OBJECT REPRESENTATION AND THE RORSCHACH: INVESTIGATION OF A CONTINUUM OF OBJECT RELATIONS IMPAIRMENT ACROSS A BROAD SPECTRUM OF PSYCHOPATHOLOGY.

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OBJECT REPRESENTATION AND THE FÖRSCCHACH: INVESTIGATION
OF A CONTINUUM OF OBJECT RELATIONS IMPAIRMENT
ACROSS A BROAD SPECTRUM OF PSYCHOPATHOLOGY

by

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Department of Psychology in Partial Fulfillment
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1982
ABSTRACT

The present study investigated the overall quality or maturity of internalized self and object representation, through the Rorschach human response, in non-patient, student controls (N = 20) and in hospitalized neurotic (N = 24), borderline (N = 26), and schizophrenic (N = 26) patients. The inclusion of these groups was based on the prediction, from object relations theory, of a relationship between severity of psychopathology and impairment in object representation. Cross-validation of discharge diagnosis by an independent diagnostician, based on clinical case summaries for each patient, was the selection criterion for psychiatric subjects. Dependent measures were a motivational/thematic object representation scale developed by Krohn and Mayman (1974) and a formal/structural measure for the object concept developed by Blatt, Brenneis, Schimek, and Glick (1976).

Following determination of the clinical groups, the patients' Rorschach and WAIS protocols were collected retrospectively from hospital files. The majority of non-patient protocols (n = 13) were obtained prospectively, and a smaller number (n = 7) already existed from a previous study (Note 1). All Rorschach human responses were identified, coded, and presented separately and randomly to the experimenter who scored them blindly, on both dependent measures, in counterbalanced fashion. Gunderson's Diagnostic Interview for Borderlines (DIB; Note 4) was modified and also applied retrospectively to the written case summaries of each patient. WAIS full scale
I.Q., age, and education scores served to indicate group homogeneity.

Three hypotheses, relating to the performance of the diagnostic groups on the dependent measures were formulated. Hypotheses 1 and 2, which predicted significant differences between each subject group in mean total object representation scores for both measures, respectively, were not confirmed. Further investigation of high scores obtained on both measures resulted in one significant contrast between the high scoring non-patients and the low scoring neurotics on the thematic scale. This difference was thought to reflect neurotic inhibition or depression, rather than impaired object representation. None of the patient groups were differentiated on any of the developmental subcategories of the structural measure. A third hypothesis of a significant relationship between the object representation measures was confirmed \( r = 0.65, p < 0.0001 \).

In contrast to the object representation scales, Gunderson’s DIB successfully differentiated the three clinical groups. Significant between groups differences were found for 13 of 29 DIB variables. Moreover, the direction of differences was consistent with previous research.

It was concluded that the validities of both object representation measures, as applied to the Rorschach human response, remain in doubt. It was further suggested that the findings of this study support the diagnostic validity of Gunderson’s DIB and the validity of the borderline diagnostic category, as it is typically used in clinical settings. Recommendations and directions for future research in this area were considered in the discussion.
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CHAPTER I

INTRODUCTION

Knight wrote that "...the label 'borderline state', when used as a diagnosis, conveys more information about the uncertainty and indecision of the psychiatrist than it does about the condition of the patient" (1953, p. 1). It is ironic that Knight who did not wish to defend this term as a diagnosis did more than perhaps any other investigator in his time to popularize its usage.

The need for some kind of borderline designation grew out of difficulties in assigning individuals to existing psychodiagnostic categories. Some, for example, presented a more severely disturbed clinical picture than a neurotic group, but did not quite meet the criteria for inclusion within a schizophrenic group.

Under a plethora of rubrics including ambulatory schizophrenia (Zilboorg, 1941), the 'as if' personality (Deutsch, 1942), latent schizophrenia (Rorschach, 1942), preschizophrenia (Rapaport, Gill & Schafer, 1945), pseudo-neurotic schizophrenia (Hoch & Polatin, 1949), and borderline states (Knight, 1953), the early literature consistently describes individuals who had numerous neurotic symptoms, marked disturbances in interpersonal relationships, and volatile emotions, but who were able to function in society with reality testing preserved or regained quickly following mild and transient psychotic episodes. Frank (1970) cites 56 references in which there is agreement
about the presence of both neurotic and psychotic mechanisms and/or symptoms in the disorder, whatever it happened to be called.

In current literature, there is a growing concensus about the viability of specifying a form of psychopathology, commonly referred to as borderline, which has characteristic features that differentiate it from schizophrenia on the one hand and neurosis on the other.

Credit for the first systematic study of borderline disorder goes to Grinker, Werble, and Drye (1968). They began their large scale study with the assumption that borderline disorder represents a developmental defect of ego structure and functioning which produces an inadequate sense of identity and a host of symptomatic behaviors such as ambivalence about affectional relationships. They chose for study 51 newly admitted psychiatric inpatients who were definitely not schizophrenic, but who showed many signs of serious difficulties (e.g., suicidal behaviors, intense anxiety, and transient psychotic-like behaviors). During their stay in hospital, the subjects were observed and rated by professional staff on 93 behavioral variables representing various ego functions.

The results obtained by Grinker et al. were based on the application of multivariate statistical techniques. Principal Components analysis first reduced the 93 behavioral ratings to 14 major components. Following this, cluster analysis resulted in the identification of four groups of patients who ranged in severity of disorder from bordering on psychosis to bordering on neurosis. According to Grinker et al., group I patients showed inappropriate,
impulsive outbursts of anger and failed to establish relationships with others. Group II patients also expressed anger and withdrawal. However, they were more vacillating in their behavior, at times showing positive affect towards others. Patients in the third borderline group, while superficially adaptive and appropriate, showed signs of identity disturbance in their overconformity and lack of spontaneity. Finally, group IV subjects were characterized by depression and by a frustrated search for symbiotic satisfactions.

Grinker et al. outlined the overall characteristics of their patient sample as follows:

1) anger was the main or only affect patients experienced and expressed towards a variety of targets;

2) there was a defect in affectional relationships which took the form of clinging, dependent, or complementary relationships;

3) indications of consistent self-identity were absent; this, in turn, was consistent with a lack of affectional relationships, vacillating behavior, and the stimulation of anger from interpersonal intimacy;

4) depression was associated with loneliness and inability to form stable, close relationships.

Although no control or comparison groups appeared in this study, the investigators concluded from the overall pattern of results that they had isolated a specific, internally consistent syndrome that is between neurosis and psychosis in terms of severity. In their conception, it represents a syndrome of arrested development of ego functions, rather than a regressive state that is responsive
to internal or external stresses.

Partial support for this view was obtained from a follow-up investigation of 25 of the 51 subjects in Grinker et al.'s (1968) original sample. Werble (1970) reported that, six to seven years after initial hospitalization, most of the subjects were still experiencing a stable pattern of social and psychological difficulties, but most importantly, were not moving towards schizophrenic deterioration.

After surveying the research on borderline disorder prior to the mid 1970's, Carpenter, Gunderson, and Strauss (1977) maintained that the validity of a borderline syndrome has not been established. They based their conclusion on the fact that differences between borderline and other diagnostic categories had not been demonstrated empirically. However, since this assessment was made, several validation studies have yielded positive findings.

Gunderson, Carpenter, and Strauss (1975) carried out a longitudinal comparison study of 24 borderline and 29 schizophrenic patients who were initially evaluated in the U.S. center of the international pilot study of schizophrenia. Selection criteria for borderlines were brief psychotic experiences, diagnostic uncertainty, and an absence of nuclear schizophrenic symptoms. The groups were matched for age, sex, race, and socioeconomic status. Comparisons between the groups were based on presenting symptoms, prognostic status, and several follow-up measures including duration of hospitalization, social contacts, symptom level, work patterns, and personal functioning.
Gunderson et al. found that the two groups did not differ in symptom pattern on a 27 item symptom profile. However, there was a highly significant difference in the level or severity of presenting symptoms, other than those used to define the groups. No significant differences were found on prognostic status, as defined by previous work and social functioning.

Surprisingly, in a five year follow-up of 14 borderline and 20 schizophrenic subjects, the only significant difference was that the quality of social contacts was higher for the borderlines.

These findings provide qualified support for the existence of a distinct borderline category. The borderline patients differed from schizophrenics in that their symptoms were less severe. Furthermore, only one patient in the borderline group became schizophrenic five years after initial hospitalization, thus supporting Kernberg's (1975) contention that borderline personality organization is stable.

An explanation for some of the null findings in the above investigation concerns the problem of sample bias. In the absence of accepted operational defining criteria, between groups differences or the lack thereof can be seen as a function of the particular criteria that are used to define the groups. For example, since Gunderson et al. (1975) used brief psychotic experience as a criterion for borderline subjects, it is possible that their borderline sample was relatively more disturbed than the sample selected by Grinker et al. (1968). Fewer differences with a schizophrenic group would then be expected.
In order to circumvent this problem, Gunderson and Singer (1975) carried out a comprehensive literature review of borderline characteristics. Their aim was to identify common and distinguishing characteristics that could serve as a replicable definition to be used in subsequent research.

Gunderson and Singer found evidence of general agreement about the characteristics of borderlines in six descriptive areas. Briefly, these were as follows:

1) intense affect
   Borderlines have intense feelings of hostility or depression. Their affect is not flat, but they do not experience pleasure. Often, they may feel depersonalized.

2) history of impulsive behavior
   Impulsive acts may take the form of periodic self-mutilation or other self-destructive acts and more chronic patterns such as sexual promiscuity and drug abuse.

3) social adaptiveness
   Borderlines have a strong sense of social awareness and may show some degree of achievement in school or work. However, their social adaptiveness may be based on superficial mimicry that masks a disturbed sense of identity.
4) brief psychotic experience

Borderlines exhibit brief psychotic experiences which are likely to have a paranoid quality. These occur most often in unstructured situations or with the abuse of psychogenic drugs.

5) psychological test performance

Typically, borderlines show signs of thought disorder on unstructured tests, but an absence of such signs on structured tests.

6) interpersonal relations

There is vacillation between transient superficial relationships and intense, dependent relationships that are marred by demandingness, manipulation, and devaluation.

Perry and Kleiman (1978) reached different conclusions about the degree of overlap between various descriptions of borderline personality disorder. They abstracted and compared 104 diagnostic criteria from the clinical descriptions of Knight (1953), Kernberg (1967), Grinker et al. (1968), and Gunderson and Singer (1975). The finding of infrequent unanimous agreement across these criteria prompted the investigators to suggest a moratorium on clinical-descriptive and psychodynamic papers. However, less than unanimous agreement might have been predicted, since the independent descriptions represented different theoretical and methodological orientations, as well as different stages in the development of the borderline concept.
An important outcome of the review by Gunderson and Singer (1975) was the construction of the Diagnostic Interview for Borderlines (DIB) (Gunderson, 1977). The DIB is a structured interview technique consisting of questions in the five content areas of social adaptation, impulse-action patterns, affects, psychosis, and interpersonal relations. In several investigations, it has proven to be a successful means of differentiating borderline personality from other psychodiagnostic categories.

Gunderson (1977) administered the DIB to patients who received certain diagnoses of schizophrenia \( (n = 22) \), borderline personality disorder \( (n = 31) \), and depressive neurosis \( (n = 11) \) upon admission to hospital. Previously developed research criteria were used to check the validity of the diagnoses. Patients who received primary diagnoses of drug or alcohol abuse and patients who showed signs of organic impairment were excluded.

Twenty one of the 29 scored statements on the DIB significantly differentiated borderlines from depressive neurotics and schizophrenics. Moreover, each of the five content areas significantly discriminated the borderline patients from at least one of the two comparison groups. The most discriminating content areas were impulse-action patterns and interpersonal relations. Borderlines engaged in significantly more self-destructive behaviors than their counterparts. They also became involved more often in relationships that were troubled by instability, devaluation, and manipulation.

In a more recent study, Kolb and Gunderson (1980) used discharge
diagnosis as the standard against which they compared the diagnostic accuracy of the DIB. They administered the DIB to 70 patients who received initial diagnoses of borderline (n = 32), schizophrenic (n = 20), neurotic depressive (n = 10), or other disorder (n = 8). A narrow criteria schizophrenic group, composed of patients with the most discriminating schizophrenic features, was also defined.

A highly significant difference (p < .001) on the mean DIB total score was found between confirmed borderline patients and a combined comparison group of schizophrenics, narrow criteria schizophrenics, depressive neurotics, and other personality disordered patients. Using discharge diagnosis as the criterion and a cutoff scaled score of 6 on the DIB, high rates of sensitivity (.85) and specificity of classification (.60) based on the DIB were also found. The overall rate of concordance between clinical diagnosis and DIB classification was 77 percent.

As an alternate means of demonstrating validity for a borderline category, Gunderson and Kolb (1978) carried out discriminant function analyses between matched groups of patients who were given certain diagnoses of borderline personality disorder (n = 31), schizophrenia (n = 22), depressive neurosis (n = 11), and other disorder (n = 9). Patients with severe alcohol or drug abuse problems were excluded, and the DIB was administered to the subjects within one week of their admission to hospital.

Based on the 29 summary statements of the DIB, discriminant function analysis resulted in 100 percent correct classification of borderline and schizophrenic patients. Rates of correct classification
were also high for borderline and depressed patients (95.5%) and for borderlines and a combined comparison group (96.8%). In the latter comparison, stepwise discriminant function analysis isolated 14 DIB statements that successfully discriminated borderlines from all other psychodiagnostic groups. The investigators condensed these into seven characteristics, as follows. Borderlines demonstrated:

1) low achievement;
2) impulsive behavior in the form of drug and alcohol abuse and sexual promiscuity and/or deviant acts;
3) manipulative suicide attempts;
4) heightened affectivity and anger and an absence of flat affect and satisfied feelings;
5) mild psychotic experiences including paranoid ideation, derealization, and a history of regression in treatment;
6) high socialization and intolerance of being alone;
7) disturbances in close relationships with devaluation, manipulation, dependency, masochism, and intense, unstable attachments.

Sheehy, Goldsmith, and Charles (1980) replicated these findings in outpatients. They constructed a 16 item symptom checklist based on the ability of 20 independent clinicians to observe the particular symptoms repeatedly in borderline patients. After administering the checklist routinely to all outpatients over a one year period, the investigators randomly selected from clinical files patients who were diagnosed borderline (n = 45), schizophrenic (n = 30), and neurotic (n = 30). Independent checks for the reliability of
diagnoses were made and discriminant function analyses were carried out.

The borderlines were significantly discriminated from each of the above groups based on the symptom checklist. Rates of successful classification were not provided. However, Sheehy et al. reported that, with a cut-off score of seven items on their checklist, borderlines were discriminated from all other patients with a sensitivity of 93 percent and a specificity of 76 percent.

Recently, Carr, Goldstein, Hunt, and Kernberg (1979) investigated the degree of agreement that could be achieved among four separate diagnostic techniques. They administered the DIB, Kernberg's structural interview, and a battery of psychological tests to 32 newly admitted inpatients. Psychological test diagnoses were based on the completed psychological report or on a specific comparison between the WAIS and Rorschach. In the latter, borderline diagnosis was made when signs of thought disorder were present on the Rorschach, but absent on the WAIS.

Carr et al. reported substantial agreement between the diagnostic methods. Fifty five percent unanimous agreement was reached and three of the four methods agreed in 86 percent of the cases.

The discriminability of borderline disorder has been acknowledged with the inclusion of formal borderline diagnoses in DSM III. The development of specific diagnostic criteria was based on a large scale study by Spitzer, Endicott, and Gibbon (1979). They constructed two sets of operational defining criteria. One set of
nine items was based on descriptions of the borderline personality by Gunderson, Kernberg, and others. Another set of eight items was based on research by Wender, Rosenthal, and Kety who studied hereditary factors in conditions they term borderline schizophrenia. This research is reviewed by Wender (1977) and Seiver and Gunderson (1979). Spitzer et al. mailed the combined items in the form of a true-false questionnaire to 4000 psychiatrists. The participants were asked to complete the questionnaire on a) one well known patient with borderline personality organization or borderline schizophrenia, and b) one well known, non-psychotic, non-borderline, control patient.

Discriminant function analysis of 808 returned questionnaires successfully discriminated borderlines and controls (sensitivity = .88, specificity = .87). Factor analysis of the questionnaires also provided support for borderline subgroups. Items from the two preliminary sets loaded consistently on two separate factors. Despite this latter finding, however, the identification of borderline personality organization, as opposed to borderline schizophrenia, was only moderately successful. Only 64 percent of patients were correctly classified according to these subgroups through discriminant function analysis. Furthermore, 54 percent of patients met the criteria for both item sets.

Despite the presence of these mixed findings, two borderline subgroups designated as 'unstable personality disorder' and 'schizotypal disorder' were retained for DSM III.

In summary, the research supports the validity of a borderline
syndrome. Both inpatients and outpatients who have been identified as borderline have been discriminated from other diagnostic groups in several investigations employing different measures. The research also indicates that instruments such as the DIB provide a viable operational definition of borderline disorder.

Perhaps not surprisingly, contention still exists about whether borderline disorder has subgroups (Spitzer & Endicott, 1979; Grinker, 1979; Seiver & Gunderson, 1979), about whether the term borderline should precede the term schizophrenia (Reider, 1979) or not (Appelbaum, 1979) and about the justification for a distinct borderline diagnosis (Modestein, 1980). Kernberg attributes part of this controversy to a tendency among investigators to concentrate on "mechanistic groupings of symptoms" (1979, p. 53).

Kernberg (1975 and 1977) has developed a concept of the borderline personality in the light of psychoanalytic object relations theory. He argues that the term 'borderline' should be reserved for a group of individuals having a chronic, stable form of pathological ego structure and personality organization that occupies a middle area between neurosis and psychosis.

For Kernberg, the characteristic ego pathology demonstrated by borderlines is reflected partly in non-specific manifestations of ego weakness. These non-specific manifestations refer to low anxiety tolerance, lack of impulse control, and a lack of channels for sublimation. These features, in turn, act as substrates for a variety of surface behaviors such as self-mutilation, sexual promiscuity, acting-out aggression, and a lack of creative
achievement. Another aspect of faulty ego development concerns a shift towards primary process thinking.

In Kernberg's theory, borderline ego pathology also consists of specific ego defensive operations and a related pathology of internalized object relations. Kernberg postulates that developmental difficulties in separation-individuation occur for the borderline individual in the first year. As a result of excessive frustration, intense aggressive strivings, or innate lack of anxiety tolerance, primitive defensive maneuvers centering around splitting persist beyond the point that they normally occur in development and interfere with the development of mature object relations. Splitting refers to the unconscious dissociation or maintaining apart of experiences that are of an opposite and strongly conflictual nature.

Because of their proneness to intense, primitive rage and aggressive promptings, individuals who eventually become borderline split off negative from positive experiences in Kernberg's view. In normal development, splitting is thought to occur because of the immature ego's inability to integrate opposites. However, in borderlines, a pathological continuance of splitting occurs in order that they may avoid intolerable anxiety and fears of disintegration.

The continued reliance upon splitting has several consequences, according to Kernberg. A constellation of primitive defenses including primitive idealization, devaluation, omnipotence, projective identification, and denial tends to co-incide with
splitting. Most importantly, however, splitting interferes with the development of mature object relations. A lack of integration between positively and negatively experienced aspects of the self and others takes place, resulting in unrealistic self and object images and incomplete differentiation between the self and others.

A full account of Kernberg's descriptive and theoretical formulations of borderline personality organization is beyond the scope of this presentation. However, a central aspect of the theory is the view that borderlines occupy a middle position on a continuum of object relations development between neurosis and schizophrenia. In schizophrenia, the distinction between the self and other objects is lost, resulting in gross deficiency of reality testing. In borderline pathology, self and objects are differentiated. However, positive and negative aspects of the self and other objects are split off from each other. Thus, reality testing is preserved, but is vulnerable. Finally, there is a well differentiated and integrated sense of the self and others in neurosis.

It should be noted that Kernberg's theory co-incides well with Mahler's findings on object relations development. Based on extensive observational research with normal (Mahler, Pine, & Bergman, 1975) and maladjusted (Mahler, 1971) children, Mahler described sequential stages in object relations development. Moreover, she concluded that stage specific disruptions in the developmental process leads to characteristic forms of psychopathology such as borderline disorder. Her findings indicate that self-other differentiation is lacking in individuals who become
psychotic and only partially present in individuals who develop borderline problems. Clinical investigation with adult borderline patients in psychotherapy (Blanck & Blanck, 1979) lends support to these conclusions and to Kernberg’s theory.

Object Representation and the Rorschach Human Response

Compared with clinical-descriptive and theoretical elucidation of borderline disorder, there has been a paucity of psychological test research. This deficiency is noteworthy, since psychological testing has been deemed essential to differential diagnosis (Knight, 1953; Kernberg, 1975).

Investigation of borderlines’ object representations through the Rorschach could provide a useful contribution to the task of clinical diagnosis. The fact that impaired object relations have been frequently regarded as central to the disorder (Deutsch, 1942; Grinker et al., 1968; Grinker & Werble, 1977; Gunderson & Singer, 1975; Kernberg 1977 & 1975) supports this view. Unfortunately, few systematic investigations of borderlines’ object representations have been carried out so far.

Gruenewald (1970) described psychological test findings from 10 patients who were part of Werble’s (1970) follow-up investigation of Grinker et al.’s (1968) original borderline population. She stated that the test results contained evidence of early disturbances in object relations, but did not reveal how this conclusion was reached.

Kwawer (1979) reported some Rorschach findings from 16
borderline patients and attempted to explain the findings within a theoretical framework of early object relations development. According to Kwawer, the borderline subjects were significantly differentiated from other groups of matched subjects by a configuration of symbolic, interpersonal themes. Although he provided no statistical results, the borderline subjects expressed more symbolic themes of merger, fusion, separation, and individuation. Thematic content such as this, according to Kwawer, reflects disturbances in ego boundaries and object relations.

In addition to thematic content, some formal/structural properties of Rorschach responses have been considered potentially informative about object representations. Sugarman (1980) maintains that a blurring or absence of conceptual boundaries between separate Rorschach percepts, as in the contamination response, parallels the loss or weakness of boundaries between the self and the external world. According to Sugarman, contamination responses can be expected in the Rorschach protocols of schizophrenics, because there is an arbitrary fusion of percepts in the contamination response which corresponds to the absence of ego boundaries in schizophrenia. In contrast, borderlines who maintain tenuous self-object differentiation should tend to show milder signs of ego boundary disturbance by giving confabulation and fabulized combination responses.

Platt's (1974) analysis of the relationship between the perceptual-cognitive and motivational aspects of object representation is consistent with this hypothesis. He pointed out that developmental
psychology and the psychoanalytic school of thought concentrate on perceptual-cognitive and motivational elements, respectively, in the study of object representation. However, he maintains that since perceptual-cognitive and motivational factors interact in complex ways in the development of object representation, the different theoretical emphases are complimentary. In the same way, object representation, as manifested on the Rorschach, can be expected to have related and complimentary motivational/thematic and formal/structural properties.

There is some empirical support for the position outlined by Sugarman (1980). Blatt and Ritzler (1974) selected subjects who showed varying degrees of boundary disturbance on the Rorschach. They found that patients who had the most severe form of boundary disturbance were more often diagnosed psychotic, were less often involved in interpersonal relationships and in disruptive behavior, and showed less improvement than patients with less severe boundary disruption. Severe boundary disturbance on the Rorschach was also related to Rorschach signs of disturbed reality testing and distorted human responses.

Numerous studies have confirmed the pervasiveness among probable borderline patients of confabulation (Zucker, 1952; Stone & Dellis, 1960) and fabulized combination responses (Weingarten & Korn, 1967; Fisher, 1955; Singer, 1977). Contamination responses have also been found (Zucker, 1952), but less frequently. Thus, there is some support for less severe ego boundary disturbances and impaired self-object representations among borderlines.
A major impediment to systematic empirical research in the area of object representation has been the absence of quantitative scoring measures. Recently, measures based on the Rorschach human response have been developed to assess object representation and object relations development (Krohn & Mayman, 1974; Blatt, Brenweis, Schimek & Glick, 1976).

The major systematizers of the Rorschach procedure agree that the human movement response conveys important information about interpersonal relations. Klopfer (1954) held that seeing human figures on the Rorschach is a projected expression of attitudes and internal representations of the self and others. He further argued that human movement responses tell us something about the person's capacity for empathy. Similar interpretations have been made by Beck, Levitt, Beck, and Molish (1961), Piotrowski (1960), and Exner (1974).

Supporting evidence for the validity of the human response as an indicator of internalized self-object representation comes from several different directions. Investigation of developmental changes in human content has generally shown that human responses increase in frequency during childhood (Ames, 1966; Lerner, 1975). Furthermore, there is evidence to suggest that the frequency of human responses remains stable for individuals after some asymptotic level has been achieved (Schimek, 1968).

A link between the human response and the quality of social relations has been shown by some research, thus supporting the viewpoint of Klopfer (1954) and the other Rorschach systematizers.
Lerner (1975) found that human content was related to social interest and clinical improvement during treatment. Antisocial behavior, not surprisingly, was negatively related to human responses. Moreover, Lerner pointed to evidence suggesting that the perception of human movement in the inkblots is tied to the capacity to experience empathy. On the basis of these findings, Lerner concluded that seeing human figures on the Rorschach reflects social interest and the capacity for maturity in social relationships. A similar conclusion was reached by Draguns, Haley, and Phillips (1967).

In several studies, a relationship has been found between the quality of human responses and psychopathology. Schlesinger (1978) selected the Rorschach protocols of 40 hospitalized adolescents, half of whom had chronic, acting-out behavior disorders and half of whom were withdrawn. He found that the acting-out group gave significantly more responses in which human movement was active. Sherman (1952) reported that a group of 66 normal volunteers gave significantly more human movement responses than a group of 71 schizophrenics. However, further investigation revealed that this difference occurred only between normals and schizophrenics who gave relatively few total Rorschach responses.

Additional support for a relationship between psychopathology and the human response was provided by Exner (1974). From a reference sample of 495 protocols, he determined that non-patients give an average of 19 percent human responses per protocol. Schizophrenics and outpatients give an average of approximately 13 percent human responses and give proportionally more human
detail responses than the non-patients.

Investigation of the specific form of human content among psychopathological groups has revealed that more seriously disturbed patients frequently give distorted, human or human movement responses. In the abovementioned study by Blatt and Ritzler (1974), patients who showed more severe ego boundary disturbance gave significantly more pseudo-humans, human-inanimate blends, and poor form level human responses. Parker and Piotrowski (1968) assessed attitudes towards human movement responses among 30 students and 60 schizophrenics and found that the schizophrenics expressed favorable attitudes to dehumanized, unreal human figures.

Mayman (1967) was one of the first investigators to explicitly state the correspondence between the Rorschach human response and the individual's maturity of object representation. In an empirical investigation of this relationship, independent assessors were asked to rate the Rorschach responses of 23 psychotherapy patients. Only those responses that were considered potentially informative about self or object representations were used, and these were rated on the Luborsky Health-Sickness Rating Scale.

Health-sickness ratings based on Rorschach self and object representations were significantly correlated at the .001 level with several measures previously obtained from the patients. Specifically, correlations were found with clinical ratings of the patients on the Luborsky scale and with the patients' symptom severity, ego strength, and quality of interpersonal relations.
Recent advances in this area of research include the development of formal scoring measures for maturity or level of object representation. One such measure, the Object Representation Scale for Dreams, was described by Krohn and Mayman (1974). This scale utilizes thematic content found in the depiction of human figures and contains 8 scale points representing increasing maturity of object representation. Although originally intended for use with written dream reports, it has been applied to the Rorschach.

Krohn and Mayman (1974) collected dream reports from 24 patients. These reports were scored on the Object Representation Scale for Dreams as were the patients' productions on the Rorschach and the Early Memories Test. Correlations between these three scores and independent clinical ratings of object representations and severity of psychopathology were then carried out.

The investigators found significant correlations ranging from .32 to .62 between the three different data sources for the Object Representation Scale for Dreams. Furthermore, significant correlations were found between the three object representation scores and the independent clinical ratings of maturity of object representation and severity of psychopathology. Correlations between the Rorschach object representation scores and the clinical ratings of object representation and psychopathology were .41 (p<.01) and .45 (p<.001) respectively. However, through the use of partial correlation, the investigators also determined that the Object Representation Scale for Dreams tends to measure severity of
psychopathology to an equal or greater extent than object representation when it is used in conjunction with the Rorschach.

Recently, Blatt, Brenneis, Schimek, and Glick (1976) developed a scoring system for the concept of the object on the Rorschach. The scores range from developmentally higher to developmentally lower levels, according to the degree of differentiation, articulation, and integration of the human response. These structural dimensions derive from Werner's theory of cognitive development (Werner, 1958; Werner & Kaplan, 1963). A central postulate of this theory is that cognitive development, beginning with self-object differentiation, proceeds along lines of increasing differentiation, articulation, and integration.

Since the borderline personality is widely considered to be an outcome of early object relations impairment (Deutsch, 1942; Grinker et al., 1968; Gunderson & Singer, 1975; Kernberg, 1975 & 1977) and developmental deficits in ego functions (Grinker et al., 1968; Kernberg, 1975 & 1977), it should be possible to differentiate borderline patients using the Blatt et al. (1976) scoring system.

Some initial validation research has been carried out. Blatt et al. (1976) found that developmental level of the Rorschach human response increased significantly in 37 normal subjects across four age intervals ranging from 11 to 30 years.

In the same paper, they compared developmental levels among 48 psychiatric inpatients who ranged on a continuum of mild to severe thought disorder. Selection of patients was determined by the degree
of ego boundary disturbance evident from their Rorschach protocols. Since these subjects gave a significantly greater number of inaccurately perceived or poor form human responses than the normal subjects in the first study, comparisons were conducted separately for accurately (F+) and inaccurately (F-) perceived responses.

There were no significant differences among the five thought disordered groups on any aspect of F+ responses. However, there were several significant differences on F- responses. Patients with more severe thought disorder had greater functional articulation, greater unmotivated and non-specific activity, and greater malevolent and benevolent content in their F- human responses. The meaning of these findings is not clear, since some of the differences represent higher and some represent lower developmental levels. Moreover, the results were confounded, since the Rorschach was used to define the subject groups.

Blatt et al. carried out a third study in which they compared the normal 18 year old sample in study 1 and the combined inpatient sample in study 2 on developmental level. Once again, separate analyses were conducted for F+ and F- human responses.

Blatt et al. found that, in comparison with normals, the inpatients had several significantly greater scores at lower developmental levels on F+ responses. The converse was found for F- responses; the inpatients had several significantly greater scores at higher developmental levels than normals.

The investigators speculated that establishing contact with reality, as in the F+ human response, seems to be linked with
lower developmental levels of thought and malevolent content in psychotics. Conversely, perceiving the world unrealistically permits psychotics to function at developmentally higher levels and experience the world as more benevolent.

Ritzler, Zambianco, Harder, and Kaskey (1980) replicated Blatt et al.’s (1976) findings. They administered the Rorschach to 85 new psychiatric admissions. Psychotic diagnoses were given to 67 patients independently by two of the authors. These patients were further subdivided into schizophrenic versus non-schizophrenic psychotics, good versus poor premorbid psychotics, and paranoid versus non-paranoid schizophrenics. The remaining 18 patients received non-psychotic diagnoses. After scoring the Rorschach protocols on the Blatt et al. system, dichotomous groups were compared using multiple t tests.

The results of the psychotic – non-psychotic comparison closely paralleled the findings of Blatt et al. (1976). The means of these two groups on the 19 variables in the Blatt et al. scoring system were similar to the means reported by Blatt et al. (1976). Moreover, the pattern of findings was similar. The psychotic patients, once again, had significantly more developmentally advanced scores on F- responses than the non-psychotics.

The results of the remaining dichotomous comparisons were mostly non-significant. Thus, the premorbid and paranoid comparisons yielded null findings. The exception was the comparison between schizophrenic and non-schizophrenic psychotics. Ritzler et al.
found that schizophrenics had significantly more developmentally advanced scores on F- responses than non-schizophrenic psychotics.

The results of the above studies suggest that severe disturbance in object concept development, such as in schizophrenia, tends to be reflected in developmentally advanced, but unrealistic responses and in developmentally unadvanced, realistic responses. Since borderline subjects are considered to have less severe disturbances in object representation than schizophrenics (Kernberg, 1975), it should be possible to differentiate them from schizophrenics using the Blatt et al. (1976) scoring system.

Spear and Lapidus (1981) confirmed this prediction in a study involving 55 adult inpatients. The subject population was selected according to the availability of case conference diagnoses, Rorschach protocols, and at least three written dream reports. Two independent raters first assigned the patients to schizophrenic or borderline categories using the case conference reports and then subdivided the borderlines into obsessive/paranoid and hysterical/impulsive groups. Following this procedure, the same two raters blindly scored the patients' Rorschach human responses and dream reports on the Blatt et al. (1976) scoring system and the Object Representation Scale for Dreams (Krohn & Mayman, 1974). Estimates of inter-rater reliability were above .90 for all four scores.

The investigators did not perform separate analyses for F+ and F- responses in the Blatt et al. scoring system. They outlined
a 23 point incremental scale and calculated a summary score for each subject, representing overall level of object representation. Thus, the basic data from the two separate scoring systems were in a comparable form.

Intercorrelations between the four object representation scores yielded one significant finding. The Object Representation Scale for Dreams correlated significantly ($r = .50, p < .001$) with the Blatt et al. scoring system when both were applied to the Rorschach.

Comparison of object representation level between groups yielded several significant findings. The two borderline groups had significantly higher levels of object representation than the schizophrenics on the Blatt et al. scoring system. This difference appeared in the Rorschach, but not in the dream data. The two borderline groups did not differ significantly from each other.

On the Object Representation scale for Dreams, significant differences were found between borderlines and schizophrenics for both data sources. Analysis of the Rorschach data revealed that hysterical/impulsive borderlines had significantly higher scores than obsessive/paranoid borderlines and schizophrenics. However, this difference fell to non-significance when the correlated effect of Blatt et al. Rorschach scores was removed through analysis of co-variance. When dream reports were scored on this scale, it was found that the obsessive/paranoid borderlines had the highest level of object representation followed by the hysterical/impulsive borderlines and the schizophrenics. However, only the obsessive/paranoid - schizophrenic comparison was significant.
Spear and Iapetus concluded that it is useful to conceptualize psychopathology in terms of severity of object relations disturbance. They maintained, moreover, that their findings support the validity of both thematic and structural scales in the differential assessment of object representation. Finally, they regarded their findings as providing mild support for the existence of two characterological subtypes within the borderline spectrum of object relations impairment. In fact, they proposed a two dimensional model of psychopathology. According to this model, one axis would represent a continuum of health-sickness or level of object representation. It would range from normal and neurotic through borderline and schizophrenic. The second dimension would correspond to characterological type, with obsessive/paranoid and hysterical/impulsive types at opposite poles.

Synopsis

Early seminal contributions by Zilboorg (1941), Deutsch (1942) and Knight (1953) led to the recognition of a distinct category of borderline psychopathology. Since then, efforts have been concentrated on the descriptive elaboration and psychodynamic formulation of the disorder. Research by Gunderson, for example (1977; Gunderson & Kolb, 1978; Kolb & Gunderson, 1980) and other investigators (Sheehy, 1980; Carr et al., 1979; Spitzer et al., 1979) has shown that borderlines can be successfully differentiated from other diagnostic groups; a fact that is reflected by the inclusion of this disorder in the most recent
diagnostic and statistical manual (DSM - III). Unfortunately, psychological test research has not kept pace with other developments.

One potentially fruitful avenue for research would be the investigation of object representation on projective tests. Impairment of internalized self and object representations is now widely considered to be a central problem in borderline pathology (Gunderson & Singer, 1975; Kernberg, 1975; Mahler, Pine & Bergman, 1975; Blanck & Blanck, 1979). But, while some evidence exists for borderlines' impaired object representation on the Rorschach (Gruenwald, 1970; Kwawer, 1979), research in this area has been impressionistic and lacking in objective measures.

The Rorschach human response suggests itself as a means of investigating object representation. Most Rorschach systematizers have interpreted the human response as a projected expression of attitudes and expectations towards the self and others (Klopfer, 1954; Beck et al., 1961; Piotrowski, 1960; Exner, 1974). In support of this view, relationships have been found between the quality and frequency of the human response and empathy (Lerner, 1975), maturity of social relationships (Lerner, 1975; Draguns et al., 1967), and psychopathology (Exner, 1974; Blatt & Ritzler, 1974).

Recently, two measures for object representation have been developed which may be applied to the Rorschach human response. Blatt et al. (1976) constructed a measure for formal/structural properties of object representation, and Krohn and Mayman (1974) developed a scale for motivational/thematic properties. In the few validity studies that have been carried out, both measures have received support (Blatt et al., 1976; Krohn and Mayman, 1974; Ritzler et al., 1980), but the borderline category has been overlooked. One recent exception is a study by Spear and
Lapidus (1981). They contrasted borderline and schizophrenic groups on structural and thematic object representation scales and found significant differences on both.

Statement of the Problem

A logical next step for research is to investigate the level or quality of object representation along the entire range of the proposed continuum of object relations impairment. There is a broad consensus in the literature that object relations are severely impaired in schizophrenics, moderately impaired in borderline, and slightly, if at all impaired in neurotics (Kernberg, 1975; Blatt, 1974; Mahler, Pine, & Bergman, 1975; Blanck & Blanck, 1979). However, only one study has included a borderline group (Spear & Lapidus, 1981), and none have included a neurotic group in the investigation of structural (Blatt et al., 1976) and thematic (Krohn & Mayman, 1974) aspects of object representation on the Rorschach. In the present study, an attempt will be made to differentiate normal and neurotic groups from borderline and schizophrenic groups on thematic and structural object representation scales. Positive findings would support the validity of both measures, the validity of the object representation construct, and the utility of the human response in the sometimes difficult clinical differentiation of borderline conditions.

Hypotheses

The following between groups hypotheses were investigated
in this study:

1. Schizophrenics will obtain the lowest mean score on an incremental object representation scale developed for the Blatt et al. (1976) scoring system for the Rorschach concept of the object. They will be followed in order of increasing scores by borderlines, neurotics, and normals. Significant differences will be found between the mean scores of each adjacent group.

2. Schizophrenics, borderlines, neurotics and normals will obtain scores in order of increasing value on the Object Representation Scale for Dreams as applied to the Rorschach human response. There will be significant differences in mean scores between each adjacent group.

One correlational hypothesis was investigated.

3. A significant correlation will be found between scores on The Object Representation Scale for Dreams and overall object representation scores on the Blatt et al. (1976) scoring system for the Rorschach concept of the object.
CHAPTER II

METHOD

Participants

The 96 participants in the study included 20 non-patient controls and 76 psychiatric patients who were treated at Sinai Hospital of Detroit on an inpatient or a day treatment basis between 1971 and 1982. Three broad diagnostic categories, including neurotic disorder (N = 24), borderline personality disorder (N = 26), and schizophrenic disorder (N = 26) were represented in the psychiatric sample. The control group consisted of 13 undergraduate volunteers from the University of Windsor and seven non-patient volunteers who took part in a previous study at Sinai (Note 1). Relevant demographic characteristics of the four participant groups are summarized in Table 1.

The differential diagnoses which define the psychiatric groups are determined at Sinai in a multidisciplinary team conference. Typically, a psychiatric resident presents the results of the psychiatric evaluation. These are followed by reports of psychological testing, social history, occupational and recreational therapy, and nursing reports. On the basis of all the information provided, the senior psychiatrist leading the conference assigns a diagnosis for the patient, in accordance with criteria from DSM II. More recent DSM III criteria were used in arriving at diagnoses for 28 of the 76 patients in this study.

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TABLE 1

DEMOGRAPHIC CHARACTERISTICS OF THE FOUR PARTICIPANT GROUPS (N = 96)

<table>
<thead>
<tr>
<th>Group</th>
<th>Age</th>
<th>WAIS Full Scale I.Q.</th>
<th>Years of Education</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Mean</td>
<td>S.D.</td>
<td>Mean</td>
</tr>
<tr>
<td>Nonpatients</td>
<td>26.1</td>
<td>5.78</td>
<td>113.5</td>
</tr>
<tr>
<td>(M = 3 F = 17)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Neurotic</td>
<td>32.4</td>
<td>8.51</td>
<td>99.2</td>
</tr>
<tr>
<td>(M = 9 F = 15)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Borderline</td>
<td>28.9</td>
<td>6.19</td>
<td>96.3</td>
</tr>
<tr>
<td>(M = 7 F = 19)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Schizophrenic</td>
<td>29.3</td>
<td>9.27</td>
<td>95.0</td>
</tr>
<tr>
<td>(M = 9 F = 17)</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Note 1: I.Q. scores were unavailable for 2 neurotic, 3 borderline, and 6 schizophrenic subjects

Note 2: Years of education were unavailable for 6 neurotic, 2 borderline, and 3 schizophrenic subjects
Diagnostic procedures are identical for inpatients and day treatment patients. The day treatment program is usually reserved for less acute psychiatric disturbances, while inpatient care is indicated for more acute problems. The day treatment program also serves as a transition between inpatient care and discharge.

Instruments:

1. **Object Representation Scale for Dreams** (Note 2).

   The first instrument is a thematic content approach to object representation. This scale, as described by Krohn and Mayman, "...consists of a global description of the level of object representation, each level designated by a scale point" (1974, p. 451). In all, eight levels of object representation are described and are illustrated by two sample dreams. For example, level 1 is described as a world that seems lifeless, vacant, alien, strange, and essentially without people. The world is experienced as stark and static or very fluid and formless; it is seen as unpredictable, desolate, strange, and often bizarre. The highest scalepoint, 8, applies to the depiction of a lively world of fully human objects, wherein there is understanding of other people, their thoughts, feelings, and conflicts. This level demonstrates a well articulated model of interpersonal relating which implies well developed, undistorted self and interpersonal awareness. In the instructions to the rater, the use of clinical intuition is encouraged.

2. **A Developmental Analysis of the Concept of the Object on the Rorschach** (Note 3). The second instrument is based on a
structural approach to the assessment of object representation. Blatt et al. based their scoring system on the degree of differentiation, articulation, and integration of the Rorschach human response. Within each of these areas several response categories are specified. The following description of these categories and the outline of an overall level of object representation scale was provided by Spear and Lapidus (1981, p. 159).

In this measure, differentiation is defined as the nature of the human content in the response; more concretely, responses are classified according to the type and completeness of the perceived figure: whole human, H (e.g., man etc., score 4); whole quasi-human figure, (H) (e.g., witches, dwarfs, etc., score 3); human detail, Hd (e.g., man's hands, etc., score 2); or quasi-human detail (Hd) (e.g., angel's face, witches head, etc., score 1).

Articulation is defined as the degree to which the response is elaborated, and in this subscale, responses are rated on the basis of types of attributes ascribed to the figures. Seven specific attributes are scored here and are subdivided into three perceptual attributes, (a) size or physical structure, (b) clothing or hairstyle, and (c) posture, and four functional attributes, (d) sex, (e) age, (f) role, and (g) specific identity. In terms of articulation, responses are scored on the basis of the presence (1) or absence (0) of the particular attribute specified.

The final scoring dimension, integration, is defined as the way the concept of the object, if engaged in human activity, is integrated into a context of action and interaction with other objects. In
this section, the response is scored in four ways: (a) the degree of
internality of the motivation of the action (unmotivated, 1; reactive,
2; and intentional, 3); (b) the degree of integration of the object
and its action (fused, 1; incongruent, 2; nonspecific, 3; and congruent,
4); (c) the integration of the interaction with another object
(active/passive, score 1; active/reactive, score 2; active/active,
score 3); and (d) in terms of whether the content of the interaction
is malevolent (score 1) or benevolent (score 2). The minimum
response scored on the Blatt et al. scale would be a quasi-human,
unarticulated part image uninvolved in any action. Such a limited
response (e.g., an angel's face) would merit only a score of one on
the differentiation subscale, with no score on either the
articulation or integration scales. On the other hand, a maximum
score of 23 on this scale would require a carefully described full
human image actively involved in congruent, intentional, and
benevolent interaction.

Procedure

Rorschach protocols and clinical case summaries necessary for
this study were gathered retrospectively from medical records at Sinai
Hospital. An elimination procedure was used in the selection of
subjects for the three clinical groups. The names of a large number
of patients who appeared to fall within one of the diagnostic
categories were gathered on the basis of brief summaries of
psychological test results. Following this, the formal medical
records of the patients were inspected. A discharge diagnosis for
the most recent hospitalization, corresponding to one of the three diagnostic categories, was the selection criterion. Patients whose medical records indicated the presence of organic brain syndrome were excluded. Based on these procedures, a preliminary psychiatric sample of 122 patients was obtained.

To ensure that the preliminary groups were defined accurately, an independent validity check was carried out. This step was necessitated by a problem of criterion contamination in which Rorschach test results contributed to the assignment of patient diagnoses. The assistance of an experienced clinical psychologist was enlisted for this task.

The psychologist was presented with copies of admission conference and discharge summaries, and was instructed to arrive at a diagnosis for each patient based on these written materials. The case summaries include all clinical reports and observations made on the patients during the course of treatment. All references to diagnoses, psychological test findings, medications, and patient identifying information were deleted, so that, the diagnosticism could remain unbiased and blind to the purposes, procedures, and hypotheses of the study. After reading each case report, the psychologist assigned the patients to one of the four following categories in a multiple choice format: neurotic disorder, borderline disorder, schizophrenic disorder, or none of the above (see Appendix A). From these procedures, a psychiatric sample \( N = 78 \) consisting of 24 neurotic, 27 borderline, and 27 schizophrenic patients was defined.
Thus, the agreement rate between discharge and cross-validation diagnoses was 63.9 percent.

Once the cross-validated groups were determined, copies of the patients' Rorschach and WAIS protocols were retrieved from psychological test files. Patients' names were removed and the protocols were coded. Due to illegible records, one borderline and one schizophrenic subject were dropped from the study, thus bringing to 76 the size of the clinical sample.

In order to provide additional information about the clinical groups, Gunderson's DIB (Note 4) was modified by the experimenter for retrospective application to clinical case summaries. The modified version of the DIB appears in Appendix B. The experimenter, who was blind with respect to diagnosis, read each of the 76 case summaries from the cross-validated groups and scored them on the 29 statements contained within the modified DIB.

Among the non-patient control group, 13 volunteers were administered the Rorschach and the WAIS by the experimenter. The Rorschach and WAIS were administered to the seven remaining non-patient volunteers by a different experimenter in a previous investigation at Sinai (Note 1). All control subjects were administered the Rorschach, according to Exner's (1974) technique, by experimenters with comparable levels of experience.

Each Rorschach protocol was examined by the experimenter, and all human responses were identified. Three neurotic, one borderline, and two schizophrenic participants failed to produce any human responses and, therefore, were excluded from the study of object
representation. To control for experimenter bias, each response (N = 496) was coded, transcribed separately, and presented randomly to the experimenter for scoring. Counterbalancing was also introduced to eliminate any effect due to the order of scoring. Thus, half of the responses were scored first on the structural scale (see Appendix C). The remainder were then scored on the thematic scale (see Appendix D), and this process was repeated in reverse fashion for the second scoring of each response. Approximately 10 percent (N = 52) of the responses were randomly chosen and presented to an assistant for scoring, so that, an estimate of scoring reliability could be obtained. The assistant who was an advanced doctoral student in clinical psychology remained uninformed about the hypotheses and the group membership of the responses to be scored. After scoring was completed, the responses were reassembled according to the subjects who produced them, thus permitting the transcription of scores and calculation of group means.

Statistics

The initial step in data analysis involved psychiatric group comparisons on the 29 symptomatic/behavioral items of the DIB. Since the modified DIB yields frequency count data (see Appendix B), multiple chi square tests were performed (Siegel, 1956, pp. 42-47). For 17 DIB variables, low cell frequency counts ruled out the use of the chi square procedure, and the binomial test was substituted (Siegel, 1956, pp. 36-42). The latter procedure, unlike chi square, does not permit an overall test of significant differences for more
than two groups.

The two main hypotheses of significant differences between the four subject groups on the structural and thematic scales were tested by one way analysis of variance (ANOVA) of mean object representation scores. Analysis of covariance (ANCOVA) was also carried out on the highest score obtained by subjects on each of these two measures. Total response productivity on the Rorschach was the covariate variable in this latter analysis.

In addition to the above analyses, multiple ANCOVA were performed on scores from each of the 18 developmental subcategories of the structural scale. To control for the unwanted effect of Rorschach productivity, a method for analysis of covariance recommended by Kelter and Marsden (1970) was used. In this technique, the covariate score consists of the total number of Rorschach responses, minus the score obtained on the Rorschach dependent variable. Thus, each of the 18 variables within the structural scale has a unique set of covariate scores.

Analyses of variance and covariance in this study were performed with the S.A.S. General Linear Models program (S.A.S., 1979). The S.A.S. Correlation program (S.A.S., 1979) was used to calculate correlation coefficients between scores from the two object representation scales.
CHAPTER III
RESULTS

Participant Characteristics
One-way ANOVAS were performed separately for the demographic variables of age, I.Q., and education (see Table 1). Depending on the appearance of significant F's, Duncan's Multiple Range Test (alpha = .05; Kirk, 1968, pp. 93-94) was carried out to determine which of the comparisons are significant.

Significant between groups differences were found for I.Q., $F(3, 81) = 10.17, p < .001$, and education, $F(3, 81) = 8.76, p < .0001$. Subsequent use of the Duncan's Test revealed that the non-patient group had significantly higher WAIS full scale I.Q.'s than the schizophrenics ($W 4.81 = 8.26$, difference = 18.5), borderlines ($W 3.81 = 7.73$, difference = 17.2), and neurotics ($W 2.81 = 7.42$, difference = 14.3). All remaining comparisons among the patient groups were non-significant. A similar pattern emerged for level of education; non-patients had significantly higher education than the schizophrenics ($W 4.79 = 1.3$, difference = 2.82), neurotics ($W 3.79 = 1.34$, difference = 2.69), and borderlines ($W 2.79 = 1.19$, difference = 2.05). Once again, none of the patient groups differed significantly in education.

The ANOVA performed on age scores resulted in a finding of
marginal non-significance, \( F(3,42) = 2.54, p < .07 \). Inspection of Table 1 reveals that a difference in mean ages between non-patients (\( \bar{x} = 26.1 \)) and neurotics (\( \bar{x} = 32.4 \)) was an important contributing factor in this near significant finding.

**Diagnostic Interview for Borderlines**

In order to determine whether the three diagnostic groups did, in fact, differ from each other in terms of symptom and/or behavior patterns, multiple chi square and binomial tests were performed across the 29 statements of the modified DIB (see Appendix B). In the case of 12 DIB variables with sufficiently high expected cell frequencies, overall chi square tests were first performed on the scores of the entire clinical sample. Provided that the overall \( \chi^2 \) value was significant (\( p < .05 \)) for a given variable, chi square tests were then performed on each pair of frequency scores, in order to determine which of the groups differ. For 17 remaining DIB variables with low expected cell frequencies, the binomial test was deemed appropriate. Since the binomial test cannot be applied to more than two groups, it was performed on each possible pair of frequency scores for each appropriate variable. One-tailed binomial tests were accepted as significant at the \( p < .05 \) level where predictions could be made regarding the direction of differences. Table 2 presents group frequency scores for the 29 DIB variables and, where relevant, \( \chi^2 \) values pertaining to the entire clinical sample.

As can be seen from Table 2, significant differences between clinical groups were found for 13 of the 29 variables, using either
TABLE 2

Frequencies of DIB Scores Across Diagnostic Group

<table>
<thead>
<tr>
<th>Statement</th>
<th>Neurotic</th>
<th>Borderline</th>
<th>Schizophrenic</th>
<th>$\chi^2$</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Work or school instability</td>
<td>14</td>
<td>19</td>
<td>22</td>
<td>1.19</td>
</tr>
<tr>
<td>2. Special achievement</td>
<td>3</td>
<td>2</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>3. Active social life</td>
<td>6a</td>
<td>2a,b</td>
<td>0b</td>
<td></td>
</tr>
<tr>
<td>4. Appropriate appearance</td>
<td>13a</td>
<td>10a</td>
<td>1b</td>
<td>10.6**</td>
</tr>
<tr>
<td>5. Self-mutiliation</td>
<td>1</td>
<td>6</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>6. Manipulative suicide threat or gesture</td>
<td>2a</td>
<td>11b</td>
<td>3a</td>
<td>8.55*</td>
</tr>
<tr>
<td>7. Drug abuse</td>
<td>2a</td>
<td>12b</td>
<td>8a,b</td>
<td>6.21*</td>
</tr>
<tr>
<td>8. Sexually deviant practice</td>
<td>0</td>
<td>3</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>9. Other impulse pattern</td>
<td>4</td>
<td>10</td>
<td>9</td>
<td>2.12</td>
</tr>
<tr>
<td>10. Depression</td>
<td>23</td>
<td>25</td>
<td>18</td>
<td>1.41</td>
</tr>
<tr>
<td>11. Anger</td>
<td>10</td>
<td>18</td>
<td>11</td>
<td>2.47</td>
</tr>
<tr>
<td>12. Demanding or entitled</td>
<td>3a,b</td>
<td>9a</td>
<td>2b</td>
<td></td>
</tr>
<tr>
<td>13. Chronic dysphoria, anhedonia, emptiness</td>
<td>1</td>
<td>4</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>14. Flat or Elated</td>
<td>2a</td>
<td>0a</td>
<td>12b</td>
<td></td>
</tr>
<tr>
<td>15. Derealization</td>
<td>1</td>
<td>1</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>16. Depersonalization</td>
<td>0a</td>
<td>1a,b</td>
<td>5b</td>
<td></td>
</tr>
<tr>
<td>17. Brief psychotic depression</td>
<td>0a</td>
<td>1a,b</td>
<td>6b</td>
<td></td>
</tr>
</tbody>
</table>

Continued
<table>
<thead>
<tr>
<th></th>
<th>Neurotic</th>
<th>Borderline</th>
<th>Schizophrenic</th>
<th>( \chi^2 )</th>
</tr>
</thead>
<tbody>
<tr>
<td>18. Brief paranoid experience</td>
<td>la</td>
<td>9b</td>
<td>24c</td>
<td>22.57***</td>
</tr>
<tr>
<td>19. Psychotic experience with drugs</td>
<td>0</td>
<td>0</td>
<td>2</td>
<td>----</td>
</tr>
<tr>
<td>20. Hallucinations or nihilistic, grandiose, bizarre delusions</td>
<td>0a</td>
<td>5b</td>
<td>21c</td>
<td>26.41***</td>
</tr>
<tr>
<td>21. Mania or widespread persistent delusions or hallucinations</td>
<td>0a</td>
<td>0a</td>
<td>11b</td>
<td>----</td>
</tr>
<tr>
<td>22. Regression in therapy or hospital</td>
<td>0</td>
<td>2</td>
<td>2</td>
<td>----</td>
</tr>
<tr>
<td>23. Avoids being alone</td>
<td>0</td>
<td>4</td>
<td>1</td>
<td>----</td>
</tr>
<tr>
<td>24. Loner</td>
<td>3a</td>
<td>13b</td>
<td>16b</td>
<td>7.71*</td>
</tr>
<tr>
<td>25. Caretaker role or conflict over care</td>
<td>0</td>
<td>3</td>
<td>3</td>
<td>----</td>
</tr>
<tr>
<td>26. Unstable relationships</td>
<td>3</td>
<td>5</td>
<td>4</td>
<td>----</td>
</tr>
<tr>
<td>27. Devaluation, manipulation, hostility</td>
<td>2a</td>
<td>10b</td>
<td>3a,b</td>
<td>7.09*</td>
</tr>
<tr>
<td>28. Dependency and masochism</td>
<td>11</td>
<td>11</td>
<td>5</td>
<td>3.0</td>
</tr>
</tbody>
</table>

Continued
TABLE 2 Continued

<table>
<thead>
<tr>
<th></th>
<th>Neurotic</th>
<th>Borderline</th>
<th>Schizophrenic</th>
</tr>
</thead>
<tbody>
<tr>
<td>29. Staff splitting or counter-transference reactions</td>
<td>0</td>
<td>4</td>
<td>0</td>
</tr>
</tbody>
</table>

Note 1: Blanks appear adjacent to variables whose low cell frequencies ruled out the use of chi square. The binomial test was substituted in these cases.

Note 2: Frequencies not having the same letter are significantly different ($p < .05$)

* $p < .05$
** $p < .01$
*** $p < .001$
chi square or the binomial test. In the social adaptation content areas, differences appeared on two items, active social life and appropriate appearance. The neurotics had significantly more active social lives than the schizophrenics, (binomial $p = .039$, two tailed). The borderline group occupied an intermediate position between the neurotics and schizophrenics on this item, and did not differ from either (see Table 2). In personal appearance, the schizophrenics were rated significantly less appropriate and conventional than both borderline ($\chi^2 = 7.63$, df = 1, $p < .01$) and neurotic patients ($\chi^2 = 11.29$, df = 1, $p < .001$) who did not differ.

Impulse-action content on the modified DIB also differentiated the groups on two items, manipulative suicide threat and drug abuse. Borderlines made significantly more suicidal gestures than schizophrenics ($\chi^2 = 4.57$, df = 1, $p < .05$) and neurotics ($\chi^2 = 5.54$, df = 1, $p < .02$). The latter two groups did not differ. The only significant contrast on the drug abuse item concerns the borderline and neurotic groups ($\chi^2 = 6.38$, df = 1, $p < .02$). As can be seen from Table 2, the borderlines had the highest and the neurotics had the lowest frequency of drug abuse, with the schizophrenics occupying an intermediate position.

In the next content area, affect, clinical groups differed in demandingness or entitlement and in flat or elated affect. The borderline patients were significantly more demanding or entitled than schizophrenics (binomial $p = .033$, one tailed), and although borderlines had a higher frequency of scores on this item than
neurotics (see Table 2), the latter comparison was not significant. Since higher levels of demandingness and entitlement would be predicted of borderlines (Gunderson & Singer, 1975), a one tailed binomial test for the borderline-schizophrenic contrast was accepted as significant. The flat or elated affect item yielded two significant contrasts: the schizophrenics were flat or elated more often than neurotic (binomial $p = .05$, two tailed) and borderline patients (binomial $p = .001$, two tailed).

Not surprisingly, the psychotic items best differentiated the groups; significant differences were found on five out of eight psychotic items including, depersonalization, brief psychotic depressed experiences, brief paranoid experiences, drug free hallucinations and delusions, and manic episodes or widespread hallucinations and delusions. As a group, schizophrenics experienced all of these symptoms most frequently.

Comparisons between individual groups showed that schizophrenics experienced more depersonalization than neurotics (binomial $p = .038$, one tailed) as well as more brief psychotic depression (binomial $p = .039$, two tailed). No other contrasts were significant for these two items. Schizophrenics also had more manic episodes or widespread hallucinations and delusions than neurotics (binomial $p < .001$, two tailed) and borderlines (binomial $p < .001$, two tailed). Once again, the contrast between the latter groups was not significant.

On two of the psychotic items, brief paranoid experiences and drug free hallucinations and delusions, the three groups were
differentiated simultaneously. Thus, schizophrenics had more brief paranoid experiences than borderlines \( (x^2 = 6.82, df = 1, p < .01) \) who, in turn, had more than neurotics \( (x^2 = 5.79, df = 1, p < .02) \).

Similarly, schizophrenics had more drug free hallucinations and delusions than borderlines \( (x^2 = 9.85, df = 1, p < .01) \) who, in turn, experienced these more often than neurotics \( (x^2 = 4.6, df = 1, p < .05) \).

Interpersonal relations, the final DIB content area, differentiated clinical groups on two items including social isolation and devaluation, manipulation, and hostility. The neurotic patients were less socially isolated than both schizophrenics \( (x^2 = 7.9, df = 1, p < .01) \) and borderlines \( (x^2 = 5.48, df = 1, p < .02) \). The latter two groups did not differ in social isolation. With respect to devaluation, manipulation, and hostility, a single contrast between the high scoring borderlines and the low scoring neurotics was significant \( (x^2 = 4.72, df = 1, p < .05) \).

Based on all of the above results, it is clear that the three patient groups differ in terms of their symptom and/or behavior patterns.

**Scoring Reliability**

Estimates of interscorer reliability for the object representation measures were derived from Pearson Product-Moment correlation coefficients between the two rater's scores. Based on 52 total scale scores, the inter-rater correlation coefficients were \( r = .86 \) for the structural scale and \( r = .79 \) for the thematic scale.

Correlation coefficients were also calculated from a larger set
of 31 practice responses combined with the 52 randomly chosen
responses. Based on this larger pool of scores (N = 83), the inter-rater
correlation coefficients were $r = .86$ for the structural measure
$\rho = .86$ for the thematic measure. The magnitude of these correlations
falls within acceptable limits for scoring reliability.

**Correlation Between Measures**

To test the hypothesis of significant correlation between the
thematic and structural object representation scales, Pearson Product-
Moment correlation was carried out between scores derived from these
two measures. This was done for the entire participant sample, and
for each group separately. Correlations were based on total
scale scores for each separate human response. The results are
summarized in Table 3.

As can be seen from Table 3, the correlation coefficient between
the two measures for the entire participant sample was $r = .65$,
($\rho < .001$). Thus, hypothesis three is confirmed. The additional
correlations between the measures for each participant group were
also found to be moderately high and significant ($\rho < .001$) in each
case. The correlations were of the same order of magnitude in the
control ($r = .68$), neurotic ($r = .69$), and borderline ($r = .66$)
groups. The intercorrelation between object representation scales
was slightly lower in the case of schizophrenic subjects ($r = .59$).
However, the difference between this correlation and the correlations
obtained in the other samples proved to be non-significant using
Fisher's Z transformation technique (McNemar, 1965, pp. 139-140).
### TABLE 3

Intercorrelations Between Structural and Thematic Object Representation Scores

<table>
<thead>
<tr>
<th>Group</th>
<th>Pearson r</th>
</tr>
</thead>
<tbody>
<tr>
<td>Controls</td>
<td>.68*</td>
</tr>
<tr>
<td>(N = 20)</td>
<td></td>
</tr>
<tr>
<td>Neurotics</td>
<td>.69*</td>
</tr>
<tr>
<td>(N = 21)</td>
<td></td>
</tr>
<tr>
<td>Borderlines</td>
<td>.66*</td>
</tr>
<tr>
<td>(N = 25)</td>
<td></td>
</tr>
<tr>
<td>Schizophrenics</td>
<td>.59*</td>
</tr>
<tr>
<td>(N = 24)</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>.65*</td>
</tr>
<tr>
<td>(N = 90)</td>
<td></td>
</tr>
</tbody>
</table>

*P < .0001
Diagnostic Group Differences in Object Representation

Group means and standard deviations for total Rorschach responses and human responses appear in Table 4. The ANOVAS performed on these variables were based on the entire cross-validated sample (N = 96).

A significant between groups difference was found for total Rorschach responses, F(3,92) = 9.95, p < .001. Further analysis using the Duncan's test (alpha = .05) revealed that the non-patients were more productive on the Rorschach than the neurotics (W 3,92 = 6.67, difference = 15.06), schizophrenics (W 3,92 = 6.33, difference = 14.16), and borderlines (W 2,92 = 6.01, difference = 11.93). All other comparisons were non-significant.

The ANOVA for human responses also confirmed the presence of a significant difference between groups, F(3,92) = 3.86, p < .02. The Duncan's Test resulted in only one significant comparison; the control group gave more human responses than the neurotic group (W 4,92 = 2.15, difference = 3.37). However, the difference between controls and schizophrenics also approached significance (W 3,92 = 2.05, difference = 1.91).

The two main hypotheses of the study predict significant differences between each of the participant groups in mean object representation scores on both structural and thematic scales. Group means and standard deviations for the mean object representation scores are provided in Table 5. Statistical analysis of this, and all following object representation data is based on the sample of participants who provided Rorschach human responses (N = 90).
TABLE 4
Group Means and Standard Deviations for Total Rorschach and Rorschach Human Responses

<table>
<thead>
<tr>
<th>Group</th>
<th>Total Responses</th>
<th>Human Responses</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Mean</td>
<td>S.D.</td>
</tr>
<tr>
<td>Non-patient</td>
<td>31.85</td>
<td>16.24</td>
</tr>
<tr>
<td>(N = 20)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Neurotic</td>
<td>16.79</td>
<td>5.16</td>
</tr>
<tr>
<td>(N = 24)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Borderline</td>
<td>19.92</td>
<td>10.05</td>
</tr>
<tr>
<td>(N = 26)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Schizophrenic</td>
<td>17.69</td>
<td>7.46</td>
</tr>
<tr>
<td>(N = 26)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
TABLE 5

Means and Standard Deviations for Mean Total Score on the Structural and Thematic Scales

<table>
<thead>
<tr>
<th>Group</th>
<th>Measure</th>
<th>Blatt et al.</th>
<th>Krohn and Mayman</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Mean</td>
<td>S.D.</td>
</tr>
<tr>
<td>Non-patient</td>
<td></td>
<td>8.49</td>
<td>2.61</td>
</tr>
<tr>
<td>(N = 20)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Neurotic</td>
<td></td>
<td>9.80</td>
<td>3.29</td>
</tr>
<tr>
<td>(N = 21)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Borderline</td>
<td></td>
<td>8.70</td>
<td>2.85</td>
</tr>
<tr>
<td>(N = 25)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Schizophrenic</td>
<td></td>
<td>9.55</td>
<td>2.84</td>
</tr>
<tr>
<td>(N = 24)</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
The ANOVA performed on the mean structural scale scores did not result in a significant difference, $F(3, 86) = 1.06$, $p < .37$. A priori $t$ tests associated with pre-planned comparisons between group means were also non-significant. Thus, hypothesis 1 was not confirmed.

Similar findings were obtained for the thematic scale. The ANOVA carried out on this measure was non-significant, $F(3, 86) = .59$, $p < .63$. Moreover, a priori $t$ tests between group means proved non-significant as well. Therefore, hypothesis two was not confirmed.

Although the groups did not differ in mean object representation scores, it is conceivable that differences are present in the highest obtained object representation scores. In order to test this possibility, one way ANOVAs were carried out on the highest scores obtained by subjects on each of the measures. Total number of Rorschach responses was employed as a covariate variable in each analysis. The covariate adjusted means of the high scores and the standard error of the adjusted means for both measures appear in Table 6.

An overall non-significant difference between groups was found when ANCOVA was performed on high scores from both the structural, $F(3, 85) = .27$, $p < .94$, and the thematic scales, $F(3, 85) = 1.43$, $p < .24$. Despite the overall absence of significant difference, however, a priori $t$ tests for the pre-planned comparisons revealed one significant difference. The high scores of the non-patients on the thematic scale were significantly greater than the high scores of the neurotics, $t_{.05/2, 85} = 2.03$, $p < .05$ (see Table 4).
<table>
<thead>
<tr>
<th>Group</th>
<th>Measure</th>
<th>Blatt et al.</th>
<th>Krohn and Mayman</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Mean</td>
<td>S.E.</td>
</tr>
<tr>
<td>Non-patients</td>
<td></td>
<td>14.70</td>
<td>.73</td>
</tr>
<tr>
<td>(N = 20)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Neurotics</td>
<td></td>
<td>13.87</td>
<td>.66</td>
</tr>
<tr>
<td>(N = 21)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Borderline</td>
<td></td>
<td>13.94</td>
<td>.59</td>
</tr>
<tr>
<td>(N = 25)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Schizophrenic</td>
<td></td>
<td>14.13</td>
<td>.62</td>
</tr>
<tr>
<td>(N = 24)</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Diagnostic Group Differences in Developmental Subcategories of the Structural Scale

In the absence of significant findings for the structural measure based on a total scale score, group differences within each of the developmental subcategories of the structural measure were explored further. Analysis of covariance was used for this purpose, so that, the unwanted effect of Rorschach productivity could be controlled. A technique recommended by Kalter and Marsden (1970) for deriving covariate scores was used. Since the structural measure contains scores for 18 developmental subcategories, multiple ANCOVAs were carried out across 18 dependent variables. Table 7 presents covariate adjusted means for the various subcategory scores and the standard error of adjusted means across diagnostic groups.

Before adjustment for the covariate was carried out, significant between groups differences were obtained for three subcategories including, full quasi-human responses, $\bar{F}(3,85) = 3.61, p < .02$, structural articulation, $\bar{F}(3,85) = 4.33, p < .007$, and incongruent action, $\bar{F}(3,85) = 2.76, p < .05$. After scores were adjusted for Rorschach productivity, a significant difference remained for only one of these variables, structural articulation, $\bar{F}(3,85) = 3.06, p < .04$. Individual group comparisons in structural articulation were conducted using the Duncan's Test ($\alpha = .05$). It was found that the non-patients provided significantly more structural articulation in their responses than schizophrenics ($W 4,85 = 2.32$, difference $= 3.32$), borderlines ($W 3,85 = 2.24$, difference $= 2.63$), and neurotics ($W 2,85 = 2.22$, difference $= 2.61$). The patient
TABLE 7

Adjusted Means and Standard Errors of the Mean for the Structural Scale

Subcategories According to Diagnostic Group

<table>
<thead>
<tr>
<th>Subcategory Variable</th>
<th>Nonpatient</th>
<th>Neurotic</th>
<th>Borderline</th>
<th>Schizophrenic</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Mean</td>
<td>S.E.</td>
<td>Mean</td>
<td>S.E.</td>
</tr>
<tr>
<td>Full Human</td>
<td>3.09</td>
<td>.49</td>
<td>2.02</td>
<td>.43</td>
</tr>
<tr>
<td>Full Quasi-Human</td>
<td>1.22</td>
<td>.25</td>
<td>1.93</td>
<td>.23</td>
</tr>
<tr>
<td>Human Detail</td>
<td>1.25</td>
<td>.39</td>
<td>1.45</td>
<td>.34</td>
</tr>
<tr>
<td>Quasi-Human Detail</td>
<td>.23</td>
<td>.12</td>
<td>.12</td>
<td>.10</td>
</tr>
<tr>
<td>Structural Articulation</td>
<td>6.56</td>
<td>.84</td>
<td>3.95</td>
<td>.78</td>
</tr>
<tr>
<td>Functional Articulation</td>
<td>4.22</td>
<td>.66</td>
<td>2.99</td>
<td>.59</td>
</tr>
<tr>
<td>Unmotivated Action</td>
<td>3.11</td>
<td>.46</td>
<td>2.32</td>
<td>.41</td>
</tr>
<tr>
<td>Reactive Motive</td>
<td>.14</td>
<td>.11</td>
<td>.13</td>
<td>.10</td>
</tr>
<tr>
<td>Intentional Motive</td>
<td>.17</td>
<td>.06</td>
<td>-.01</td>
<td>.06</td>
</tr>
</tbody>
</table>

Continued
<table>
<thead>
<tr>
<th>Subcategory Variable</th>
<th>Nonpatient Mean</th>
<th>S.E.</th>
<th>Neurotic Mean</th>
<th>S.E.</th>
<th>Borderline Mean</th>
<th>S.E.</th>
<th>Schizophrenic Mean</th>
<th>S.E.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fusion of Object-Action</td>
<td>.36</td>
<td>.22</td>
<td>.15</td>
<td>.19</td>
<td>.38</td>
<td>.17</td>
<td>.21</td>
<td>.18</td>
</tr>
<tr>
<td>Incongruent Action</td>
<td>.61</td>
<td>.21</td>
<td>.16</td>
<td>.19</td>
<td>.12</td>
<td>.17</td>
<td>.64</td>
<td>.18</td>
</tr>
<tr>
<td>Specific Action</td>
<td>2.44</td>
<td>.39</td>
<td>2.15</td>
<td>.35</td>
<td>2.3</td>
<td>.31</td>
<td>2.23</td>
<td>.32</td>
</tr>
<tr>
<td>Congruent Action</td>
<td>.07</td>
<td>.09</td>
<td>.09</td>
<td>.08</td>
<td>.24</td>
<td>.07</td>
<td>.03</td>
<td>.07</td>
</tr>
<tr>
<td>Active-Reactive Interaction</td>
<td>.15</td>
<td>.10</td>
<td>.10</td>
<td>.09</td>
<td>.16</td>
<td>.08</td>
<td>.13</td>
<td>.08</td>
</tr>
<tr>
<td>Malevolent Action</td>
<td>.56</td>
<td>.22</td>
<td>.60</td>
<td>.20</td>
<td>.55</td>
<td>.18</td>
<td>.60</td>
<td>.19</td>
</tr>
<tr>
<td>Benevolent Action</td>
<td>2.14</td>
<td>.39</td>
<td>1.26</td>
<td>.34</td>
<td>1.81</td>
<td>.31</td>
<td>2.07</td>
<td>.33</td>
</tr>
</tbody>
</table>

* p < .05
+ p < .06
groups did not differ from each other.

In the case of one of the subcategory variables, intentional motivation, an initially non-significant difference between groups closely approached significance following adjustment for the covariate, $F(3, 85) = 2.70, p < .06$. The Duncan's procedure ($\alpha = .05$) was subsequently used to investigate the differences between individual group means. It was found that the non-patients tended to provide more intentional motivation in their responses than neurotics ($W 4, 85 = .175$, difference = .18) and borderlines ($W 3, 85 = .163$, difference = .17), but not more than schizophrenics ($W 2, 85 = .156$, difference = .06).

Based on the above findings, it can be concluded that the various developmental subcategories of the structural measure do not differentiate diagnostic groups, with the possible exception of structural articulation and intentional motivation.
CHAPTER IV
DISCUSSION

This study has attempted to determine the overall quality of internalized self and object representation in individuals presenting a broad range of psychopathology. Of particular interest was the simultaneous investigation of motivational/thematic and formal/structural properties of object representation on the Rorschach.

Recent advances in the study of borderline personality disorder from the point of view of object relations theory indicate that this form of psychopathology is based on stage specific impairment in object relations development (Kernberg, 1975; Mahler, 1968; Mahler, Pine & Bergman, 1975; Blanck & Blanck, 1979). At the same time, object relations impairment is considered to be more severe in schizophrenia and less evident in neurosis. Unfortunately, there have been few empirical investigations of the object relations construct using psychological tests. Moreover, existing research has relied on impressionistic measures.

Although thematic (Krohn & Mayman, 1974) and structural (Blatt et al., 1976) object representation measures have now been developed, they have been used simultaneously in only one study (Spear & Lapidus, 1981). Furthermore, research has been limited by the exclusion of normal and less seriously disturbed neurotic groups. Therefore, the ability of both measures to discriminate groups along the entire
range of object representation impairment has not previously been determined. The present study was conducted in response to these shortcomings.

Three hypotheses were considered. According to hypotheses 1 and 2, schizophrenic, borderline, neurotic, and non-patient groups should each obtain significantly different scores, in order of increasing value, on the structural and thematic object representation scales. Neither of these hypotheses was confirmed. A third hypothesis predicted a significant correlation between the structural and thematic scales, as applied to the Rorschach. Hypothesis 3 was confirmed.

Before discussing the meaning of these findings, a word about group homogeneity may be in order. The three patient groups did not differ in age, education or intelligence. Significant differences were found between the non-patients and each patient group in intelligence and education. However, these differences would be expected, since the non-patients were predominantly from a college population, and since it is well known that intelligence scores are reduced by the presence of overt emotional difficulties.

In addition to higher intelligence scores, non-patients were significantly more productive on the Rorschach than each patient group. An association has been noted previously between intelligence and Rorschach productivity (Klopfer & Davidson, 1962, pp. 144-145; Exner, 1976, p. 233-234). Therefore, it is possible that the non-patients' higher intelligence contributed to their greater productivity. Conversely, the operation of other influences in the patients, such as
depression or guardedness, may have limited their productivity
(Exner, 1976, p. 233).

A final difference between groups concerns the total number of
Rorschach human responses. Once again, the non-patient controls
gave the highest frequency of human responses, but only one
significant difference was found with the relatively unproductive
neurotics. This finding must be interpreted cautiously, since human
responses are expected to vary with total responses. However, the
difference in human responsiveness could indicate a greater
disruptive effect of neurotic dysfunction on certain aspects of
and Draguns et al. (1967) observed a similar tendency towards fewer
human responses among depressed or inhibited neurotics, which they
attributed to a withdrawal of interest in social contacts. The fact
that 20 out of 24 neurotics in this study received discharge
diagnoses of depression would be consistent with such a trend.
Interestingly, Rapaport et al. (1968) maintain that withdrawal of
interest in social contacts, as indicated by a paucity of human
responses, need not imply an incapacity for warm and stable inter-
personal relationships.

Present Findings in Relation to Previous Research

The absence of significant differences between diagnostic groups
in this study contrasts with previous findings obtained by Spear and
Lapidus (1981). They reported significant differences between
borderline and schizophrenic groups on both structural and thematic
object representation scales.
An important factor in the non-replication of these previous findings appears to be the differential performance of schizophrenic subjects. Schizophrenics in the Spear and Lapidus (1981) study obtained a much lower mean on the structural scale ($X = 6.12$) than the present schizophrenic sample ($X = 9.55$), and there was a similar, but less pronounced difference between schizophrenic samples on the thematic scale. These observations raise the possibility that sample bias was an operative factor in the differential outcome between studies. Sample bias was, in fact, present in the selection of schizophrenic subjects; while only undifferentiated, non-paranoid schizophrenics were included by Spear and Lapidus, paranoid schizophrenics were frequently represented in the present sample (16 out of 26 schizophrenics were diagnosed as paranoid type). Thus, the presence of paranoid conditions could have been a factor in the relatively high scores of schizophrenics in this study.

Based on their significant findings, Spear and Lapidus concluded that the thematic and structural object representation scales are valid techniques for the differential assessment of internalized object relations (1981, p. 164). Their conclusion may have been premature, in that, the differentiation of several groups representing widely varying degrees of object relations impairment would be needed to demonstrate validity. The lack of differentiation between any of the groups in this study implies questionable validity for both measures, at least as regards their application to the Rorschach human response.

It should be noted that the moderately high correlation between
measures reported by Spear and Lapidus ($r = .50$) was replicated in this study ($r = .65$). This finding supports the contention that the structural and thematic scales measure overlapping, but not equivalent phenomena. However, the nature of what each measure remains open to question, given that neither scale was able to differentiate diagnostic groups.

Before turning to discussion of the developmental subcategories of the structural scale, the results of the analyses of high scores remain to be considered. Despite the overall lack of significant difference between groups in these scores, a single planned comparison between non-patients and neurotics on the thematic scale was significant. Unexpectedly, the neurotics obtained the lowest mean score of all groups on this variable.

To account for this finding, it may be useful to consider the previously discussed trend towards fewer human responses among neurotic subjects. That trend, it will be recalled, was tentatively explained as an outcome of decreased social interest among depressed or inhibited neurotics. Since the only significant difference on the thematic high scores was between non-patients and neurotics, once again, a similar interpretation may be germane. Thus, neurotic inhibition or depression, rather than disturbed object relations may best account for the smaller high scores obtained by neurotics on the thematic scale.

An implication of the foregoing interpretation is that thematic scale scores are affected by variables other than object representation. Krohn and Mayman (1974) addressed this issue in
their initial validation study. They found that the thematic scale yielded a relatively pure measure of object representation, only when it was applied to dream material. When it was applied to the Rorschach human response, a composite measure of severity of psychopathology and object representation occurred. Current findings provide tentative evidence that still other variables such as depression or inhibition may be tapped when the thematic scale is used in conjunction with the Rorschach.

In concluding this section, brief mention must be made of the analysis of differences in the developmental subcategories of the structural scale. Separate analyses were not conducted for accurately and inaccurately perceived responses, as in previous validation studies (Blatt et al., 1976; Ritzler et al., 1980). Perhaps for this reason, only one significant and one near significant difference were obtained in structural articulation and intentional motivation, respectively. This many differences is not much more than the .9 significant differences that would be expected by chance at the $p = .05$ level, given 18 separate analyses of covariance. Furthermore, the obtained differences were based upon the superior performance of the non-patients, which may, in turn, be explained by the higher intelligence and/or education of non-patients.

Although present and previous findings with respect to the subcategories of the structural scale cannot be directly compared, it can at least be stated that the subcategories are apparently unable to discriminate diagnostic groups independently of separate consideration for the form accuracy of the human response.
Other Findings

The successful differentiation of neurotic, borderline, and schizophrenic groups on the modified DIB stands in marked contrast to the main findings on object representation. Significant differences were found between the diagnostic groups on 13 out of 29 DIB statements. Further inspection of the data reveals that the direction of differences conforms closely with results obtained in previous research with the DIB.

In general, the results show that the schizophrenics were best differentiated from the other groups in the content areas of social adaptation and psychotic experience. They consistently demonstrated more psychotic symptoms including depersonalization, brief psychotic depressed experiences, brief paranoid experiences, drug free hallucinations and delusions, and manic episodes or widespread hallucinations or delusions. By virtue of their infrequent scores on active social life and appropriate appearance, they also evinced less social adaptiveness than borderlines and neurotics.

To some extent, the borderline patients were differentiated from other patients in all content areas of the modified DIB. In the affect area, they were more demanding or entitled, but less flat or elated than the schizophrenics. Interpersonally, they were more prone towards social isolation, as well as devaluation, manipulation, and hostility in comparison with neurotics. But, perhaps the most effective differentiation of borderlines comes from impulse-action content and psychotic experience. The impulsiveness of these patients was manifested in a higher frequency of manipulative suicide attempts.
in comparison with neurotics and schizophrenics. It was also revealed by their greater abuse of drugs. In the realm of psychotic experience, borderlines had fewer brief paranoid experiences, drug free hallucinations and delusions, and manic episodes or widespread hallucinations and delusions than schizophrenics. At the same time, they had more brief paranoid experiences and more drug free hallucinations and delusions than neurotics.

A relatively clear symptom/behavioral pattern emerged for the remaining group, the neurotics, on the modified DIB. In all content areas, they showed signs of milder disturbance than the other two groups. This was particularly evident in healthier social adaptation and in fewer psychotic disturbances, and fewer disturbances in interpersonal relations and impulse-action tendencies.

For the most part, the findings that emerged replicate earlier findings by Gunderson (1977) and Gunderson and Kolb (1976). Three exceptions were the differences obtained in demandingness or entitlement, depersonalization, and brief psychotic depressed reactions. The direction of these differences is consistent with the borderline syndrome (Gunderson & Singer, 1975). Nevertheless, in previous studies by Gunderson (1977; Gunderson & Kolb, 1979), these findings were not reported.

It should be emphasized that current findings, relative to the performance of each diagnostic group on the DIB, are tentative, since the findings were based on available, and possibly incomplete, information from hospital records. Differentiation of the groups on the other items might have been achieved, had information been more
complete. Another issue concerns the number of significant differences that would be expected through chance alone, given the large number of separate, non-parametric analyses that were performed. Based on 29 independent tests, 1.45 significant differences would be expected by chance alone at the .05 level of probability. Although this number is small in comparison with the number of differences actually obtained, some caution is called for in interpreting individual findings.

Taking into consideration the abovementioned limitations, it can be concluded that the findings provide support for the diagnostic validity of the DIB and point towards its usefulness as a research tool. The findings also support the validity of a separate diagnostic category for borderline disorders. In no small way, these conclusions represent a significant achievement of this study.

Clinical Implications and Considerations For Future Study

Perhaps no other endeavor is more worthy of our efforts than to understand more about the subjectively perceived and experienced self in its relatedness to the human community. One aspect of this endeavor, the development of a clinically useful measure, has barely begun. Although generally negative results were obtained for the two instruments in this study, some indication emerges as to the direction that future research might take.

One potential avenue for further Rorschach research would involve a combination of approaches used in the thematic and structural scales. The thematic scale, with its emphasis on affectively colored
thematic material, has the advantage of being sensitive to issues that have known clinical relevance. The structural scale has a different advantage, in that, it elaborates different aspects of object representation and allows for separate scoring of each. A combination of these approaches might be useful in the development of alternative measures.

Any such attempt is, of course, predicated upon determination of the most appropriate data base for assessing the quality of object representation. As present findings suggest, sole reliance on the Rorschach human response may place restrictions on the assessment of object representation, if the human response is readily affected by non-related factors. Since all Rorschach responses are undoubtedly influenced to some degree by the quality of the individual's object relations, it might be possible to exploit other types of responses. Alternatively, other projective instruments, such as the T.A.T. might provide fruitful information about object representation.

In conclusion, the findings of this study highlight the need for careful consideration, in future research, of issues such as sample bias and the range of disorders to be investigated. It was suggested that these aspects of research design contribute towards conflicting findings, and it is recommended that future investigations in this area include diagnostic groups that are known to vary widely in object relations impairment. A prospective research design might also be considered, since it would facilitate the use of other criterion measures such as independent clinical ratings of the maturity of object relations. Hopefully, future study of object representation
in representative and widely varying clinical groups will contribute towards increased understanding and the development of valid clinical instruments.

Summary and Conclusions

In summary, the validity of the structural and thematic object representation scales as applied to the Rorschach human response was not supported. Predicted differences were not found between cross-validated diagnostic groups which vary along a theoretical dimension of object relations impairment. One significant difference did appear between non-patient controls and neurotics on high scores from the thematic scale. It was felt, however, that a withdrawal of social interest, due to depression or inhibition could account for this. The range of disorders selected for study and sample bias were discussed as possible contributing factors in the non-replication of a significant difference found in one previous study (see Spear & Lapidus, 1981).

Interestingly, the finding of a significant correlation \( r = .65, p < .0001 \) between the two object representation measures supports the contention that they tap overlapping phenomena. To what extent this depends upon the data source itself could be determined in future research, perhaps with a view towards combining the auspicious features of both measures.

As is often the case in research, the preponderance of significant findings comes from outside the main area of interest. In this study, it was shown that a modified version of the DIB is able
to differentiate borderline patients from schizophrenic and neurotic groups, even on the basis of incomplete information. This finding is a considerable achievement of the present investigation. Beyond any adjunctive usefulness it plays here, it affirms the value of the DIB as a clinical and research tool. More importantly, it provides support for the diagnostic validity of the borderline category, as it is typically employed in clinical settings. Hopefully, these outcomes will prove useful in the pursuit of answers for the many questions that remain.
APPENDIX A

MULTIPLE CHOICE DIAGNOSTIC FORM
APPENDIX A

MULTIPLE CHOICE DIAGNOSTIC FORM

Subject #
1. Neurotic Disorder
2. Borderline Disorder
3. Schizophrenic Disorder
4. None of the above
APPENDIX B

MODIFIED DIAGNOSTIC INTERVIEW FOR BORDERLINES
APPENDIX B

MODIFIED DIAGNOSTIC INTERVIEW FOR BORDERLINES

Patient #

Social Adaptation

___ 1. The patient has lacked stability in work or at school during the past two years (2 year framework).

   e.g., work/school record steady and progressive vs erratic and falling

   work/school record suffers due to personal distress

___ 2. The patient has areas or periods of special achievement effectiveness (2 year framework).

   e.g., special talents; skills, abilities, or periods of particular effectiveness in work/school

___ 3. The patient has an active social life involving groups of people (1 year framework).

   e.g., participates in social activities outside of immediate family, appears comfortable in social groups, meets new people easily

___ 4. This person would generally appear appropriate and conventional with their socio-economic peers (based on observation during hospitalization).

   e.g., reasonably polite, aware of social conventions attractive or well attired vs. withdrawn, bizarre, unapproachable.

Impulse - Action Patterns (2 year framework)

___ 5. The patient has slashed his/her wrist or otherwise mutilated him/herself.

___ 6. The patient has made a manipulative suicide threat or effort defined as any suicide attempt or gesture made in circumstances in which someone probably would know of the effort, i.e., seems primarily designed to effect a response from someone. This can include wrist slashing.
7. The patient has abused drugs. Do not include occasional usage of marijuana or alcohol.

8. The patient has a pattern of promiscuity, homosexuality, or repetitive sexually deviant practices.

9. The patient has an impulsive pattern not included in statements 5 - 8 above.
   e.g., runaway, assaults, trouble with the law

Affect (3 month framework)

10. The patient appears depressed or reports recent or chronic symptoms of depression.
    e.g., crying, weight change, sleep problems
    early morning awakening, loss of interest, brooding over death

11. The patient is angry, hot tempered or sarcastic.
    e.g., loses temper, irritable, argumentative,
    Sarcastic, assaultive

12. The patient is demanding or entitled.
    e.g., impatience or demandingness has lead to difficulties

13. The patient complains of chronic feelings of dysphoria or anhedonia or emptiness or loneliness.

14. The patient is noted to be flat or elated.

Psychotic Experience (3 month framework)

15. The patient experiences de-realization.
    e.g., feelings of unreality, dreamlike feelings, perception of things changing
    size or shape

16. The patient experiences depersonalization.
    e.g., feelings that the self is unreal, feelings of separation from the body, feelings that the body or its parts are strange or changing
17. The patient has drug free, brief psychotic depressed experiences.
   e.g., feeling worthless, hopeless, guilty for no reason

18. The patient has drug free, brief paranoid experiences.
   e.g., thought interference, thought insertion, feelings of external control, suspiciousness, feelings of being ridiculed or observed by others

19. The patient has had psychotic experiences on marijuana or alcohol or persisting psychotic symptoms after psychomimetics (amphetamines, LSD).

20. The patient has drug-free hallucinations, or nihilistic delusions (i.e., feelings of bodily decay or dismemberment), or grandiose delusions, or bizarre delusions.

21. The patient has had manic episodes or periods of persistent, widespread delusions or hallucinations.

22. The patient has had transient psychotic experiences which developed in psychotherapy or a clear behavioral regression after hospitalization.

Interpersonal Relations (3 year framework)

23. The patient is almost always with people or actively tries to avoid being alone.

24. Patient is socially isolated, a loner.

25. The patient actively seeks a relationship in which he/she takes care of others (e.g., nurse, veterinarian, housekeeper) or is in active conflict about giving and receiving care.

26. The patient forms intense, unstable one-to-one relationships.
   e.g., relationships are short term or characterized by recurrent breakups, or are emotionally stormy

27. Problems with devaluation, manipulation, and hostility recur in the patient's close relationships.
   e.g., discredits or ignores other's strengths and personal significance, uses covert ways to control or gain support from others, makes inappropriate demands
28. Problems with dependency and masochism recur in the patient's close relationships.

29. The patient has involved staff splitting or formed special relationships, or has evoked noteworthy countertransference problems by a therapist.

    e.g., splitting occurs when the patient places staff members into rigid and unrealistic all "good" and all "bad" categories. This may lead to disruptions in hospital routine.
APPENDIX C

SCORING SHEET: STRUCTURAL SCALE
APPENDIX C

SCORING SHEET: STRUCTURAL SCALE

I  Accuracy of response  
II  Differentiation  
   Human  
   Quasi-human  
   Human detail  
   Quasi-human detail  
III  Articulation  
   Size or physical structure  
   Clothing or hairstyle  
   Posture  
   Sex  
   Age  
   Role  
   Specific identity  
IV  Motivation of Action  
   Unmotivated  
   Reactive  
   Intentional  
V  Integration of Object and Action  
   Fusion of object and action  
   Incongruent action  
   Non-specific action  
   Congruent action
VI  Integration of the Interaction With Another Object
    Active-passive
    Active-reactive
    Active-active

VII  Content of Interaction
    Malevolent
    Benevolent
APPENDIX D

SCORING SHEET: THEMATIC SCALE
# APPENDIX D

## SCORING SHEET: THEMATIC SCALE

<table>
<thead>
<tr>
<th>Scale</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Isolated, lifeless, alien, strange, unpredictable world, alone with no others</td>
</tr>
<tr>
<td>2</td>
<td>Insubstantial, malevolent, brutal, cold and mechanical figures. Dehumanized, bizarre representations of sadistic impulses with no real human interaction</td>
</tr>
<tr>
<td>3</td>
<td>Awareness of vague, fluid, ephemeral others, without pervasive malevolence or bizarreness</td>
</tr>
<tr>
<td>4</td>
<td>Vague awareness of need gratifying others</td>
</tr>
<tr>
<td>5</td>
<td>Stereotyped, interchangeable figures with no uniqueness, depth or specificity; &quot;passers-by&quot; who lack real identity</td>
</tr>
<tr>
<td>6</td>
<td>Interest in and awareness of unique others, but without easy or mutual interaction. Distance from others maintained, parallel activity</td>
</tr>
<tr>
<td>7</td>
<td>Awareness of unique, varied and well defined others. Affective relatedness, but with childlike transference distortions</td>
</tr>
<tr>
<td>8</td>
<td>Rapport, emotional mutuality and nondistorted intimacy, in touch with thoughts, feelings and conflicts of self and others</td>
</tr>
</tbody>
</table>
REFERENCE NOTES


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