53	58	46	48	50
30	52	4	55	83	61	73	85	97	75	68
31	54	77	64	60	49	62	56	44	38	58
32	49	65	67	48	51	56	62	65	70	49
33	85	77	75	50	53	44	75	61	73	43
35	62	84	71	60	59	62	81	63	45	63
37	77	97	82	74	69	70	77	61	53	69

M.M.P.I. t SCORES - Cont.

S. No.	Ha	D	Hy	Pd	Ma	Pa	Pt	Sc	Ma	Si
38	54	55	62	82	63	47	60	67	53	42
Chronic Brain Syndrome Subjects										
41	59	84	58	83	71	73	77	86	93	61
42	59	60	62	74	71	53	60	57	58	42
43	80	70	65	64	51	67	62	92	65	64
44	57	63	60	55	51	44	48	51	58	40
45	59	63	56	64	51	62	52	48	40	49
50	106	72	80	57	41	44	71	84	70	61
52	54	63	55	53	55	41	52	51	53	46
54	82	70	69	62	59	38	54	71	63	58
56	59	63	49	69	74	56	56	78	75	70
58	80	84	65	79	45	53	62	74	53	70
60	95	99	79	74	41	70	93	111	63	52

PSYCHIATRIC RATINGS ON SEVERITY, HOMOSEXUAL CONCERN AND DEPENDENCE

SUBJECT NO.	SEVERITY		HOMOSEXUAL CONCERN			DEPENDENCE			DRUG
	Paranoia	Depression	Displayed	Projected	Self	Displayed	Women	Men	
Paranoid Subjects									
1	3	1	1	1	1	4	3	3	Yes
2	6	5	1	1	1	2	2	2	Yes
3	3	4	1	1	1	7	6	6	Yes
4	6	3	1	1	1	6	6	4	Yes
5	7	4	1	1	1	7	6	4	Yes
6	5	6	1	1	1	4	4	2	Yes
7	3	3	1	1	1	5	6	3	Yes
8	6	5	2	2	3	3	4	2	Yes
9	6	4	1	1	1	5	6	3	Yes
10	6	6	1	1	1	4	4	4	Yes
11	6	3	1	1	1	1	1	1	Yes
12	6	6	2	2	3	4	4	5	Yes
13	5	4	1	1	1	5	4	5	Yes
14	6	5	7	7	7	7	5	7	Yes
15	7	5	2	3	1	7	2	7	Yes
16	5	5	1	1	1	5	1	5	Yes
17	6	5	1	1	1	5	1	6	No
18	7	1	1	1	1	7	1	7	Yes
19	6	6	1	1	1	2	2	2	No
20	4	6	1	1	1	1	1	1	Yes
Depressive Subjects									
21	3	4	1	1	1	7	7	5	Yes
22	1	3	1	1	1	2	2	2	No
23	1	6	1	1	1	5	6	4	No
24	1	4	1	1	1	6	6	1	No
25	5	6	1	1	1	6	6	5	Yes
26	7	6	2	2	1	4	5	4	Yes

PSYCHIATRIC RATINGS - Cont.

SUBJECT NO.	SEVERITY		HOMOSEXUAL CONCERN			DEPENDENCE			DRUG
	Paranoia	Depression	Displayed	Projected	Self	Displayed	Women	Men	
27	7	7	1	1	1	7	1	7	Yes
28	4	6	1	1	1	6	1	6	Yes
29	1	2	1	1	1	2	1	2	Yes
30	5	4	1	1	1	6	5	3	No
31	3	1	1	1	1	6	7	4	Yes
32	1	6	1	3	1	1	1	1	No
33	7	7	5	4	1	7	1	7	Yes
34	2	7	1	1	1	5	4	2	No
35	3	7	2	5	1	7	7	4	No
36	3	6	1	3	1	1	1	5	No
37	1	3	1	1	1	2	2	2	Yes
38	4	1	1	1	1	6	6	4	No
39	2	2	1	3	4	6	6	5	No
40	2	4	1	1	1	6	6	6	No
Chronic Brain Syndrome Subjects									
41	1	4	1	1	1	7	7	7	No
42	3	5	1	1	1	6	6	3	No
43	3	4	1	1	1	5	5	5	Yes
44	7	3	1	1	1	6	5	4	Yes
45	6	6	1	1	1	4	5	4	No
46	2	4	1	1	1	1	1	1	Yes
47	3	4	1	1	1	5	5	6	Yes
48	2	7	1	1	1	7	6	6	Yes
49	7	6	1	1	1	6	1	1	No
50	5	5	1	1	1	5	7	1	No
51	4	3	1	1	1	7	1	7	Yes
52	4	4	3	1	1	5	1	3	Yes
53	4	5	1	1	1	6	6	6	Yes

PSYCHIATRIC RATINGS - Cont.

SUBJECT NO.	SEVERITY		HOMOSEXUAL CONCERN			DEPENDENCE			DRUG
	Paranoia	Depression	Displayed	Projected	Self	Displayed	Women	Men	
54	5	4	1	1	1	5	5	2	Yes
55	1	2	1	1	1	6	4	6	No
56	3	7	4	1	1	6	1	5	Yes
57	5	5	1	1	1	7	4	4	No
58	7	4	1	1	1	2	5	3	Yes
59	1	5	k	k	k	5	6	2	Yes
60	3	5	1	1	1	6	6	3	No