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RORSCHACH ASSESSMENT IN BORDERLINE PERSONALITY DISORDER:
A FOLLOW-UP STUDY

By

Laura Christine Baker

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ABSTRACT

RORSCHACH ASSESSMENT IN BORDERLINE PERSONALITY DISORDER: A FOLLOW-UP STUDY

By

Laura Christine Baker

Although by definition borderline personality disorder (BPD) and other personality disorders are characterized by long-term dysfunction (American Psychiatric Association, 1994) follow-up studies using symptom-based measures of borderline pathology have found that diagnostic stability is relatively low for intervals less than 5 years (Barasch, Frances, Hurt, Clarkin, & Cohen, 1985; Links, Mitton, & Steiner, 1993). It is unknown whether the reported changes in diagnostic status over time correspond to changes in personality dynamics. The present study used the Rorschach to assess aspects of personality structure in a group of inpatients diagnosed with BPD by the Diagnostic Interview for Borderlines (DIB; Gunderson, Kolb, & Austin, 1981) at two time periods: initial psychiatric hospitalization and follow-up 2-5 years later. Four aspects of personality functioning as assessed by the Rorschach were compared at both times: Object Relations, Defenses, Reality Testing, and Ego Capacity. Reality Testing and Ego Capacity were operationalized using Exner's (1986) Comprehensive System. Defenses on the Rorschach were measured using the Rorschach Defense Scales (Cooper, Perry, & Arnow, 1988), and Object Relations were assessed using the Human Experience Variable (Perry & Viglione, 1991). Results indicate that changes in Defenses were significantly correlated with changes in diagnostic status ($r = .64$, $p < .001$), such that those who no longer met DIB borderline criteria at follow-up had

improved on the Rorschach measure of defensive functioning. Post-hoc analyses revealed that the changes in Defenses were strongly correlated with changes in the DIB subscales Affect ($r = .51$, $p < .05$) and Social Adaptation ($r = .41$, $p = .06$). Subjects who were no longer BPD by the DIB at follow-up had better Time 1 Rorschach indices of Defenses, Object Relations, Reality Testing, and Ego Capacity than those who retained a BPD diagnosis, suggesting that those who improved diagnostically had better initial personality functioning. Considerable variability in Rorschach personality indices was observed among those receiving the BPD diagnosis.

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Introduction

Follow-up studies of borderline patients have sought to answer the question: what happens to borderlines over time? Competing definitions of "borderline" make this question complicated and challenging. Studies using symptom-based measures of borderline pathology have found that diagnostic stability is lower than expected in intervals less than five years (Barasch, Frances, Hurt, Clarkin, & Cohen, 1985; Links, Mitton, & Steiner, 1993; Pressler, 1990). What is unknown is whether patients who show diagnostic and symptomatic changes over relatively short intervals are also manifesting structural personality changes in the psychodynamic sense. Lacking from the literature are well-designed, prospective follow-up studies that use both symptom-based and psychodynamic diagnostic criteria for defining borderlines. Such studies would allow us to determine whether or not diagnostic instability in the symptom-based measures corresponds to changes in the underlying dynamics of borderline personalities. The present investigation uses the Rorschach to assess the personality structure of a group of inpatients diagnosed as borderline by the Diagnostic Interview for Borderlines (DIB; Gunderson, Kolb, & Austin, 1981) at two time periods: initial psychiatric hospitalization and follow-up 2 to 5 years post-hospitalization.

The Borderline Concept - Divergent Diagnostic Traditions

Since the turn of the century, clinicians and diagnosticians have attempted to name, define and understand a group of patients who could not be classified as psychotic or neurotic, but had some characteristics of both.

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Because this ambiguously defined group of patients were believed to function better than psychotics but not as well as neurotics, they fell somewhere on the 'borderline' between the two. Since then the borderline diagnostic category has been a controversial and constantly evolving subject for clinicians, theorists, and researchers. The first borderlines, a heterogeneous collection of patients, were identified simultaneously in hospital psychiatric and psychoanalytic circles. Upon superficial examination these patients appeared to function fairly well like neurotics, but when confronted with unstructured situations, such as psychoanalysis and projective testing, they often underwent psychotic-like regressions. As a result, unstructured testing such as the Rorschach was useful in diagnosis due to their distinctly primitive responses. At the time the differential diagnosis of these patients was considered important for treatment recommendations, as psychoanalysis was contraindicated for such patients due to the profound regressions and primitive transferences that frequently occurred during treatment.

Early writings by psychoanalytic theorists relevant to borderline personality are complicated by changing definitional criteria and different diagnostic labels. The historical development of the borderline category is characterized both by attempts to unite these early 'borderline' syndromes under one nomenclature, as well as attempts to make finer discriminations between subtypes within the general borderline category. The term "borderline", believed to have been first used by Adolph Stern in 1938, was applied to patients who showed the following characteristics: narcissism, psychic bleeding, inordinate hypersensitivity, rigidity, negative therapeutic reactions, feelings of inferiority, masochism, organic insecurity, projection mechanisms, and difficulty in reality testing (Stern, 1938). These patients

shared characteristics with those described by later writers, such as Deutsch's "as if" personality, and Zilboorg's "ambulatory schizophrenia". Other terms applied to patients in indistinct clinically 'borderline' categories, but eventually discarded, were "latent schizophrenia", "preschizophrenia" or"schizophrenic character"(Rappaport, Gill, & Schafer, 1946), "psychotic character" (Frosch, 1964), and "borderland" (Clark, 1919; Chessick, 1968). The term "borderline" was eventually popularized by Knight (1953), and has maintained it's popular status through the present.

Current Competing Definitions of "Borderline"

Currently, two main conceptualizations of borderline patients exist side by side in the literature: (a) the descriptive, symptom-based syndrome definition of Borderline Personality Disorder (BPD; American Psychiatric Association, 1994), and (b) the broader, conceptual, psychodynamic definition of borderline personality organization (BPO; Kernberg, 1975, 1985). These two definitions are a source of continuing diagnostic confusion. According to Sugarman and Lerner (1980): "Although the term borderline has become common and has stimulated a vast array of clinical data, theoretical formulations, and treatment variations, disagreement over its definition has never really subsided." (p. 11). Contributing to current diagnostic disagreements is the historical independence of the descriptive/diagnostic and psychodynamic literature on borderlines, which emphasize different definitional criteria (Gunderson & Singer, 1975); while psychiatric writers emphasize similarities in the overt behavioral symptoms, psychoanalytic writers define borderlines according to similarities in underlying personality conflicts and deficits. Sugarman and Lerner (1980) trace this divergence to the simultaneous but independent historical development of the borderline

concept within hospital-based Kraeplinian classification traditions and more theoretical psychoanalytic and psychological testing traditions.

In the following paragraphs these two distinct ways of defining borderlines will be summarized and the overlap between the two will be discussed. Afterward, the literature on longitudinal changes in the borderline diagnosis will be reviewed and predictions about the concordance between the two diagnostic approaches over time will be made.

Descriptive/Syndrome Definitions.

In the 1960s and 1970's subtyping of borderline disorders based on overt symptomology allowed for greater consistency in the descriptive phenomenology of borderlines. In reaction to the inferential descriptions by early psychodynamically oriented writers, Grinker, Werble, and Drye (1968) conducted the first study to clarify this seemingly heterogeneous diagnostic category. They distinguished four subtypes of borderline patients comprising those typically identified by clinicians: Type I, the "Psychotic border", characterized by lack of adaptive behavior and poor reality testing; Type II, the "Core Borderline Syndrome", characterized by erratic involvement with others, angry acting out behavior, and unstable self-identity; Type III, the "Adaptive" subtype, marked by lack of affect or spontaneity, appropriate, compliant behavior, and use of withdrawal for defensive purposes; and Type IV, the "Border with the Neuroses", manifested by depression and anxiety more similar to neurotic or narcissistic functioning.

Another attempt to identify a narrower borderline syndrome was undertaken by Gunderson and his colleagues (Gunderson & Singer, 1975). They developed a behavior-based diagnostic system for defining borderlines, the Diagnostic Interview for Borderlines (DIB; Gunderson, Kolb, & Austin,

1981). This interview shows a considerable overlap of diagnostic criteria with
a measure designed by Spitzer, Endicott, and Gibbon, (1979). The criteria for
the borderline diagnosis on the DIB were derived from an extensive clinical
literature review and previous research studies, such as that of Grinker,
Werble, and Drye (1968). The measure assesses five areas of behavior
believed to be relevant to borderlines: social adaptation, impulsivity, affect,
psychotic experiences, and interpersonal relationships. Patients who received
a DIB diagnosis of borderline personality disorder were described by the
following characteristics: impairments in social adaptation, impulsivity,
self-destructive activity, emotional instability, intense feelings of depression,
adequate reality testing accompanied by minor thought disturbances, and
chaotic relationships with others. Certain questions, for instance those
relating to bipolar depressive and clearly psychotic phenomena, carried
negative weights in the scoring and therefore counted against the borderline
diagnosis in an attempt to exclude patients with these disorders.   However,
the DIB definition of borderline encompassed more than one of Grinker's
subtypes, including some patients who were later classified by DSM-III under
Schizotypal Personality Disorder. Gunderson (1981) acknowledged that the
DIB definition of borderlines might eventually be refined into narrower
categories.

Grinker et al.'s (1968) and Gunderson's early attempts to classify
borderline syndromes was followed by other efforts to create more specific
diagnostic typologies based on symptom profiles. Spitzer, Endicott, and
Gibbon (1979) researched the relationship between two subtypes of borderline
personalities, "unstable" and "schizotypal", and developed separate criteria
for them. These criteria resulted in the first standardized psychiatric

diagnostic criteria for Borderline Personality Disorder (BPD) that appeared in DSM-III (American Psychiatric Association, 1980).

DSM-III required five of the following eight criteria to qualify for a diagnosis of Borderline Personality Disorder: (a) impulsivity or unpredictability in at least 2 areas that are potentially self-damaging, (b) a pattern of unstable and intense interpersonal relationships, (c) inappropriate, intense anger or lack of control of anger, (d) identity disturbance, (e) affective instability, (f) intolerance of being alone, (g) physically self-damaging acts, and (h) chronic feelings of emptiness and boredom. The DSM-III diagnostic entity corresponded best to Grinker et al.'s subtype of the Core Borderline syndrome, which they characterized as having vacillating involvement with others, acted out expressions of anger, lack of identity, and lonely depression. Another group of patients, similar to Grinker et al.'s subtype the Psychotic Border, characterized by withdrawal from others, rage, and transient psychoses, became Schizotypal Personality Disorder in DSM-III. Four of the following eight criteria were required for a diagnosis of Schizotypal Personality Disorder: (a) magical thinking (e.g., superstitiousness), (b) ideas of reference, (c) social isolation, (d) recurrent illusions, depersonalization, or derealization not associated with panic attacks, (e) odd speech, (f) inadequate rapport in face to face interaction due to constricted or inappropriate affect, (g) suspiciousness or paranoid ideation, (h) undue social anxiety or hypersensitivity to real or imagined criticism. Although Schizotypal Personality Disorder is considered by some as a relative of Schizophrenia, some borderline patients meet DSM-III criteria for both Schizotypal and Borderline Personality Disorder.

The diagnostic criteria for BPD in DSM-III-R were revised slightly from DSM-III. The DSM-III item "intolerance of being alone" was replaced with "frantic efforts to avoid real or imagined abandonment" in DSM-III-R, and the DSM-III item "physically self-damaging acts" was changed to "recurrent suicidal thoughts, gestures, or behavior, or self-mutilating behavior" in DSM-III-R. DSM-III-R also revised the diagnostic criteria for Schizotypal Personality Disorder, adding the item "odd or eccentric behavior or appearance" (American Psychiatric Association, 1987). DSM-III and DSM-III-R diagnoses have been found to be narrower and less inclusive than diagnoses based on the DIB or Spitzer et al's criteria.

The DSM-IV diagnostic criteria for Borderline Personality Disorder retained the basic eight diagnostic criteria from DSM-III-R, and added one more: "transient, stress-related paranoid ideation or severe dissociative symptoms" (American Psychiatric Association, 1994, p. 654). The DSM-IV diagnostic criteria for Schizotypal Personality Disorder remained essentially the same as in DSM-III-R. Nevertheless, the fine tuning of descriptive characteristics over time represents a diagnostic trend toward narrower definitions of "borderline", which are based on similarity of symptoms rather than similarity of underlying personality organization. While this narrowing of diagnostic criteria has increased reliability of diagnoses and increased homogeneity, psychodynamically oriented theorists question whether the narrower definitions are unnecessarily exclusionary.

Psychodynamic formulations.

The current psychoanalytic literature on borderline syndromes can be roughly divided into those who view borderline pathology as a result of structural personality deficits and those who view it as a result of structural

personality conflicts (Goldstein, 1990). Those who adhere to deficit models generally see borderline pathology as a developmental arrest at pre-oedipal stages that are critical for the formation of object constancy, separation-individuation, and integrated representations of self and others. Authors who fall into this theoretical camp include Blanck and Blanck, Kohut, Stolorow and Brandchaft, and Adler and Buie (Goldstein, 1990). Other theorists, such as Kernberg, see borderline behavior arising from personality conflicts in addition to lack of development in these same personality structures.

Of the competing theories about the nature of borderline dynamics, perhaps the most developed and influential recent conceptualization has been that of Otto Kernberg. Kernberg's view is that borderline pathology represents a level of personality organization rather than a specific behavioral syndrome. According to Kernberg (1985), this borderline personality organization is defined by particular intrapsychic "structures"; identity integration, defensive constellations, quality of reality testing, ego strength, and object relations. The constellation of borderline level defenses consists of splitting, primitive idealization, projection and projective identification, primitive denial, and omnipotence and devaluation. Furthermore, the tendency toward primary process thinking, especially in unstructured situations, without complete loss of reality testing is another hallmark sign of borderline level pathology. Ego-weakness specifically includes lack of anxiety tolerance, lack of impulse control, and lack of developed sublimatory channels (Kernberg, 1985). Finally, object relations characterized by polarized "good" and "bad" representations, due to defensive splitting, dominate the borderline's interpersonal world.

Kernberg's concept of borderline personality organization (BPO) is a broader construct than borderline personality disorder (BPD), encompassing different personality types. His "infantile" personality type, which roughly corresponds to the phenomenology of the borderline personality disorder of other diagnostic systems, falls within the borderline range of personality organization, as does schizotypal personality disorder and several other personality types. Patients in other diagnostic categories, depending on their capability for reality testing, defensive clusters, and maturity of object relations, fall within the range of either Neurotic Personality Organization (NPO) or Psychotic Personality Organization (PPO).

According to Kernberg, the overtly chaotic behavior of borderlines results in part from strong aggressive conflicts, stemming from either pre-oedipal maternal failures or excessive constitutional aggression. The borderline attempts to cope with this aggression, which threatens to overtake and destroy the good internal objects, with relatively underdeveloped and ineffective defenses and ego controls. One way that the internal objects are protected is through the defensive mechanism of splitting. Kernberg describes how splitting may be manifested several ways, for instance in contradictory expressions of complementary sides of a conflict, division of objects and self-representations in to "all good" ones and "all bad" ones, sometimes involving sudden reversals, and oscillation between contradictory self-concepts. Other borderline defenses, such as primitive idealization, omnipotence and devaluation, denial, and projective identification, are closely related to splitting. While some believe that splitting results from the inability to synthesize contradictory images, Kernberg sees splitting as an active defense.

Furthermore, Kernberg sees these various borderline structural indicators, identity diffusion, primitive defenses, ego weakness, and object relations as mutually sustaining. For instance, splitting prevents neutralization of aggression, which in turn leads to more splitting. This vicious cycle is believed by Kernberg to be a main cause of ego weakness and its behavioral manifestations in borderlines. Kernberg also sees object relations and degree of primary process thinking as related in borderlines.

Kernberg (1975) designed an interviewing method for determining the level of personality organization of individual patients. The interview utilizes clarification, confrontation, interpretation, and transference interpretation to elicit three primary characteristics of intrapsychic structure: degree of identity integration, level of defensive operations, and reality testing. Unlike neurotic patients who have more integrated identities and higher level defenses, borderline and psychotic patients are presumed to have fragmented identities and primitive defenses. Despite the borderline's tendency toward greater primary process thinking, borderline and neurotic patients should both demonstrate intact reality testing, while psychotic patients will have grossly impaired reality testing (Kernberg, Goldstein, Carr, Hunt, Bauer, & Blumenthal, 1981). These differences between levels of personality organization have been organized by Acklin (1993), summarized in Appendix A.

According to Kernberg, development in the underlying personality organization, specifically defensive functioning and anxiety tolerance, would allow the gradual integration of previously split off representations, which would neutralize aggression, allowing in turn more energy to be devoted to ego development. The development of these interrelated structures of the

personality would therefore allow the individual to function in a more cohesive, rather than fragmented and chaotic, manner. This would be expected to have a stabilizing effect on the person's symptoms, relationships, and general level of functioning.

Overlap between the BPD and BPO Constructs

There is evidence to support Kernberg's formulations of borderline personality organization being a more inclusive category than the syndrome borderline personality disorder. Kernberg et al. (1981) conducted a study with 48 inpatients diagnosed as having either borderline (52%) or psychotic (48%) personality organization by Kernberg's structural interview. Patients were also diagnosed as either schizophrenic or borderline according to the Diagnostic Interview for Borderlines (DIB; Gunderson, Kolb, & Austin, 1981) psychological testing, and clinical diagnoses. Of the patients diagnosed as having borderline personality organization (BPO), only 60% also met DIB criteria for borderline personality disorder (BPD) (Kullgren & Armelius, 1990). However, 75% of those who had borderline personality disorder were diagnosed as having borderline personality organization, while the remaining 25% had either psychotic personality organization or were undetermined.

In a related study, Nelson, Tennen, Tasman, Borton, Kubeck, and Stone (1985) studied 50 inpatients who were diagnosed with multiple instruments. A subsample of 30 inpatients were given diagnoses of either neurotic, borderline, or psychotic personality organization by Kernberg's structural interview, as well as DSM-III and DIB diagnoses, and were rated according to a checklist of Spitzer et al.'s criteria. These authors found a higher overlap of BPO and BPD: while 67% of those diagnosed as BPO also

were BPD, 92% of those who were BPD were also BPO. However, the authors point out that patients with BPD were over-represented in the subset of the entire sample who undertook the structural interview, which may have inflated the concordance between BPO and BPD in this study.

Stone (1987) also conducted a small pilot study on 18 inpatients who were diagnosed according to three systems: Kernberg's structural interview, the Diagnostic Interview for Borderlines (DIB), and the DSM-III criteria for borderline personality disorder. They found that while not all patients diagnosed borderline by Kernberg's classification met DIB or DSM-III criteria for BPD, 5/6 of DIB diagnosed borderlines and 9/10 DSM-III diagnosed borderlines met criteria for BPO. The one patient who was BPD by the DIB but not by Kernberg's structural criteria had a psychotic personality organization.

Finally, a similar study by Kullgren and Armelius (1990) attempted to assess the concordance of different borderline diagnoses. Forty-four inpatients were diagnosed according to Kernberg's structural interview, the DIB, and DSM-III criteria. Twenty-four met criteria for borderline personality organization (BPO). Although the authors did not give a breakdown including DIB scores, they did report on the overlap between DSM-III and Kernberg's structural diagnosis. Of the 15 patients who met DSM-III criteria for BPD, 11 met criteria for BPO, 4 met criteria for neurotic personality organization, and none met criteria for psychotic personality organization.

These studies support Kernberg's definition of borderline personality organization as broader than the syndrome of BPD in both DSM-III and the DIB. For the most part, behaviorally diagnosed borderlines are also considered borderline by Kernberg's structural diagnosis. However, these

studies that have used the structural interview have found a small percentage of patients who meet criteria for BPD but fall into a category of either psychotic or neurotic personality organization.

The Question of Diagnostic Stability

One defining aspect of borderlines that both the symptomatic and psychodynamic viewpoints seemingly agree on is the stability of the disorder. According to the DSM-III (American Psychiatric Association, 1980), the Axis II disorders, including borderline personality disorder, should be diagnosed only when "the characteristic features are typical of the individual's long-term functioning and are not limited to discrete episodes of illness." (American Psychiatric Association, 1980, p. 305). The Diagnostic Interview for Borderlines (Gunderson, Kolb, & Austin, 1981), the most widely used research measure of BPD, requires that the symptoms be present consistently over a period of months and sometimes years in order to contribute to the diagnosis. In describing this measure, Gunderson et al. (1981) state: "The fact that the sections on social adaptation, impulse/action patterns, and interpersonal relations are largely based on historical information is in keeping with the view that the borderline diagnosis represents enduring behavioral patterns, or character structure, rather than a symptomatic reaction" (p. 896). Kernberg, in describing a more inclusive group of patients with borderline personality organization, wrote:

> The term "borderline" should be reserved for those patients presenting a chronic characterological organization which is neither typically neurotic nor typically psychotic, and which is characterized (i) by typical symptomatic constellations; (ii) by a typical constellation of defensive operations of the ego; (iii) by a typical pathology of internalized object

relationships; and (iv) by characteristic genetic-dynamic features.
(1985, p. 5).

Thus, according to Kernberg, overt borderline symptomology as well as underlying defensive and representational structures should remain stable over time.

Research findings on the stability of borderline disorders has produced mixed results. Longitudinal research to date on borderlines, divided into short term studies (2-5 years) and long term studies (10 years and over), has focused almost exclusively on symptomatic stability, without consideration for underlying stability of borderline dynamics. Conclusions from reviews of the follow-up research literature are that borderlines show relatively little symptomatic change over short periods, but do manifest symptomatic changes over longer periods of time. In reviewing the borderline follow-up studies, Stone (1990a) wrote "...the life course of the typical hospitalized borderline patient goes through a rather long period of poor functioning-perhaps 5 to 8 or 10 years - followed by gradual mellowing and improvement, especially as the patient enters the fourth decade of life." (p.2).

Although reviews of short-term follow-up studies have generally concluded that the borderline diagnosis is stable for the first five years post-index and continue to suffer from severe psychopathology (Links, Mitton, & Steiner, 1990), a surprising number of studies have found a substantial percentage of previously diagnosed borderlines who no longer meet diagnostic criteria after only 2-5 years. For example, Barasch, Frances, Hurt, Clarkin, and Cohen (1985) found at a 3 year follow-up that only 6 of 10 DSM-III diagnosed borderlines and 7 of 13 DIB diagnosed borderlines retained their diagnosis at follow-up. Pressler (1990), in an unpublished doctoral

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dissertation, found that 11 of 24 (46%) previously DIB diagnosed borderlines retained the borderline diagnosis at 2-5 year follow-up. Similarly, Links, Mitton, and Steiner (1993) found that 26 of 65 (40%) of previously DIB diagnosed borderlines no longer met diagnostic criteria at a 2 year follow-up. Thus, the research literature has consistently found that just under half of previously symptom- diagnosed borderlines do not meet diagnostic criteria in less than 5 years after initial diagnosis. Taking into account sampling biases inherent in follow-up studies and especially poor outcomes (such as suicide) not included in follow-up samples, diagnostic stability seems lower than expected.

Thus, the literature challenges the notion that borderline syndromes are necessarily stable, even over short periods of time. The question raised by these findings is: do symptomatic changes reflect real personality changes, or are they merely temporary adjustments to situational life circumstances?

Unfortunately, the lack of carefully designed studies that assess the stability of personality organization precludes definite conclusions. However, results from long-term follow-up studies and case reports suggest that certain borderline patients may make remarkable changes. In his careful and exhaustive long-term study of previously hospitalized DSM-III diagnosed borderline patients, Stone (1990b) reported considerable variability in the outcomes of borderlines. While many borderlines remained severely impaired at follow-up, some made substantial life adjustments and appeared to function at a neurotic level of personality organization. Although Stone reports mostly data on the symptomatic improvement of the borderlines, he also gives his clinical impression that some of the borderlines at follow-up had undergone true personality maturation. Likewise, McGlashan (1986)

reported that the borderlines in his long-term follow-up study were distributed bimodally in terms of the quality of their relationships with others. He stated:

>One group was functioning well and and had managed to create and maintain meaningful relationships with stability over time...The other bimodal cluster of patients, however, essentially dealt with this problematic area by studious avoidance of relationships. They appeared to be people who concluded that their emotional equilibrium required abstinence in object relations. (p. 29).

Thus, variability in the method and nature of interpersonal adjustment seems to be expected in outcome studies of borderlines.

Findings from the one follow-up study by Kullgren and Armelius (1990) on the long-term stability of structural diagnoses suggest that patients who are diagnosed with BPO at index may change their structural diagnosis over time. Thirty-four patients were diagnosed with Kernberg's structural interview at both index hospitalization and 5 year follow-up. Of the 21 previously BPO patients, at follow-up 9 were still BPO, 5 were classified with neurotic personality organization, and 7 were classified with psychotic personality organization. Thus over half (57%) of the previously classified BPO patients received a different structural diagnosis at follow-up. Notably, the authors found that all of the index borderlines with a dual diagnosis of affective disorder were diagnosed as having neurotic personality organization at follow-up. Unexpectedly, half of those whose personality organization had changed at follow-up went from a borderline to a psychotic personality organization. Earlier follow-up studies of borderlines have not reported any cases of borderlines becoming schizophrenic at follow-up (Carpenter &

Gunderson, 1977; Pope, Jonas, Hudson, Cohen, & Gunderson, 1983; Werble, 1970) . Such a dramatic worsening of intrapsychic structure is not predicted by either Kernberg's theory or previous follow-up studies, and is difficult to interpret.

Several methodological limitations of the Kulllgren and Armelius (1990) study warrant caution in interpreting the results. Neither initial DIB nor follow-up DIB and DSM-III diagnoses were reported to ascertain whether or not the changes in structural diagnoses corresponded to changes in these diagnostic measures as well. More specific diagnostic information about Kullgren and Armelius' BPO subjects is needed in order to apply these findings to the potential for change in patients with BPD. For example, in his study on the overlap between Kernberg, DSM-III, and DIB diagnostic criteria, Stone (1987) found that patients diagnosed BPO but not BPD were healthier than those diagnosed with both BPO and BPD. As Kernberg (1985) has pointed out:

> Returning to the diagnosis of the patient's character structure as an important prognostic element in borderline conditions, it is the *type* of character pathology which is prognostically important, in addition to the general importance of ego syntonicity or ego dystonicity of the character traits. It is not enough to diagnose a patient as presenting "borderline personality organization." (Kernberg, 1985, p. 113).

Thus, the dramatic improvements and decrements seen in the personality organization of the patients in this study may be related to the nature of their particular character types, which are unknown.

Nevertheless, attempts to explain the symptomatic "recovery" of a subset of borderline patients have led to longitudinal studies that have

assessed predictors of outcome. Contradictory or negligible results have been obtained for the roles of most kinds of treatment (Paris, Brown, & Nowlis, 1987; Stone, 1990b); concurrent depressive disorders (Pope et al., 1983; Stone, 1990b) and a host of demographic and other factors (Stone, 1990b).

One predictor that has been consistently found to be a correlate of symptomatic improvement in borderlines is age (Links, Mitton, & Steiner, 1993; McGlashan, 1986; Paris, Brown, & Nowlis, 1987; Stone, 1990b). One conclusion that authors of long-term follow-up studies make about the course of borderline pathology is that is that many borderline symptoms, for instance impulsivity, dyphoria, and reckless behavior, decline naturally as a function of aging. In line with this, Paris et al. (1987) have remarked on the "tendency of personality disorder symptomology in general, and BPD in particular, to decrease in severity and prevalence into middle age" (p. 533). The relatively young age of hospitalized borderline patients compared to other patient groups has been reported by several studies (e.g., Stuart et al., 1990). One explanation for the findings of dramatic short-term changes in borderlines is that those patients who were no longer borderline at follow-up were older at the time of initial assessment, and underwent greater maturation and stabilization in line with the age trajectory described by Paris et al. (1987). According to this set of predictions, we would expect greater improvements in personality organization in those who were older at index. We would also expect to find changes in diagnostic status (BPD versus not BPD) concordant with these changes in personality organization. Assuming there are indeed real underlying changes taking place, it would be important to consider the influence of age on follow-up outcome.

However, a more pessimistic explanation of these findings is that fluctuations in behavior and symptoms, central to the borderline syndrome diagnosis, may reflect situational factors more than intrapsychic ones. According to this perspective, certain patients who maintain a stable borderline personality organization may not manifest 'borderline' behavior under optimal environmental circumstances. For example, Paris (1988) has found that symptomatic "improvement" in some patients previously diagnosed as borderline may reflect increased interpersonal isolation. In this case, we would expect some patients to remain borderline in personality organization at follow-up, while showing enough behavioral improvement that they no longer meet BPD diagnostic criteria.

Nevertheless, the results of the long-term longitudinal studies, combined with the preliminary results of the study by Kullgen and Armelius (1990), provide some evidence that some borderlines may be undergoing significant structural changes over relatively short periods of time. Although contrary to most theoretical notions of borderlines, which assume stability, the suggestion that personality organization in borderlines might change is compelling. This prediction is in line with the statement of Sugarman and Lerner (1980): "The conceptualization of borderline personality organization as a stable configuration perhaps represents a premature closure in understanding this group of patients noted for unpredictable and dramatic shifts, variability, and fluid ego states" (p. 19).

To summarize, the question of whether the apparent diagnostic changes in borderlines over short-term follow-up periods reflects changes in personality organization remains to be answered. Given that the Kullgren and Armelius (1990) study is a single report with significant flaws, this study

endeavors to answer the same question while improving on the methodology.

In addition to the methodological factors mentioned previously, several others require attention. First, it seems likely that the reliability of the method for assessing the level of personality organization, the structural interview, is subject to fluctuations in the skill level and personality characteristics of the interviewer. Given that there is no data available on the test-retest reliability or inter-judge reliability of the structural interview, it is difficult to judge whether these apparent changes in personality organization are real or whether they are an artifact of problems in measurement. Furthermore, considerable subjectivity in the rating of the patient, given the unquantified nature of the material, may also lead to decreased reliability. It is impossible to assess the relative weight the interviewers give to each behavioral indicator of structural organization. In addition, the interpersonal nature of the structural interview, in which the patient is pressured and challenged by the interviewer, may be more subject to distortions, rather than clarifications, of the patient's functioning. It is worth questioning whether the measurement of personality structure would be as heavily influenced if the method of structural diagnosis was less interpersonally determined, more quantifiable, and reliably assessed.

Another shortcoming of studies that use the structual interview to determine personality organization is that the structural interview yields only global information: neurotic, borderline, or psychotic level of personality organization. Although this global categorization is conceptually relevant, we would want to know something about changes in the specific components that contribute to the determination of personality organization

(Murray, 1993). For example, it would be important to know whether the borderline indicators change, if at all, uniformly or unevenly, and whether they cluster together according to Kernberg's theoretical predictions. It would be also be helpful to determine whether particular components of BPO correspond with changes in BPD diagnosis better than others. The measurement of personality organization with a more reliable and less subjective method might clarify these intriguing questions.

The Use of the Rorschach in Assessing Personality Structure

As mentioned earlier, the role of psychological testing with borderlines occupied a central place in the historical development of the borderline concept. Coincident with the identification of borderline patients in psychiatric and psychoanalytic settings, pioneers in psychological testing identified a group of patients who appeared to have a combination of neurotic and psychotic features. These patients performed relatively well on the structured WAIS, but showed profound regressions toward primary process thinking on unstructured tests such as the Rorschach. Indeed, the formulation "good WAIS, bad Rorschach" became almost pathognomonic for the borderline personality in the psychological testing literature. Convergence has been obtained between clinical diagnoses based on the Rorschach and diagnosis using Kernberg's structural interview that assesses the level of personality organization in borderline, psychotic, and neurotic patients (Kernberg et al., 1981).

Although there is continuing debate about the exact nature of the Rorschach task and the information that it yields, most earlier Rorschach theorists agree that it goes beyond being a purely perceptual task to reflect aspects of the respondant's personality and intrapsychic world. Schafer (1954)

has been influential in shaping the widely held view that test pulls for a combination of primary and secondary process material that may be useful in the assessment of both unconscious derivatives and conscious processes. Similarly, Mayman (1967) has stated:

> When a person is asked to spend an hour immersing himself in a field of impressions where amorphousness prevails and where strange or even alien forms may appear, he will set in motion a reparative process, the aim of which is to replace formlessness with reminders of a palpably real world...A person's most readily accessible object-representations called up under such unstructured conditions tells much about his inner world of objects and about the quality of relationships with these inner objects toward which he is predisposed. (p. 19).

More recently, Leichtman (1996) has described the response process as involving a "representational" process, which is an active construction of the Rorschach percepts. Regarding this he writes:

> ...Representation is unmistakably a social process. It begins and ends as a form of communication, even if the audience is internal. Just as artists' needs, wishes and intentions and the character of their real or imagined audiences affect the form and content of their work, so too do these factors enter into the creation of Rorschach images...In addition, when the audience is viewed as the self, psychodynamic processes such as defenses can be encompassed by conceiving of them as factors shaping communication within a system of internal representation (p. 486).

Even Exner, who has been a proponent of the more perceptual view of Rorschach responses, has recently advocated a more interpretive understanding of the projective value of personal material in the responses (Exner, 1996). However, Exner has contributed to a better understanding of the Rorschach response process as a complex interplay of perceptual factors as well as conscious and unconscious selection of reponses, which include both deliberate censorship and selective reporting of responses which are concordant with personality traits (Exner, 1986a, 1996).

Many theorists and clinicians consider the Rorschach to be an indispensable tool in detecting borderline pathology. According to Acklin (1993) "...when used in a manner that integrates empirically based nomothetic and theory-saturated idiographic analysis [Acklin 1992], the test is unparelleled in graphically assessing and displaying the underlying structural, affective, and representational features of the borderline's inner world" (p. 338). Arnow and Cooper (1984) have gone beyond stating that the Rorschach captures the regressed features of the borderlines inner world to argue that it actually provokes a regression because of the disorganization generated by the unstructured testing situation.

The clinical observations of psychological testing with borderlines have been largely supported by research that has found that borderlines as a group exhibit identifiable characteristics on projective tests, in particular the Rorschach. A recent resurgence of interest in psychological testing with borderlines has led to a growth of research aimed at operationalizing and identifying borderline characteristics on projective tests. The development of scoring systems to identify domains of functioning has at last permitted researchers to test psychodynamic theories of underlying borderline

personality structure. For the sake of clarity, I will review the literature specifically on those aspects of borderline functioning that are major components of the structural personality organization discussed by Kernberg: Identity Diffusion, Defensive Operations, Reality Testing, Ego Weakness, and Object Relations.

Identity Diffusion.

Identity diffusion has been one of the indices of borderline personality organization that has been least studied with regard to Rorschach variables. As with the interpretation of dream material, the responses may reflect a combination of self and other representations which may not be easy to distinguish. Identity diffusion as a construct may also be expressed in contradictory representations of self across time, which may or may not be captured in a single administration of the Rorschach. Nevertheless, Carr (1987) has stated that the fabulized combination response of Exner's (1986b) scoring system is "probably the best single index of the borderline's identity diffusion" (p. 352). Exner (1986b, 1990) derived his scoring of FABCOM from Schafer (1954), which refers to percepts in which there is an implausible relationship between two discrete and separate details of the blot. While some studies assessing this score in borderlines have found a much higher rate of fabulized combination in borderlines than schizophrenics (Thaler Singer & Larson, 1981), others have found no difference between borderlines and other patient groups (Berg, 1990; Buttenheim, Lohr, & Kerber, 1985). Furthermore, FABCOM has been seen in less than one half of DSM-III diagnosed borderlines (Exner, 1986a). To date, no study has specifically set out to validate a Rorschach measure of identity diffusion, and therefore identity diffusion appears to be unreliably measured by the Rorschach at this time.

Defensive Operations.

Several empirical coding systems for the Rorschach have been devised to measure specifically borderline defenses, such as splitting, primitive devaluation, idealization, denial, projection, and projective identification (Cooper, Perry, & Arnow, 1988; Grala, 1980; Lerner, Sugarman, & Gaughran, 1981). Two of the most widely used systems used for scoring borderline defenses are the Rorschach Defense Scale (RDS) developed by Cooper and colleagues (Cooper, Perry, & Arnow, 1988), and the Lerner Defense Scale (LDS) developed by Lerner and colleagues (Lerner, Sugarman, & Gaughran, 1981). The RDS assesses both primitive and higher level defenses from human and animal responses on the Rorschach, specifically: isolation, intellectualization, reaction formation, rationalization, repression, devaluation, primitive idealization, projective identification, splitting, omnipotence, projection, pollyannaish denial, higher level denial, massive denial, and hypomanic denial. The LDS uses only human responses on the Rorschach and assesses only primitive defenses: splitting, denial, devaluation, idealization, and projective identification.

Although Cooper and colleagues conceptualize the RDS from a Kohutian perspective and Lerner and colleagues conceptualize the LDS from a Kernbergian perspective, Carr (1987) has been critical of making theoretical distinctions in the absence of confirmatory data. Theoretical criticisms aside, preliminary validity studies have shown some evidence for the usefulness of both scales in discriminating between DIB or DSM-III diagnosed borderlines and other groups, such as neurotics, anorexics, and schizophrenics (e.g. Lerner, 1990). In support of the validity of the LDS, borderlines have been shown to overlap with narcissistic groups in their use of some defenses,

particularly devaluation, idealization, and denial, while they were significantly different on defenses of splitting and projective identification (Lerner, 1990). However, in line with Kernberg's conceptualization of borderline personality organization, other studies using the LDS have not found borderlines to differ grossly in their defenses from other personality disordered groups, such as those thought to share an underlying borderline personality organization (Lerner, 1990).

Lerner (1990) compared the LDS and the RDS in their respective ability to differentiate four groups: outpatient neurotics, outpatient borderlines, inpatient borderlines, and schizophrenics. Using composite defense scores, Lerner found that both the RDS and LDS discriminated different patient groups. He found that the RDS effectively discriminated between neurotics and inpatient borderlines, outpatient from inpatient borderlines, and outpatient borderlines from schizophrenics; the RDS did not discriminate between neurotic and outpatient borderlines, or outpatient borderlines from schizophrenics. The LDS effectively discriminated neurotics from inpatient borderlines, outpatient borderlines from schizophrenics, and inpatient borderlines from schizophrenics; the LDS did not discriminate between neurotics and outpatient borderlines, or between inpatient and outpatient borderlines. The author concludes: "The Cooper Scale is more effective in distinguishing between healthier outpatients, whereas the Lerner & Lerner Scale better discriminates more seriously disturbed inpatients" (p. 42).

With regard to particular borderline defenses, the Lerner Scale found that all five borderline defenses significantly distinguished borderlines from neurotics and schizophrenics. Splitting, devaluation, idealization, and denial all differentiated the groups, while projective identification was found

exclusively in the borderline groups. The defenses on the RDS were also examined separately, yielding a slightly different pattern of discrimination: splitting differentiated inpatient borderlines from neurotics and schizophrenics, devaluation and omnipotence differentiated outpatient borderlines from neurotics and schizophrenics, while idealization and projective identification did not discriminate between groups.

In summary, the two systems designed to detect borderline defensive functioning as expressed on the Rorschach have been shown to have validity in discriminating patients with borderline personality from other patient groups. Thus, there seems to be a sound basis for the notion that borderlines as a group employ certain identifiable defenses on the Rorschach.

Reality Testing.

In line with the early observations of borderline Rorschachs, transient psychotic features and specific types of thought disorder have been found to be characteristic of patients diagnosed with borderline personality disorder in several studies (Gartner, Hurt, & Gartner, 1989). Most studies have found that while borderlines have more illogical, bizarre, and confabulated responses on the Rorschach compared to neurotic and normal populations, they are able to maintain better form quality than schizophrenics. For example, Thaler Singer and Larson (1981) used Friedman's system for scoring the form quality of the Rorschach, and found that a sample of clinically diagnosed borderlines (prior to DSM-III and Gunderson's criteria) showed greater fabulized combinations as well as greater decline in the form quality of responses across cards than the neurotic and normal comparison groups. However, the borderlines in this study showed fewer signs of serious thought disorder than the schizophrenics. Notably, the authors suggest that the

borderline group contained some subjects who would later qualify for both schizotypal and borderline DSM-III diagnoses; thus, we would expect their thought disorder scores to look somewhat worse than a pure BPD group.

Patrick and Wolfe (1983) used Holt's scoring system for primary process thinking in a group of DSM-III diagnosed borderlines and found that they had evidence of bizarre ideation and thinking disturbance and elevated aggressive and libidinal content. However, form quality indices in this sample were not suggestive of disturbance.

Another study by Exner (1986a) used the Comprehensive System for scoring Rorschachs, comparing DSM-III diagnosed borderlines, schizotypals, and schizophrenics, with non-overlapping diagnoses. He found a distinct pattern for each group on the Rorschach, with the schizotypal patients resembling the schizophrenics more than the borderlines. When the specific scores related to thought disorder were compared, borderlines were found to have fewer special scores (specifically WSum6) than both schizotypals and schizophrenics. Furthermore, an X-% score greater than 15% in each protocol, indicating perceptual problems of significant magnitude to interfere with functioning, were found significantly more often in the schizotypal and schizophrenic groups compared to the borderlines; 87% of the schizophrenic group, 63% of the schizotypal group, and only 27% of the borderline group scored above 15% on this variable. Finally, a score of 4 or 5 on the Schizophrenia Index (SCZI), indicating serious thought disorder, was found in 82% of the schizophrenic patients, 37% of the schizotypal patients, and only 13% of the borderline patients. These results suggest that while borderlines do show evidence of thought disorder, it is less severe and less frequently encountered than in schizophrenic or purely schizotypal groups.

In a review of the borderline testing literature, Gartner et al. (1989) conclude that borderlines across studies can be discriminated from normals and schizophrenics in the form quality of their responses. They report that the average F+%, indicating good perceptual accuracy, ranges from 67% to 70% in DSM-III and DIB diagnosed borderlines across studies, with borderlines scoring "approximately 10% to 15% lower than normals and 10% to 15% higher than schizophrenics" (p. 427). They further conclude that while borderlines are more likely to have minus and weak form responses than normals, schizophrenics are more likely to have more minus form responses than weak form responses, while borderlines show relatively more weak than minus responses.

In summary, the empirical literature supports the commonly held notion that borderlines do manifest thought disturbances on the Rorschach. However, it appears that borderlines as a group can be distinguished from both normals, neurotics, and schizophrenics in the severity and quality of their thought disturbance indices. A review of the literature suggests that borderlines show more fabulized combinations and a greater decline in response quality than both normals and schizophrenics, although they show less severe scores on Exner's Schizophrenia Index (SCZI), Special Scores (WSum6), and determinants of form quality (F+, Fo, Fw, or F-) than schizophrenics.

Ego Weakness.

Kernberg's definitional criteria for patients with borderline personality organization includes non-specific manifestations of ego weakness, which can be broken down into components: lack of anxiety tolerance, lack of impulse control, and lack of developed sublimatory channels (Kernberg, 1985). In

general, the ego capacity of borderlines is characterized by problems containing affect and impulses which interferes with deliberate problem solving and delaying of gratification. Also taken as an indication of ego weakness in a previous study of borderlines is their demonstrated progressive decline of response quality across cards (Thaler Singer & Larson, 1981). In Exner's (1986a) study, described above, he found that borderlines showed greater indices of impulsivity (FC: CF+C and D) than schizophrenics or schizotypals. He also found that borderlines scored significantly lower than schizophrenics on indices of stress tolerance (D, AdjD), and higher than schizophrenics on an index of internally perceived stressors (es). Furthermore, the borderlines averaged a score of 0.66 on EA, a measure of coping ability, which indicates as a group they show limited resources for deliberate coping strategies. Berg (1990) has also looked at the ego weakness of clinically diagnosed borderlines using the Rorschach. She operationalized impulse control and affective regulation by looking at Exner's variables CF, C, FC, Afr, and Lambda, and found no differences between the borderline sample and a comparison group of clinically diagnosed narcissists on these specific variables. However, due to the uncertain diagnosis of this sample it is difficult to apply these findings to other groups of borderlines. Although there has not been a scale or coding system developed to measure ego characteristics, it does appear that in general there is evidence to suggest that borderlines show global deficits in variables that reflect impulse control and affective regulation on the Rorschach.

Object Relations.

A great deal has been written about borderline object relations as they are manifested on projective tests. Several scoring methods for assessing

object relations on the Rorschach have been developed, including the Empathy-Object Relations Scale (Pruitt & Spilka, 1964), the Blatt Developmental Object Relations Scale (Blatt, Brenneis, Schimek, & Glick, 1976), the Mutuality of Autonomy Scale (Urist, 1977), and the Human Experience Variable (Perry & Viglione, 1992). Several studies of borderline object relations have been conducted using the Blatt et al. (1976) scale, and have consistently found that DSM-III and DIB borderlines score higher on this scale than schizophrenics (e.g., Lerner & St. Peter, 1984; Spear & Lapidus, 1981; Spear & Sugarman, 1984). In a study by Lerner and St. Peter (1984), inpatient and outpatient borderlines were distinguishable from schizophrenics and neurotic outpatients based on their accuracy of human perceptions and developmental scores.

In line with Kernberg's conceptualization, borderlines have been found to consistently portray objects as more malevolent than other patient groups on a range of projective tests (e.g., Gacono, Meloy, & Berg, 1992; Lerner & St. Peter, 1984; Segal, Westen, Lohr, Silk, & Cohen, 1992; Stuart et al., 1990) and scoring systems. For example, using the Blatt Object Relations Scale, Stuart et al. (1990) found that DIB diagnosed borderlines portrayed objects as more actively malevolent than did either depressives or normals. Another study by Gacono, Meloy, and Berg, (1992) used a different scoring system for primitive object relations developed by Kwawer (1980). These authors found that DSM-III-R diagnosed borderlines showed more malevolent representations than either DSM-III-R diagnosed antisocial personality and narcissistic personality disordered patients. Furthermore, the borderlines displayed percepts that were characterized specifically by "malignant internal processes (78%) and violent symbiosis and reunion

(67%)." (p. 41). In addition, the study by Lerner and St. Peter (1984) described above found that the percepts of both inpatient and outpatient borderlines in the sample were characterized by malevolent representations, which distinguished them from the neurotic and schizophrenic comparison groups.

Another aspect of borderline object relations that has been operationalized and studied on the Rorschach is the quality of the borderline patient's boundaries. In support of the psychodynamic conceptualization of incomplete differentiation of self from other, several studies have found that borderlines display boundary confusion on projective tests. For example, Coonerty (1986) developed a scale to measure Separation-Individuation themes on the Rorschach, which she divided into preseparation-individuation and separation-individuation themes. She found that while DSM-III diagnosed borderlines and schizophrenics do not differ in the combined amount of separation-individuation themes on the Rorschach, borderlines have more separation-individuation themes, while schizophrenics have more pre-separation-individuation themes. In the study by Gacono et al. (1992) previously mentioned, Kwawer's (1980) scale of primitive object relations was used. They found that 67% of the borderlines produced Rorschach themes of "violent symbiosis separation and reunion" (p. 41), compared with 45% of antisocial personalities, and 33% of narcissistic personalities. Urist's (1977) Mutuality of Autonomy Scale was also developed to assess the developmental progression of the human representations on the Rorschach, ranging from representations of autonomous but interactive people to enmeshed, hostile and controlling relationships. This measure has been shown to be positively related to independent measures of relationship functioning in an inpatient setting (Urist, 1977).

There is no shortage of validated measures of object relations that have been developed in recent years. Studies of borderline object relations on the Rorschach have shown that borderlines tend to have distorted, malevolent representations characterized by boundary problems.

In summary, the increase in Rorschach research on borderlines has led to the conclusion that borderlines as a group are distinguishable from other diagnostic groups on a number of personality variables. There is established validity for a number of measures of reality testing, defensive functioning, ego strength, and object relations, which have largely supported the theoretical predictions about borderline intrapsychic functioning.

The Rorschach as a Measure of Personality Change

Although the Rorschach has become a more popular research instrument, only a few studies have used it to assess longitudinal change in intrapsychic functioning, and none to date have used the Rorschach to assess changes in reliably diagnosed borderlines. Exner (1986b) has produced test-retest data from several studies using the Comprehensive System Rorschach variables in various clinical and non-clinical populations across different time intervals: 7 days, 30 days, 60 days, 90 days, 180 days, and 35-38 months. He found that most Rorschach variables showed high test-retest correlations, reflecting the general stability of personality across relatively short time periods. He also found test-retest correlations over a three-year period to be higher in non-patients than inpatient populations. This finding is in line with the prediction that non-patients should show more solidified personality structure than patients "subject to psychopathological disorganizations or the influences of treatment" (p. 65). He found that two variables related to situational stress (m and sum of shading) showed the

lowest retest correlations, lending validity to the idea that they are more situational and less predictable, while variables reflecting characteristic styles and structure (Affective ratio, EB, Z frequency, Egocentricity Index, and X+%) showed the highest retest correlations. Exner (1986b) summarized: "The matrix of these seven studies offers substantial support for the contention that the majority of Rorschach variables underpinning interpretation are stable over time" (p. 79).

To date, of the studies using the Rorschach as a measure of change only one has focused on borderline patients exclusively, and all are primarily post-treatment studies aimed at assessing the degree of change brought about by treatment. However, I will briefly review these studies because of their application to the methodology of the current study.

Frieswyk and Colson (1980) used the Rorschach to predict longitudinal changes in 28 borderline inpatients, who were broadly diagnosed according to clinical judgment. Patients were assessed at index hospitalization and at discharge (approximately one year later), and again at a two year follow-up. The authors developed their own Rorschach scale to measure the following variables: object depreciation, oral rage, malevolence, fear of interpersonal contact, fluidity, lack of boundaries, and object constancy. They also used the Empathy-Object relations scale developed by Pruitt and Spilka that assesses the degree of realism versus fantasy in human representations, and Krohn and Mayman's scale for assessing level of object relations in dream imagery applied to the Rorschach (cited in Frieswyk & Colson, 1980). Clinical ratings were used as measures of outcome at post-treatment termination and follow-up. No attempt was made to determine DSM-III or DIB diagnosis at either termination or follow-up. Rorschach variables were only assessed at time 1,

so we cannot know what changes, if any, would occur in these particular variables.

Results indicated that the index Rorschach variables that were positive predictors of termination outcome were: the number of human responses, human movement responses, and object relations; however, oral receptivity and oral aggression were negative predictors of termination outcome. Surprisingly, the only Rorschach variable that was a predictor of positive outcome at follow-up 2 years post-hospitalization was expressed malevolence on the Rorschach at initial testing. Regarding this paradoxical finding the authors suggest: "...those who produce even a few percepts characterized by intense malevolence may be those in whom there is a greater propensity for fighting and struggling rather than passive resignation" (p. 253). However, it is unclear why indices of malevolence or aggression would predict outcome differently at termination and follow-up assessment.

Another post-treatment study by Weiner and Exner (1991) assessed the Rorschach changes in long- and short-term outpatient psychotherapy patients at several intervals: initial testing, 12 months, 27-30 months, and 46-50 months. The patients in this study were diagnostically heterogeneous, and were not rated on any measures of functioning other than the Rorschach. Rorschachs were scored according to 27 indices of adjustment using the Exner Comprehensive scoring system. The authors concluded that both short-term and long-term patients improved somewhat on most of the Rorschach variables, although the long-term group improved the most. In general, both groups were found to: (a) manage stress better (decreased D<0, AdjD<0, EA<7, and CDI>3); (b) deal more effectively with experience (decreased Ambitence, Zd<-3.0, Lambda>.99, X+%<70, X-%>20); (c) modulate emotional experience

better (decreased SumSh>FM + m, DEPI = 5, Afr<.50, and CF+C > FC+1); (d)

become happier and less negatively preoccupied with themselves (decreased

3r + (2)/R >.43, and <.33); and (e) improve in their comfort with interpersonal

relationships (less p>a+1, T=0, T>1, Pure H<2, and H<[(H)+Hd+(Hd)]).

In another post-treatment study, Blatt and Ford (1994) assessed 90

general psychiatric inpatients using the Rorschach along with other

projective and non-projective measures to compare changes in functioning

over a 10 - 12 month hospitalization. Although their sample included

borderline patients, analyses of the data were not broken down by diagnostic

category. Overall they found few changes in the Rorschach over the course of

the year following psychiatric admission. Of the Rorschach variables

measured that changed significantly, several indices of thought disorder were

found to decrease, while a non-significant trend ($p < .10$) was found for a

decrease in malevolence. No changes were found in Blatt, D'Affliti, and

Quinlan's (1976) Object Relations Scale or the Mutuality of Autonomy scale

(Urist, 1977) in the following variables: developmental index, the

developmental level of the concept of the object, or mutuality of autonomy.

However, due to the large variability in diagnostic status of the patients in

this study, it is not surprising that consistent pre-and post-treatment changes

did not emerge. Paradoxically, increased thought disorder and expressed

malevolence at admission were prognostic of better functioning at

termination assessment. The unusual finding that malevolence is a positive

treatment predictor is along the lines of the follow-up finding of Frieswyk

and Colson (1980).

Although these three studies demonstrate the usefulness of the

Rorschach in assessing personality changes, and provide valuable insights

into some Rorschach predictors of post-treatment functioning, none were designed to address the question of the stability of underlying borderline dynamics. First, none of the samples were comprised of reliably diagnosed borderlines, and none of the studies attempted to determine BPD diagnosis at termination or follow-up. Second, because all of the studies included only patients voluntarily engaged in ongoing, controlled treatment, they may not reflect the naturalistic changes that occur in borderlines, who are known for their treatment instability. Nevertheless, these studies provide interesting clues to the predictors of outcome.

Summary and Hypotheses

To summarize, several issues are raised by the research on borderline stability. The first regards the surprising number of DIB and DSM-III borderlines who are no longer borderline at follow-up. The fact that a proportion of borderlines no longer meet BPD diagnostic criteria in short-term follow-up studies raises diagnostic and conceptual questions related to the borderline construct: (a) Are the components of personality organization more or less stable over time? (b) What is the relationship between syndrome-based diagnosis of BPD and indicators of borderline personality organization? Although Kernberg's theoretical conception of borderline personality organization predicts stability in the underlying dynamics, findings raised by the follow-up literature suggest that some borderlines may undergo significant personality changes over time, and these changes may be related to age. A single longitudinal study by Kullgren and Armelius (1990), addressing the stability of personality organization, found that borderline personality organization may change over time. Although this study must be viewed critically for methodological reasons, the findings are nevertheless

worth replicating. We predict that improvement in the components of personality organization should correspond to changes in BPD diagnosis between index and follow-up. Furthermore, we expect more improvement in the symptoms of patients who were older at follow-up assessment.

Because the use of Kernberg's structural interview only yields global information about personality structure, the Rorschach was chosen to operationalize the components of personality organization. Four of the five indices of borderline personality organization were selected for the current study: defensive operations, reality testing, ego-weakness, and object relations. These four were chosen based on the theoretical centrality of the personality components, and their demonstrated usefulness and scoring validity in previous Rorschach studies. Identity diffusion, although theoretically important, was excluded due to the lack of studies establishing validity and the low base rates of the Rorschach variables believed to measure this construct.

Finally, an exploratory question is raised regarding the validity of Kernberg's construct of BPO. Previous studies of personality organization have used Kernberg's structural interview, which only yields global information about the level of personality organization. It is important to know whether the four components of personality organization measured in this study (Defenses, Reality Testing, Ego Weakness, and Object Relations) cluster according to the pattern predicted by Kernberg (1975) and Acklin (1993) for patients with borderline personality organization. Murray (1993) cautions against a simplistic approach that assumes that borderlines will show consistent indicators of BPO, stating "it is unrealistic to believe that such a diverse group of patients would present with any specific or particular type of

Rorschach pattern - despite their having a common level of personality organization" (p.343). However, this notion has not been empirically tested to date.

The following hypotheses will be tested in the present study:

1. Changes in overall indices of Borderline Personality Organization will be positively correlated with change in the degree of BPD symptoms between time 1 and follow-up.

2. Changes in specific components of Borderline Personality Organization (Defenses, Ego Weakness, Reality Testing, and Object Relations) will correspond to change in BPD symptoms between time 1 and follow-up.

3. In line with the follow-up findings of Stone (1990b) and others, age at follow-up should correlate positively with symptom change between index and follow-up.

Exploratory Question.

1. Do we find distinct configurations of Defenses, Reality Testing, Ego Capacity, and Object Relations on the Rorschach in line with the predictions of Kernberg's construct of Borderline Personality Organization in patients who are diagnosed with fairly specific criteria for BPD? All time 1 subjects, who carry a diagnosis of BPD, will be assessed for the following pattern of borderline personality organization: Defenses: poor, Reality Testing: moderate to good, Ego Capacity: poor, Object Relations: poor.

Overview of the current study

The current follow-up study aims to clarify the relationship between symptom-based borderline diagnosis and Rorschach indicators of borderline personality structure over time. Patients in this study were assessed at two time periods: index hospitalization and follow-up approximately 2-5 years later. At index, all patients received a diagnosis of Borderline Personality Disorder (BPD) by the Diagnostic Interview for Borderlines. Using the Rorschach allowed more certainty in the assessment of personality organization than Kernberg's structural interview, in that the situation is better standardized, and the borderline indicators can be quantified and subjected to reliability tests. Furthermore, the Rorschach allows us access to a wealth of information, both global and specific, about intrapsychic functioning. Measuring the components of personality organization separately makes it possible to test them individually as well as in summation. Unlike previous Rorschach studies which have focused primarily on one personality dimension, this study looks at several personality dimensions at the same time, and also tests the presumption that borderlines will show a distinct pattern across Rorschach variables. Furthermore, whereas most Rorschach studies collapse scores across subjects and compare means of groups, the present methodology looks at ipsative change across time to preserve the integrity of the individual protocols as much as possible.

<center>Method</center>

Index study

Subjects.

Subjects considered for the initial phase of the study were inpatients on two psychiatric units at the University of Michigan Medical Center. Criteria for exclusion were chronic psychosis or a medical condition that would preclude a two-week medication free period while in the hospital. Patients who were identified by senior clinicians as meeting two or more DSM-III criteria for either Borderline Personality Disorder or Schizotypal Personality Disorder were administered the Diagnostic Interview for Borderlines (DIB; Gunderson, Kolb, & Austin, 1981). Subjects who scored 7 or higher on the DIB were considered borderline and included in the current study. All subjects were medication-free at the time of assessment[1].

Measures.

The Diagnostic Interview for Borderlines (DIB; Gunderson, Kolb, & Austin, 1981) is a 50-90 minute semi-structured diagnostic interview that is designed to gather information about 5 areas of borderline functioning: Social Adaptation, Impulse Action Patterns, Affects, Psychosis, and Interpersonal Relations. Twenty-nine statements overall receive a score of 0, 1, or 2; a score of 2 indicates presence of the item, 0 indicates absence, and 1 is scored for ambiguous items. Items for each subsection are totaled, and subsection totals are converted into scores of 0,1, or 2 depending on the number of items endorsed in that subsection. The five resulting subsections are totaled to yield an overall score 0-10. Scores of 7 and above are considered borderline (Gunderson, Kolb, & Austin, 1981). In addition to symptoms and

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behaviors, the DIB also gathers information about historical events, for example, incest and previous psychiatric hospitalizations, as well as subjective information, such as frequent disappointments with significant others. (See Appendix B for a summary of the DIB diagnostic criteria). Because all but three items are based on recent experiences and events (past 24 to 36 months), the DIB can be used as a measure of change for intervals of two years or longer.

The authors of the DIB report adequate interrater reliability, with total DIB scores showing greater reliability than individual section scores. Interrater reliability for the presence or absence of BPD according to the DIB was previously established by the researchers involved in the current study as acceptable, $\underline{K}$ = .8 (Cornell, Silk, Ludolph, & Lohr, 1983). Validity studies have shown that the DIB distinguishes borderline personality disorder from schizophrenia and other personality disorders (Barrash, Kroll, Carey, & Sines, 1983; Frances, Clarkin, Gilmore, Hurt, & Brown, 1984) and correlates significantly with DSM-III diagnoses. However, the DIB and DSM III borderline constructs are slightly different, with the DIB appearing to be more inclusive than DSM-III.

The Rorschach Inkblot Method was used to operationalize the personality variables derived from Kernberg's (1985) criteria for structural diagnosis, and Acklin's (1993) discussion of the application of Rorschach variables to Kernberg's diagnostic criteria. The major categories chosen to define the particular aspects of borderline functioning were Defenses, Reality Testing, Ego Capacity, and Object Relations. Each of these four sub-categories of the structural diagnosis was separately considered, and Rorschach variables

that best operationalized each one and showed reasonable validity were applied to form a separate scale for each.

Three primary coding systems for the Rorschach were used in the current study. Exner's (1986b) Comprehensive System was used to code Rorschach responses, and structural summaries were calculated for each protocol. Exner's Comprehensive System is currently considered the most researched and best validated coding system for the Rorschach with good interrater reliability (Weiner, 1997).

Object relations was assessed with the Rorschach Human Experience Variable (HEV) devised by Perry and Viglione (1991). The HEV is one component of the Ego Impairment Index (EII; Perry & Viglione, 1991), a more inclusive measure of functioning as measured on the Rorschach. The HEV has been shown to account for the majority of the variance on the EII (Perry & Viglione, 1991), and has since been validated separately. The HEV coding scheme, like other Rorschach scales of object relations (e.g. Blatt et al., 1976; Urist, 1977), is based on the theory that the quality of internal object relations are expressed in the quality of Rorschach human percepts. In this scheme good object relations are characterized by whole humans, lack of distortions, benign affect, and cooperative interpersonal representations, while poor object relations are characterized by fictionalized and partial humans, distorted percepts, and malevolent, destructive interpersonal representations. The HEV uses Exner's Comprehensive System scores to operationalize a set of decision criteria which are used to divide human responses into "good" and "poor" humans, based on the features of the human percept. After each human percept is categorized as either "good" or "poor", the number of each is entered into a a fixed decision algorithm to arrive at a z score that

corresponds to the ratio of good to poor human percepts. For the HEV, negative z scores indicate a better "good" to "poor" human percept ratio, while positive z scores indicate more "poor" humans. The HEV was chosen because, unlike other Rorschach scales of object relations, it integrates several aspects of object relations into a single dimensional score. The HEV has been shown in research to be a strong predictor of poor treatment response (Perry & Viglione, 1991), has shown temporal stability (Perry, McDougall, & Viglione, 1995) and has successfully differentiated between groups rated to have high and low quality of interpersonal relationships (Burns & Viglione, 1996).

Another Rorschach coding system, The Rorschach Defense Scales (Cooper, Perry, & Arnow, 1988) was used for operationalizing the subsection Defenses. This measure uses all responses on the Rorschach to code for 15 defenses that span a range of defensive functioning, from developmentally lower-level to higher-level defenses. RDS scoring is based on the content of the responses (including random verbalizations about the testing) rather than the formal aspects of the percepts. Each defense has between 6 and 14 exemplars which qualify for a coding of that particular defense. The authors divide the defenses into three developmental categories: Psychotic (massive denial and hypomanic denial), Borderline (splitting, primitive idealization, devaluation, omnipotence, projective identification, and projection), and Neurotic (denial, intellectualization, isolation, reaction formation, repression, rationalization, and pollyannish denial). A summary of the types of Rorschach responses coded for the various defenses is included in Appendix C.

Preliminary validity has been established (Lerner, Albert, and Walsh, 1987), with the type of defenses significantly discriminating between outpatients, DSM-III diagnosed inpatient borderlines, and DSM-III diagnosed schizophrenics. Furthermore, another RDS study by Cooper, Perry and Arnow (1988) found borderline defenses to be significantly correlated with a scale of borderline diagnostic criteria, but not scales of bipolar or antisocial diagnostic criteria.

RDS scores were determined by tallying the number of occurrences of each of the 15 defenses per protocol. For the purposes of the current study, the sum of the defenses in each category was calculated and weighted according to the pathology of the defense (Neurotic = 1, Borderline = 2, and Psychotic = 3). Next, in order to control for overall productivity, the weighted sums were divided by the total number of defenses that were scored to yield an overall weighted average. This weighted average was used to indicate the overall level of defensive functioning, with higher scores pointing to more pathological defenses.

Reality Testing was measured using Exner's variable Weighted Sum of Special Scores (WSum6; Exner, 1986b). This variable is a weighted sum of the special scores that indicate odd verbalizations, cognitive slippage, peculiar logic, and unrealistic or bizarre combinations, and weights are assigned depending on the severity of the thought disturbance. WSum6 is dimensional, with higher scores indicating more thought disorder, and it has been shown to distinguish schizophrenics from borderlines and other character disordered groups (Exner, 1986a).This variable was chosen specifically because it operationalizes the types of thought disorder which

have been described historically in the early Rorschach literature on borderlines. According to Kernberg (1985):

> ...on projective testing, and especially in response to unstructured stimuli, primary process thinking tends to appear in the form of primitive fantasies, in a decrease in the capacity to adapt to the formal givens of the test material, and particularly in the use of peculiar verbalizations" (p. 24).

Another Exner measure of thought disorder, the Schizophrenia Index (SCZI), was not chosen because it was developed specifically for detecting thought disorder in schizophrenics, is much more restricted in its range than the WSum6, and has been shown to have poor specificity for schizophrenia in clinical populations (Exner, 1986b).

Ego Capacity was operationalized for the current study with several variables from Exner's Comprehensive System. Although an index of poor coping ability, the Coping Deficit Index (CDI) has been developed by Exner, research on the CDI indicates that it may have very poor sensitivity for detecting borderline coping deficits (Carlson, Kula, & St. Laurent, 1997). Furthermore, the CDI, despite its name, was also originally developed as a depression scale, and the items measure affective constriction, passivity, and dependency. Although these characteristics may indicate poor ego functioning, the deficits in ego functioning typical of borderlines are somewhat different. Ego capacity was conceptualized for the purpose of the current study as those aspects of functioning that would allow one to regulate impulses and emotions, delay action in favor of thought, and resist decompensation under stress. Six Rorschach conditions that operationalized poor ego capacity (poor emotional control, impulsivity, and poor stress

tolerance) were chosen in consultation with a senior clinical psychologist who teaches Rorschach interpretation at the graduate level (see Appendix D for all scoring criteria). Five of the six conditions chosen were single variables or combinations of variables for which norms were available (e.g., FC: CF+C, C, D, Lambda, and WSumC: M). Exner's (1990) normative sample of nonpatients was used to determine the percentage of normal individuals who met each of the criteria, and in each case only a small minority of non-patients met each one. The Ego Capacity score was calculated as the sum of the criteria met. Based on the non-patient norms, it was decided that the sum of the 5 ego capacity scores for most non-patients would be 0 or 1, that 2 to 3 indicated moderate difficulty, and scores higher than 4 suggested extremely poor ego functioning.

Procedure.

All time 1 potential inpatient research subjects were approached for participation in the study by a research nurse within several days of admission. Those who agreed to participate were given a verbal explanation of the study and signed a consent form indicating their voluntary participation. First, the DIB was administered by an advanced clinician who was also a member of the research group, who determined whether the patient met criteria for a borderline diagnosis (DIB score ≥ 7). Interrater reliability for the diagnosis of BPD according to the DIB was previously established by the group as acceptable, $\underline{K}$ = .8 (Cornell, Silk, Ludolph, & Lohr, 1983).

Subjects in the study were administered a battery of psychological tests by an experienced graduate student or Ph.D. level clinician, not necessarily blind to diagnosis. These tests included the Wechsler Adult Intelligence

Scale-Revised (WAIS-R), the Thematic Apperception Test (TAT), Mayman's Early Memories Test, and the Rorschach. The Rorschach was administered according to the Rapaport-Schafer instruction, with all 10 cards presented first followed by the inquiries. The verbatim instructions for the Rorschach given in all testings were: "What does this look like?". Instructions were not repeated once the subject clearly understood the task.

All subjects in the study also completed a battery of self-report measures not used in the current study. Due to the ongoing data collection for this study, some subjects did not complete all measures.

Follow-up Study

Subjects.

For the follow-up phase of the study, a subset of the original pool of subjects diagnosed as BPD on the DIB were reassessed between 1988 and 1994. Follow-up subjects included only those from the original sample who had been hospitalized at index less than 10 years previously. Although researchers were aware that the study was on patients with BPD, several non-BPD subjects from the original research pool were included in the follow-up sample to limit the researcher's assumptions about diagnosis during the follow-up phase.

Of the 55 eligible BPD subjects from the original pool, 31 were successfully contacted and reassessed at follow-up. Four of the original 55 patients contacted for the follow-up study were excluded because they were found to have Major Depression at follow-up, and the investigators were interested only in non-depressed borderlines in the early stages of the project. Four subjects who were contacted declined to participate in the study, and 2 agreed to participate but had moved out of state and could not travel in time

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for the scheduled testing days. Two subjects had died during the follow-up period, and the remaining 12 subjects could not be located. Of the 31 successfully recontacted, 28 had Rorschachs done at time 1.

Measures.

Follow-up subjects were again administered the same interviews, measures, and psychological testing that they completed at time 1, including the Rorschach.

Procedure.

All potential follow-up subjects were recontacted by letter, which explained that they would be contacted by phone regarding the follow-up study and offered them $50 to participate. Subjects were then contacted by phone within 2 weeks by a research assistant who explained the study in more detail and scheduled the follow-up testings. Subjects who consented to the study were sent the packet of self-report measures, and were asked to bring the completed measures to the medical center on the day of follow-up testing.

Follow-up subjects came to the University of Michigan Medical Center for testing, and were administered the DIB by a senior clinician. Subjects were given a 60-90 minute semistructured interview by another interviewer who was blind to Time 2 DIB diagnosis. This interviewer gathered information about the follow-up period, including demographic information, type and length of treatment sought during the follow-up interval, suicide attempts, prescription and non-prescription drug use, and social relationships. During this interview, the clinician also scored the subject on several measures not used in the current study. Other Ph.D. or graduate level clinicians, blind to

DIB and RDC diagnoses, administered the Rorschach and other psychological tests. Follow-up subjects also completed the same set of self-report measures they completed at index.

Rorschach Scoring

Six graduate students in clinical psychology previously trained in Exner's Comprehensive System (1986) scored all protocols. Coders were all blind to the purpose of the study and the diagnoses of the sample. Preliminary interrater reliability was first established by having all coders score 20 sample responses given by Exner in his Rorschach Workbook for the Comprehensive System, Third Edition (Exner, 1990). Reliability estimates were calculated by computing kappa coefficiants between each coder's set of scores and the correct scores given by Exner in Appendix A of the Workbook for the Comprehensive System (Exner, 1990). Kappas were calculated separately for each of the following categories of scores: Location, Developmental Quality, Form Quality, Pair, Populars. Reliability estimates were calculated using percent agreement for the categories Determinants, Contents, and Special Scores because of the frequent asymmetries in the number of categories scored, because many responses receive multiple scores, and there is a greater number of possible scores, and because there is a greater degree of scoring difficulty. For Determinants, percent agreement was calculated for both exact agreement and "partial" agreement between the coder's determinants and Exner's answers. Partial agreement for determinants was calculated to allow for some variation in the determinants as long as the difference would only minimally affect the overall structural summary. A determinant was considered partially correct under three

circumstances: the determinants in a blend were identical but the order of determinants was different, some part of a blend was exactly correct but another was slightly different (e.g. "ma.FV" when the correct answer was "mp.FV"), or determinants were very similar ("FC" when the correct answer was "CF"). Exact agreement for Determinants ranged from 40% to 90%, while "partial" agreement ranged from 90% to 100% for all coders.

Reliability estimates for Contents and Special Scores were also calculated using percent agreement. For both of these categories, reliabilities were calculated by dividing the number of scores that agreed exactly with the correct answer, divided by the highest number of scores given. Exact agreement for Contents ranged from 57.6% to 92.9%, while exact agreement for Special Scores ranged from 81.8% to 95.5%. Reliability coefficients for Exner variables are reported in Table 1.

Despite generally good reliability estimates between coders and Exner scores on practice items, it was decided that for the study each protocol would be scored independently by two coders and then coders would be asked to reach consensus in their final scoring. Consensus scoring was done to reduce potential variability and errors in scoring, and to arrive a single set of scores for each protocol. Furthermore, coders were assigned to pairs on a rotating basis to prevent coder drift. After all scoring was completed, Exner protocols were entered into Exner's computer scoring program which calculated the structural summaries.

For the Rorschach Defense Scale four coders, two undergraduate psychology majors and two graduate students in clinical psychology were specifically trained in the coding system. Coders were trained in the scoring rules and then scored several practice protocols together and discussed their

Table 1

Inter-rater Reliability Coefficients between Raters and Exner's scores
for Exner Variables

Rater	Loc	DQ	FQ	PR	Pop	Determinants		Contents	Special Scores
						Exact/Partial			
JD	1.00	.63	.53	.69	1.00	.50	.90	.84	.87
JJ	.92	.85	.59	.69	.64	.90	1.00	.89	.86
RO	.84	.92	.87	.69	1.00	.85	.95	.96	.95
CH	1.00	.86	.80	.48	1.00	.95	1.00	.93	.91
KB	1.00	.61	.87	.69	.64	.40	.95	.58	.82
AW	1.00	.78	.59	.69	.64	.65	.95	.76	.82

Note. Coefficients reported for Location, DQ, FQ, Pair, and Popular are kappa (Cohen, 1968). Percent agreement is reported for Determinants, Contents, and Special Scores.

answers. Most discrepancies were resolved through ongoing discussions, and those practice scoring items that continued to be unclear were resolved by contacting the author of the scoring systems directly (S. Cooper, personal communication, May 1996). Interrater reliability was initially established between all four scorers on 13 sample responses. Reliability estimates were calculated as the percent agreement between the defense scoring for each of the 6 pairs of coders, based on whether the score for each coded response fell into the same general Neurotic, Borderline, or Psychotic defense category. Percent agreement ranged from 50% to 83%, which was comparable to the interrater reliability reported by the authors (Cooper, Perry, & Arnow, 1988). As with the Exner scoring system, it was decided to have two coders score each protocol and reach consensus scoring for the RDS to reduce scoring errors. Furthermore, as with the Exner coding, pairs were rotated to avoid coder drift.

In order to run analyses in which the 4 Rorschach variables (Defenses, Reality Testing, Ego Capacity, and Object Relations) were combined to yield an overall score, each was recoded so that they were similarly scaled. Rorschach variables in each area were recoded as 1, 2, or 3 depending on the severity of the score, with 1 coded for the neurotic (healthy) range, 2 coded for the borderline (moderately severe) range, and 3 coded for the psychotic (most severe) range.

The determination of cutoffs for each of the four variables was made separately to take into account empirical norms available for each scale as well as theoretical considerations. For Primitive Defenses, the categorization of defenses as neurotic, borderline, or psychotic were predetermined by the authors of the RDS. Cutoffs for the defense scores, described above, were

made by deciding on appropriate ratios of neurotic, borderline and psychotic defenses (a score of 1 meaning all neurotic defenses and 3 meaning only psychotic defenses). Because norms for non-patient, borderline, and psychotic patients were not available, it was decided that conservative cutoffs would be used. A defense score of 1.33 marked the upper cutoff for the neurotic range, indicating mostly neurotic defenses with a ratio of two neurotic defenses to each borderline defense. A defense score greater than 2, indicating the defenses were mostly borderline and psychotic, was the cutoff applied for the psychotic range. Scores between 1 and 1.33 were determined to fall in the neurotic range, scores between 1.34 and 2.0 were determined to be in the borderline range, and scores greater than 2.0 were determined to be in the psychotic range. Scores were then recoded 1, 2, or 3 corresponding to the appropriate range.

Cutoffs for the Object Relations HEV scores were partially determined using the z scores and norms provided by Perry and Viglione (1991) and Burns and Viglione (1996) for inpatients and non-patients with different levels of functioning, respectively. However, because there were not specific norms available for borderline and psychotic patients, cutoffs were also partially determined by calculating the z-scores that corresponded to certain ratios of the HEV's "good" and "poor" humans. The author's original formula, devised on a sample of depressed inpatients (Perry & Viglione, 1991), yielded z scores in which negative z-scores indicate more "good" humans and positive z scores indicate more "poor" humans. However, in this original study a z score of 0 was based on a ratio of 2.6 "good" to 3.8 "poor" humans; thus, the original distribution is slightly skewed in that 0 corresponds to more "poor" human percepts. As reported by Burns and

Viglione (1996), high interpersonally related non-patients were found to have a mean HEV of -1.7 and standard deviation of 2.0, and on average had a ratio of 2 "good" humans for each "poor". Taking the skewed nature of the distribution into account, it was decided that ratios of "good" to "poor" humans would be used to decide the z score cutoffs rather than using strict statistical guidelines based on percentiles. For the purpose of determining cutoffs, a predominance of "good" humans was considered to be a sign of neurotic level functioning, a mixture of "good" and "poor" humans signalled the borderline level of functioning, and a predominance of "poor" humans was considered to be a sign of severe, psychotic level functioning. The neurotic cutoff was set at -.70, which corresponded to a ratio of 1 "good" to 0 "poor" humans, and fell at the 70th percentile of the healthy non-patient sample presented by Burns and Viglione (1996). The severe/psychotic cutoff was set at .54, which corresponded to a ratio of 1 "poor" to 0 "good" human percepts, and fell at the 87th percentile of the healthy sample . Scores below -.70 (indicating a higher ratio of "good" humans) were categorized in the neurotic range, scores between -.70 and .54 were categorized in the borderline range, and scores higher than .54 (indicating a higher ratio of "poor" humans) were categorized in the severe/psychotic range.

For the Rorschach variable Reality Testing, norms for WSum6 for non-patients and schizophrenic patients are given by Exner in his Rorschach Workbook for the Comprehensive System, Third Edition (1990), and means and standard deviations for a sample of DSM-III diagnosed borderlines are reported in another study by Exner (1986a). The data from these sources were used to determine cutoffs. Exner (1986b) has given general clinical guidelines about the ranges for WSum6, suggesting that scores between 6 and 9 indicate

likely thought disturbance, and scores greater than 9 indicate severe thought disturbance. Nevertheless, since thought disorder is typical of the Rorschachs of borderlines, the cutoff for the upper end of the borderline range was set higher to reflect this. In Exner's (1990) nonpatient population norms, the scores for WSum6 ranged from 0 to 15, and had a mean and standard deviation of 3.21 ± 2.73. DSM-III diagnosed borderline patients had a mean WSum6 score of 7.57 ± 5.96, and DSM-III diagnosed schizophrenic patients had a mean of 19.21 ± 9.81. The borderline mean of 7.57 was found to be at the 91st percentile of the nonpatient distribution, and the schizophrenic mean was higher than any score in the nonpatient distribution. For the purposes of the current study 12 was chosen as a cutoff for the upper limit of the borderline range, since 12 fell approximately one standard deviation above the mean for the borderline reference group and fell below the mean for the reference schizophrenic group. Thus, the WSum6 scores of 0 to 5 were categorized as neurotic (consistent with Exner's guidelines), scores of 6 to 12 were categorized as borderline, and scores higher than 12 were categorized as psychotic.

Ego Weakness cutoffs were determined using Exner's normative data for nonpatients and schizophrenics reported in the Third Edition Comprehensive System Workbook (Exner, 1990), and data for DSM-III diagnosed borderlines was reported in another study by Exner (1986a). Because this scale was constructed for the purpose of the current study, norms for the cumulative scale were not available. Instead, data for 5 of the 6 separate criteria on the Ego Weakness scale were used to estimate the percentage of nonpatients, borderlines, and schizophrenics meeting each one.

The resulting scores for the four subscales (Defenses, Object Relations, Reality Testing, and Ego Weakness) were then summed, yielding a summary borderline Rorschach score between 4 and 12. Higher values on this summary score indicate more pathological overall functioning as measured by the Rorschach. Next, the difference between the time 1 and follow-up Rorschach summary scores were calculated, and each subject was categorized as either "improved", or "no different", or "worse". Likewise, index and follow-up DIB scores were compared for each subject, and each subject was categorized as either (a) "improved" or (b) "not improved" on the DIB.

Results

Twenty-eight subjects were successfully reassessed at follow-up. Demographic and Follow-up information is presented in Table 2. Length of interval between initial assessment and follow-up ranged from 16 months to 78 months, with an average of 38 months. The follow-up sample was primarily female (n = 24, 86%), Caucasian (n = 26, 93%), and unmarried (54%). The average age of the follow-up sample was 33.9, the median age was 33.3, and the range was 21.6 to 53.3. At follow-up, 11 (39%) retained the BPD diagnosis by the DIB, and 17 (61%) had improved and no longer met the DIB criteria for BPD.

Analyses of differences between the follow-up sample and the patients who were not successfully recontacted were performed to see if the dropouts were significantly different in age and sex. Data on these variables was only available for 15 of the dropouts; nevertheless, the dropout sample was significantly younger ($\underline{M}$ = 25.3, t = 2.22, df = 35, $\underline{p}$ <.05), and had significantly more males (60%, X^2 = 3.93, df = 1, $\underline{p}$ <.05) than the follow-up sample.

Of the 28 follow-up subjects, 3 had Rorschachs with either missing data or missing location charts. Of the remaining 25 subjects, 3 subjects had one or both protocols that had fewer than 12 responses and were considered invalid for the purpose of the current study (Exner, 1986b). Only the 22 remaining subjects who had valid protocols (R ≥ 12 and Lambda < 1.2 and > .32) at both time 1 and follow-up were included in the statistical analyses for Rorschach variables. The average number of responses for the Rorschach protocols at time 1 and follow-up were 22 ± 9.5, and 22 ± 7.0, respectively. Means and

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Table 2

Subject and Follow-up Variables (N = 28)

	Age at Time 1	Age at Follow-up	Follow-Up Interval (months)
Mean	30.4	33.9	38.1
SD	8.3	8.3	13.8
Min	19	21	16
Max	50	53	78

Sex:
- Female: n = 24 (86%)
- Male: n = 4 (14%)

Race:
- Caucasian n = 26 (93%)
- African-American n = 1 (3.5%)
- Asian n = 1 (3.5%)

Marital Status (Time 1):
- Single = 54%
- Divorced = 21%
- Married = 14%
- Separated = 4%
- Widowed = 7%

Inpatient Treatment During Follow-up Interval

Percent Psychiatrically Hospitalized:	57%
Number of Hospitalizations[a]:	M = 2.3
Percentage of interval hospitalized[b]:	M = 6.6%
Percent in one or more type of outpatient psychotherapy:	100%
Percent of interval in some type of outpatient psychotherapy:	100%
Percent taking psychiatric medication some time during follow-up interval:	89%

Note. [a,b] Calculated using only subjects who were hospitalized during follow-up.

standard deviations of the DIB and Rorschach variables are presented in Table 3.

The first hypothesis stated that changes in the overall index of borderline personality organization would correspond to changes in the DIB. This was tested by calculating a Pearson product-moment correlation coefficient between the difference scores for the summary Rorschach scale and the DIB. Results of this analysis are included in Table 4. This test yielded a statistically non-significant correlation ($\underline{r} = .26$, $\underline{p} = .24$) ; thus, the hypothesis was not supported.

Nevertheless, inspection of the data revealed that the method for computing the overall Rorschach score had resulted in restricted variance, which may have contributed to the lack of significant findings. Therefore, a post-hoc method for computing the overall score was introduced, with the expectation that the new method would result in greater variance. The component Rorschach scores (Defenses, Object Relations, Reality Testing, and Ego Capacity) were transformed into standard (z) scores, and these standard scores were summed to produce the overall Rorschach scores. Next, the difference score was obtained between the time 1 and follow-up overall scores. This new overall Rorschach difference score was then correlated with the DIB difference score, using a Pearson correlation. Although the correlation between the DIB and the new overall Rorschach scores was stronger ($\underline{r} = .37$, $\underline{p} > .07$), the trend was non-significant.

The second hypothesis, that changes in the specific Rorschach indices will correspond to changes in the overall BPD diagnosis, was tested by computing Pearson correlations between the individual Rorschach scales and the DIB score. Results of the correlations are reported in Table 4. The

Table 3

Means and Standard Deviations of DIB and Rorschach Variables

DIB Total and Section Scores
(N = 22)

	DIB score (Total)	Social Adaptation	Impulse Patterns	Psychosis	Affect	Interpersonal Relations
Time 1:	8.00 ± 1.11	1.78 ± .43	1.36 ± .66	1.36 ± .79	1.90 ± .43	1.59 ± .50
Follow-up:	5.68 ± 2.15	1.82 ± .40	0.77 ± .81	0.82 ± .80	1.00 ± .79	1.27 ± .77

Rorschach Variables
(N = 22)

	Defenses	Object Relations	Reality Testing	Ego Capacity	Total
Time 1:	1.75 ± .18	.16 ± 2.8	17.36 ± 15.8	1.68 ± 1.5	7.23 + 1.8
Follow-up:	1.67 ± .34	.11 ± 3.2	21.68 ± 23.4	2.32 ± 1.4	7.73 + 2.1

Note. The Rorschach variables (Defenses, Object Relations, Reality Testing, Ego Capacity and Total) are calculated so that lower and negative values indicate better functioning and higher values indicate greater psychopathology.

Table 4

Pearson Correlation Coefficients Between Difference Scores
for DIB and Rorschach Variables
(N = 22)

	Defenses	Object Relations	Reality Testing	Ego Capacity	Total
DIB Total	.64***	.23	.14	.08	.26
DIB Impulse	.05	.07	.01	.28	.15
DIB Interpers.	.11	.33	.14	-.10	.06
DIB Psychosis	.30	.33	.45*	-.07	.36
DIB Affect	.51*	-.25	-.22	.09	.04
DIB Social Ad.	.41	.19	-.02	-.21	-.14

* p < .05. ***p < .001

hypothesis was partially supported, in that change scores for one of the four Rorschach indices - Defenses - was significantly correlated with the changes on the DIB. Changes in Rorschach Defense scores were highly correlated (r = .64, p <.001) with the change in the total DIB score, indicating that as DIB scores improved, Defense scores improved. Difference scores for the other three scales, Object Relations, Psychosis, and Ego Capacity, were not significantly correlated with DIB difference scores.

To further test the relationship between Rorschach variables and specific areas of improvement on the DIB , Pearson product-moment correlations were run between the 3 Rorschach indices and 3 DIB section scores that based on conceptual similarity would be expected to correspond (Ego Capacity vs. DIB Impulse Action Patterns, Reality Testing vs. DIB Psychosis, and Object Relations vs. DIB Interpersonal Relations). Results of these post-hoc analyses are also reported in Table 4. Because several correlations were run in this analysis, the Bartlett chi-square test of overall significance was calculated and was found to be significant (X^2 = 28.7, p = .02), indicating that individual correlations within the matrix are less likely to be spurious. Only one of the three correlations tested emerged as predicted: changes in the Rorschach reality testing variable was significantly correlated with changes in the DIB section score Psychosis (r = .45, p <.05). Contrary to the hypothesis, changes in the Rorschach variables Ego Capacity and Object Relations were not significantly correlated with changes in the DIB section scores Impulse Action Patterns and Interpersonal Relations, respectively.

In a post-hoc exploration of the data, the scores for the Rorschach variables were broken down by outcome group: "BPD" or "Non-BPD" based on their DIB diagnostic status at follow-up. This allowed for a more detailed

explication of the relationship between diagnostic outcome and change in Rorschach variables over time. Means and standard deviations for the overall group, the "BPD" group, and the "Non-BPD" group at both time 1 and follow-up are reported in Table 5. From the breakdown of the data, it is apparent that differences between the BPD and Non-BPD groups exist at both Time 1 and Follow-up.

The third hypothesis, that age at follow-up will be related to improvement in total DIB scores was tested using a Pearson correlation. Age at follow-up was correlated with the DIB difference score. The hypothesis was not supported, in that age was not found to be significantly related to changes in the DIB ($r = -.34$, $p < .12$).

In order to test the exploratory hypothesis regarding the configurations of personality organization, each of the four Rorschach components (Defenses, Reality Testing, Ego Capacity, and Object Relations) was categorized as either good/neurotic, moderate/borderline, or severe/psychotic. Psychotic scores indicated extremely pathological indices, borderline scores indicated moderate pathology or inconsistent blends of severe and medium pathology, and Neurotic scores indicated mild pathology. Each protocol was categorized Neurotic, Borderline, or Psychotic on each of the four scales, and the breakdown of subjects that fell into each category was calculated and is reported in Table 6. From this pattern, each configuration was categorized into one of four categories based on the theoretically predicted configuration of the four personality indices (see Appendix A): Neurotic, Borderline, Psychotic, or Other. The Other category was designated for protocols that showed incongruent combinations that are not predicted by Kernberg's model, for example poor reality testing and good ego capacity, or poor object

Table 5

Rorschach Variables by Improvement Status
at Time 1 and Follow-up

Object Relations

	Total Group (N = 22)		BPD Group (n = 10)		Non-BPD Group (n =12)	
	M	SD	M	SD	M	SD
Time 1	.16	2.8	1.41	3.7	-.89	1.2
Follow-up	.11	3.2	1.66	3.9	-1.18	1.6

Reality Testing

	Total Group (N = 22)		BPD Group (n = 10)		Non-BPD Group (n =12)	
	M	SD	M	SD	M	SD
Time 1	17.36	15.8	19.80	17.5	15.33	14.8
Follow-up	21.68	23.4	28.00	30.4	16.42	15.0

Defenses

	Total Group (N = 22)		BPD Group (n = 10)		Non-BPD Group (n =12)	
	M	SD	M	SD	M	SD
Time 1	1.75	.18	1.72	.20	1.77	.17
Follow-up	1.68	.34	1.86	.28	1.52	.31

Ego Capacity

	Total Group (N = 22)		BPD Group (n = 10)		Non-BPD Group (n =12)	
	M	SD	M	SD	M	SD
Time 1	1.68	1.5	2.10	1.8	1.33	1.1
Follow-up	2.32	1.4	2.70	1.6	2.00	1.0

Table 6
Means and Standard Deviations of Rorschach Variables by Improvement Status and Time

Object Relations

	Total Group (N = 22)		BPD group (n = 10)		Non-BPD Group (n = 12)	
	M	SD	M	SD	M	SD
Time 1	.16	2.8	1.41	3.7	-.89	1.2
Follow-up	.11	3.2	1.66	3.9	-1.18	1.6

Reality Testing

	Total Group (N = 22)		BPD group (n = 10)		Non-BPD Group (n = 12)	
	M	SD	M	SD	M	SD
Time 1	17.36	15.8	19.80	17.5	15.33	14.8
Follow-up	21.68	23.4	28.00	30.4	16.42	15.0

Defenses

	Total Group (N = 22)		BPD group (n = 10)		Non-BPD Group (n = 12)	
	M	SD	M	SD	M	SD
Time 1	1.75	.18	1.72	.20	1.77	.17
Follow-up	1.68	.34	1.86	.28	1.52	.31

Ego Capacity

	Total Group (N = 22)		BPD Group (n = 10)		Non-BPD Group (n = 12)	
	M	SD	M	SD	M	SD
Time 1	1.68	1.5	2.10	1.8	1.33	1.1
Follow-up	2.32	1.4	2.70	1.6	2.00	1.0

relationships and good defenses. Results of this pattern analysis are the following: Of the 22 time 1 subjects, all of whom received a diagnosis of BPD, none fit the predicted Borderline pattern exactly (Borderline level Defenses, Object relations, Ego Capacity, and Reality Testing). One subject was categorized in the Neurotic range on all 4 Rorschach indices, and no subjects were categorized in the Psychotic range for all 4 Rorschach indices. Of the 22 subjects tested, 21 fell into the "Other" category. Seven (30%) of the 22 time 1 subjects had some blend of all three levels of functioning, 11 (48%) had a combination of Neurotic and Borderline ranges, and 4 (17%) had a combination of Borderline and Psychotic ranges. Thus, the exploratoryhypothesis that the borderline group would show predictable configurations of personality indices was not supported.

Discussion

The current study set out to determine if changes in borderline diagnostic status over time reflect changes in underlying personality dynamics as assessed by the Rorschach. Due to the correlational nature of the current data, we cannot make the assumption that the relationships between the Rorschach and the symptom variables are causal. Nevertheless, the findings do suggest that some aspects of personality functioning do improve with time, and these changes correspond to changes in borderline symptoms.

The patients in the current study, almost all women, were all diagnosed with borderline personality disorder, and were all disturbed enough to require inpatient hospitalization. All patients reported receiving at least one type of outpatient treatment during the follow-up interval, and many had individual psychotherapy, group psychotherapy, and a psychiatrist. Over half (57%) were re-hospitalized at some point between the initial assessment and follow-up study. However, of the 28 patients followed a substantial number had improved: less than half (39%) met DIB diagnostic criteria at follow-up. The sample of borderlines successfully recontacted were slightly older and had fewer males than a comparsion sample of dropouts.

The first hypothesis, that changes in overall indices of personality organization on the Rorschach would correspond to changes in borderline symptoms, was only partially supported. No significant relationship was found when the data was analyzed according to an absolute scale of severity. The effort to standardize the component variables by recoding them all in the same range may have reduced the variability to such an extent that the real changes in the component variables affected the overall index very little.

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Therefore a second analysis was performed using standard scores, which reflected severity relative to the group, and resulted in a score that maintained the variance of the component scores. This analysis yielded a non-significant trend ($p > .07$), indicating that there is some relationship between the changes in the DIB and changes in the overall Rorschach score.

Several findings occurred when the separate personality components were analyzed to determine if they changed in accordance with changes in borderline symptoms. One particularly strong relationship emerged: positive changes in defenses corresponded with a decrease in borderline symptoms. Upon post-hoc examination, the "improved" group had decreased the number of borderline and psychotic defenses and had a slight increase in neurotic defenses between time 1 and follow-up, while the "not improved" group showed a decrease in neurotic defenses and an increase in psychotic defenses between time 1 and follow-up. Thus, as the defenses expressed on the Rorschach became less pathological, the borderline diagnostic symptoms decreased.

In order to understand more precisely which borderline symptoms changed in accordance with the improvement in defenses, post-hoc correlation analyses were performed between the difference scores for Rorschach defenses and the difference scores for the DIB subsections (Social Adaptation, Impulse Action Patterns, Affects, Psychosis, and Interpersonal Relations). This set of analyses was not included in the original hypotheses due to the fact that there was no clear prediction of the relationship between defenses and these DIB section scores. Pearson correlations between the difference scores for Rorschach Defenses and the five section scores were performed. This yielded a significant correlation between defenses and the

DIB section score for Affect ($r = .51$, $p < .05$), and a non significant trend between defenses and DIB Social Adaptation ($r = .41$, $p = .06$). Thus, improvements in dyphoric affects (depression, anger, emptiness, lability) and social functioning (occupational and social stability) were the main factors reflected in the significant correlation between improvement in defenses and improvement in overall DIB score.

The hypothesis that improvements in the other three aspects of personality organization - Reality Testing, Ego Capacity, and Object Relations - would be significantly correlated with improvements in borderline symptoms was only partly supported. Table 6 provides the means and standard deviations for these variables broken down by time and outcome group ("BPD" or "Non-BPD" based on their DIB diagnostic status at follow-up). Although differences between the Non-BPD and BPD groups were not statistically significant due to the small sample size, important trends in the data were observed. For Object Relations, the Non-BPD group scored better than the BPD group at time 1 and follow-up, indicating that those who went on to improve symptomatically started out with better object representations than those who remained BPD. Nevertheless, the Non-BPD group showed a substantial improvement in object relations between time 1 and follow-up, while the BPD group actually showed a slight overall worsening of object relations. Although the correlation between changes in total DIB score and changes in object relations was not significant, the current data do suggest that there are meaningful differences in object relations between those patients who improved diagnostically and those who did not. When correlations were performed between time 1 object relations and time 1 DIB scores no significant correlation emerged ($r = .37$, $p = $ ns), but there was a significant

correlation between follow-up object relations and follow-up DIB scores ($\underline{r}$ = .54, $\underline{p}$ < .01). This relationship between object relations and borderline symptoms does not show up when difference scores are used in the analyses. The finding that those who went on to improve at follow-up had better object relations at time 1 makes sense, in that patients who have more mature object representations may adapt better and therefore make more gains over short intervals. For example, these patients may have fewer disruptive interpersonal crises, and may be more amenable to psychotherapy than borderlines who have more primitive object representations.

Regarding Reality Testing, the "improved" group showed somewhat less thought disorder than the "not improved" group at time 1, indicating that those who went on to improve diagnostically were also less thought disordered to begin with. At follow-up, while the "improved" group changed little overall, the "not improved" group actually showed an overall worsening of thought disorder. Nevertheless, the changes in thought disorder on the Rorschach did correlate significantly with the changes in the DIB subscale Psychosis, indicating that there was a relationship between these two measures of disordered thinking. The correlation between the Rorschach thought disorder measure and the overall DIB score, however, was not significant. This most likely reflects the fact that Psychosis was only one aspect of the DIB that changed over time.

For Ego Capacity, the correlation between change scores and DIB change scores was not significant. Table 6 shows that both the "improved" and "not improved" groups showed a worsening of ego indices at follow-up, with the "improved" group showing slightly better ego capacity at both times than the "not improved" group. It is unclear why this index would show a decrement

for both groups at follow-up. One hypothesis might be that the structure and "hold" of the hospital setting may have influenced the responses at time 1, which may have been reflected in indices of stress tolerance, impulsivity, and affective regulation. However, DIB items reflecting impulsivity contradict this idea, in that the group showed a decrease in impulsivity at follow-up. Because this Rorschach scale was created for the current study and it has not been validated, it is more likely that it may simply not accurately reflect changes in ego capacity. Further validation of this scales would be necessary before conclusions could be drawn about the meaning of this result.

The third hypothesis, that age at follow-up would be positively related to borderline symptomatic improvement was not supported. No significant relationship bewteen age and changes in diagnostic status was found for subjects in this sample. Although age has been related to improvement in other studies, these follow-up intervals have been much longer and have extended into the 4th and 5th decade for the majority of patients (Stone, 1990). Although several patients in the current study were in their 40s, the majority were still in their 20s and 30s at follow-up. Improvement occurred in our sample at a range of ages; however, the borderlines who did not improve may be more like the patients that Stone (1990) describes who don't improve until they reach a a later age. If at all possible it would be instructive to recontact the patients in the current study who were still borderline at follow-up in another ten to fifteen years to see if their adjustment has improved. Although we did not measure potential correlates of improvement in the current study, it would also be interesting to know in our sample which demographic, family or other factors contribute to the differences between those who improved early on versus later in life.

The robust relationship between defenses and symptom improvement is compelling in that it is in line with the theoretical prediction of Kernberg (1985) and others. As mentioned earlier, Kernberg sees the borderline's primitive defensive functioning as a main obstacle to the neutralization of angry affect, as well as interfering with the development of ego strength and sublimatory channels. Although we cannot infer causality from correlational data, the current study found a significant relationship between improvement in defenses and affect, and a marginal relationship between improvement in defenses and social functioning as predicted.

Furthermore, although these differences were not statistically significant, it is notable that the group who at follow-up no longer met DIB borderline diagnostic criteria looked less pathological in their Rorschach variables of Reality Testing, Ego Capacity, and Object Relations at time 1. Thus, even though they all met the borderline diagnostic criteria at time 1, some borderlines initially looked less disturbed than others on the Rorschach, and these borderlines were more likely to show symptomatic improvement two to five years later. The results therefore support the use of the Rorschach in predicting which borderlines are more likely to show symptomatic improvements even over short periods of time. In the long-term outcome study on borderlines conducted by Stone (1990b), he found that borderlines with histories of parent-child incest, rape, and emotional abuse tended to have worse outcomes. It seems fair to speculate that extreme psychological damage of this sort would be reflected in Rorschach responses, which are in turn related to differences in outcome. Despite the fact that all of the subjects received outpatient therapy during the follow-up interval, perhaps intrapsychic differences in the capacity to make use of treatment contibuted to

the improvement of some patients more than others. Similarly, patients with better defensive functioning and better internal models of relationships may also be more likely to have "therapeutic" social relationships (e.g. family, partners) that facilitate their improvement.

Another possible explanation of the differences in Rorschach pathology between the "improved" and "not improved" groups is that there may be undetected diagnostic differences between these two sets of borderline patients. In a study by Kullgren and Armelius (1990), all of the borderlines who had a concomitant major affective disorder at index improved to neurotic personality organization at follow-up. The authors conclude: "There are two possible explanations: A concomitant affective disorder either a) produces structural changes in personality organization, or b) it influences the measurement of personality structure"(p. 211). Similarly, Nelson et al. (1985) have suggested that a subset of patients who are not truly borderline may be diagnosed borderline because of an affective disorder that produces borderline features. For example, they point out that some patients may experience more borderline-like features "such as chronic feelings of emptiness, problems with being alone, and impulsivity" (p. 858) when depressed. They suggest that in some depressives: "rather than depression superimposed on a pre-existing personality disturbance, those features which clinicians consider characterological are actually mood-state dependent"(p. 858). The current study did not assess the presence of affective disorders in the subject population, and therefore this intriguing question should be addressed in a subsequent investigation.

Likewise, another possibility is that the borderlines who did not improve at follow-up were borderlines with more schizotypal features, who

tend to have especially severe interpersonal difficulties and more thought disorder. The DIB is more inclusive than the DSM-IV criteria, and it is possible that at least some of the patients in this borderline sample had schizotypal features. One finding in the current data that may support this idea was that the subgoup of borderlines who did not improve on the DIB at follow-up showed a dramatic worsening of thought disorder over time. This decline is consistent with the clinical picture of people with more schizotypal traits. Unfortunately, independent measures of affective or schizotypal traits were not obtained in the current study to address these diagnostic issues, but they may be important variables to consider in future follow-up studies of borderlines.

The findings from the exploratory hypothesis that borderlines do not show a predictable pattern of Defenses, Reality Testing, Object Relations, and Ego Capacity point to the wide variability in borderline presentations on the Rorschach. This poses a challenge to the conservative, widely used nomothetic approach to understanding borderline dynamics on the Rorschach. When group data are used to describe borderlines and to compare their Rorschachs to those of other diagnostic groups, much information is lost about the potential variability within the groups. Although much effort has been put into finding a single borderline profile on the Rorschach, this line of thinking has had critics (Murray, 1993; Rosegrant, 1995). Rosegrant (1995) has cautioned against using the Rorschach in isolation to diagnose. The data from this study support this position: while the Rorschach is useful to clarify personality dynamics, assess severity of pathology, determine areas of strength and weaknesses, and even give prognostic information, it is most useful in combination with objective diagnostic measures. Within this

sample of borderlines, all of whom carried the same diagnosis and functioned poorly enough to be hospitalized, most patients showed a range of functioning with combinations of different levels of functioning on the four Rorschach indices. This finding highlights the importance of using idiographic methods to approach the study of borderline dynamics.

Perhaps one of the most important findings of the current study is that Rorschach variables, considered to reflect intrapsychic processes, correlated with reported behavior. Defenses in particular showed a very robust correlation (r = .64) with the patient's self-reported borderline symptoms. This is a both a theoretically important finding, given the centrality of defenses in the creation and maintenance of borderline pathology (Kernberg, 1985), and a methdologically important finding for those who seek to validate Rorschach scoring systems. Given the infinite number of situational circumstances which act as mediator variables, such high correlation between intrapsychic tendencies and behavior is unusual. The likelihood that this correlation is spurious is low given the theoretically explained pattern of intercorrelations between Rorschach variables and DIB subscales. Notably, many of the Rorschach variables did not correlate highly with each other, suggesting that they are measuring somewhat separate constructs. The Rorschach indices did, however, show a somewhat predictable pattern of correlations with the DIB subscales: for example, Ego Capacity correlated most highly with DIB Impulsivity (r = .28), Reality Testing correlated most highly with DIB Psychosis (r = .45), and Object Relations correlated highly with DIB Interpersonal (r = .33). Although some of these correlations were non-significant due to the small sample size, they do suggest non-random

associations between certain constructs on the Rorschach and reported behaviors.

A number of methodological shortcomings limit the conclusions that can be drawn from this study. The relatively small sample size limited the power to detect real differences, which may have resulted in type II error on some tests. The sample size also prevented the use of certain statistical tests, such as multiple regression, which would have been more suited to assessing the relative predictive power of Rorschach variables on DIB outcome. Furthermore, the follow-up sample may not have been representative of the larger time 1 sample, which most likely included a number of patients who had extremely poor outcomes (e.g., homelessness, suicide). The subjects who were able to be followed up all had some way of being contacted, either through family or through a permanent residence of their own, suggesting that they may have been a more socially connected and less symptomatic subsample. However, the author happened to learn of the suicide of one follow-up subject after our call back, indicating that the subjects in this sample were not immune to tragic outcomes.

Another methodological shortcoming of the current study is the absence of multiple outcome measures. Other measures of global functioning as well as measures of comorbid diagnoses, such as affective disorders, in addition to the DIB would have provided more information regarding the reliability of the DIB as an outcome measure. Multiple outcome measures would have also have allowed us to determine whether the Rorschach variables predicted improvement across different domains of functioning.

A final caution about the results of the current study bears repeating: the correlational nature of the data prevent making causal attributions;

therefore, we cannot conclude that intrapsychic changes produced symptomatic ones or vice versa. We also tend to assume that the Rorschach is measuring "trait" variables rather that "state" variables. Indeed, there is some evidence from the literature that most Rorschach variables tend to remain stable over time, and are not easily affected by situational factors (Exner, 1986b). Nevertheless, the best test of whether the Rorschach changes really reflected fundamental improvement in personality would be to do a second follow-up on the same subjects to see if their gains continue to be stable over time.

Future research on the stability of Rorschach personality indices in borderlines would be improved by the addition of multiple outcome measures, measures of premorbid (pre-hospital) functioning, and the assessment of familial and social variables, such as abuse, which have been shown to be predictive of outcome in other longitudinal studies. This would allow us to see whether aspects of the Rorschach, such as object relations, are correlated with these predictors. Another area of future research would be to look at the covariance of certain Rorschach variables as they change over time. For example, Murray (1993) has suggested that although borderline dynamics will change over time, they will not change uniformly. He suggests the first aspects of personality that will change are aspects of personality style (such as cognitive style, affective control and experience, defensive orientation, and flexibility), followed by structural factors, such as deficits in handling anxiety, problems in experience of the self, and ideational difficulties. Although beyond the scope of the current study, future longitudinal studies might address whether the Rorschach shows changes that conform to predictions of personality growth over time.

In summary, the current study found a significant association between Defenses on the Rorschach and DIB improvement over time, such that improvement in borderline diagnostic status correlated significantly with improvement in the quality of defensive functioning on the Rorschach. This finding strengthens the argument for the use of the Rorschach in detecting and predicting outcome in future studies. Furthermore, the wide variability found between Rorschach variables within the group of subjects receiving the borderline diagnosis suggests that the search for a single "borderline" profile is not realistic and may be misleading. Future studies of longitudinal course of borderline pathology using the Rorschach would be improved by a careful formulation about the progression of personality maturation as manifested on the Rorschach, as well as the inclusion of multiple outcome measures and additional diagnostic information. Idiographic rather than nomothetic approaches to data are also recommended for future studies using the Rorschach.

Footnote

[1]Copies of data for the current study can be obtained by writing The Coping
Study, c/o Dr. Ken Silk, Department of Psychiatry, University of
Michigan Medical Center, 1500 E. Medical Center Drive, Ann Arbor,
≥MI, 48109-0120.

APPENDICES

APPENDIX A

Appendix A

	Neurotic	Borderline	Schizophrenic
Defensive Operations	High-level defenses: reaction formation isolation, undoing, rationalization, intellectualization	Low-level defenses: splitting, primitive idealization projective identification, denial, omnipotence., & devaluation	
Reality Testing	capacity to test reality is preserved	alterations in relationship with reality	capacity to test reality is lost
Loss of Impulse Control	highly selective, infrequent	moderately selective, frequent	unselective, frequent
Object relations	contemporary, depersonified, abstract, object constancy, self-other differentiation	archaic, unintegrated, personified, no object constancy self-other differentiation in superficial relationships	archaic, unintegrated, personified, no object constancy, personified poor differentiation

(Kernberg Criteria: per Acklin (1993))

Normal/Neurotic: intact reality testing; higher-level defenses; good anxiety tolerance; good affect regulation; integrated identity and mature object reps, self-and other differentiated.

Borderline: intact reality testing; lower level defenses; poor anxiety tolerance; poor affect regulation; unintegrated, diffuse identity; archaic, malevolent object reps, variable self-other differentiation.

Psychotic: poor reality testing; lower level defenses; poor anxiety tolerance; unintegrated, diffuse identity; archaic object reps; no self-other differentiation.

APPENDIX B

APPENDIX B

THE DIAGNOSTIC INTERVIEW FOR BORDERLINES (DIB)
SUMMARY OF BORDERLINE CRITERIA

I. SOCIAL ADAPTATION
Unstable work history
Periods of achievement effectiveness
Active social life
Appears socially appropriate

II. IMPULSE ACTION PATTERNS
Self-mutilation
Manipulative suicide threats
Pattern of serious substance abuse
Promiscuity or sexual deviance
Other impulsive behaviors

III. AFFECTS
Appears depressed or reports recent clinical depression
Feels angry and short-tempered
Demanding or entitled attitude
Chronic feelings of boredom, emptiness, or anhedonia
Absence of hypomanic or manic behavior

IV. PSYCHOSIS
Derealization
Depersonalization
Fleeting drug-free psychotic depressed or paranoid experiences
Drug-related psychotic symptoms
Absence of true psychotic experiences

V. INTERPERSONAL RELATIONS
Needs social activity/avoids being alone
Acts as a caretaker/conflicted about giving and receiving care
Has intense, unstable relationships
Devaluation, manipulation, and hostility emerge in
    relationships
Masochism and dependency are problems in relationships
Has engaged in staff splitting/evoked significant
    countertransference in therapists
Absence of "loner" behavior

APPENDIX C

APPENDIX C

RORSCHACH DEFENSE SCALE: SCORING NOTES

Defense scoring includes all responses, human, animal, and inanimate, as well as comments made to the examiner. The following is a short-cut to locating the general defense used in each percept. More than one defense may be used in a single percept - please record as many as apply.

NEUROTIC DEFENSES:

REACTION FORMATION = bending over backward to appear the opposite of how you feel
-expressions of extreme helpfulness in the testing situation, over 40 responses
-discomfort at messiness or aggression in card, anti-sentimentality,
- themes of obedience, cleanliness, benevolence

INTELLECTUALIZATION = overly intellectual approaches to task
-technical or scientific language, textbook illustrations and artistic references,
- describing blots as"interesting", overly systematic approach to responding,
-probabilistic statements "maybe" with non-drive laden responses.

RATIONALIZATION = justification
-using socially acceptable customs to justify drive content,
-reference to "chance" or "accidental" events of aggressive or sexual nature,
-hybrids with justification, personal experience used to justify percept

POLLYANISH DENIAL = efforts to see excessively positive, cheerful content
-"nice" content, pleasure described, playful or childlike content (e.g. holidays),
- superficial positive remarks about the card.

ISOLATION = affect and ideas are disconnected
-disconnected or separated objects, formal or stylized activity, distance in time or place used for sexual or aggressive content
- machine content, , maps, pictures or sculptures, shadows,
- use of "object" or "image" to describe percept, reports of own thought processes during response, lack of feeling described in reaction to drive-laden percepts
- "cold" content, descriptions of precarious balancing

APPENDIX C

NEUROTIC DEFENSES (Cont'd):

HIGHER LEVEL DENIAL = mild denial, minimizing emotional significance
-disavowals ("not a bat"), minimizations, qualifications, retractions,
-tiny areas used in aggressive content,
-humor, cartoon characters
-use of "maybe" or "could be" with aggressive or sexual content

BORDERLINE DEFENSES:

DEVALUATION= derogatory descriptions
- things described in negative or critical terms, missing parts, hybrid creatures, mythological monsters, negative comments about self or testing process.

PROJECTION = own objectionable feelings/experiences attributed to another
- seeing card as source of percepts - not owned as own
- suspiciousness of testing process, uncertainty about percepts' motives,
- spy and police content, surveillance, eyes watching, traps,
- impending harm or danger in content, victimization

PROJECTIVE IDENTIFICATION = projection with identification
- one object "injects" a feeling or substance into another to control or destroy it, poisonous substances, objects placed inside others for safekeeping, empathy with feared objects, texture used with aggressive objects, paranoid content

SPLITTING = division into all good and all bad objects
- same person seen as having opposite attributes or body parts, love and hate coexisting, transformations from good to bad or vice versa,
- one figure described as good and one as bad
- all good and all bad responses alternating within/between responses

PRIMITIVE IDEALIZATION = belief in unrealistic, all-good, powerful images
- percepts described in excessively positive terms, famous or grandiose figures, objects related to famous or grandiose figures,
- idealized remarks about the tester

OMNIPOTENCE = inflated sense of self, grandiosity
- self flattery, percepts identified as self, use of "we" to describe blot,
- instructions on improving tester's technique, permission given to examiner.

APPENDIX C

PSYCHOTIC DEFENSES:

HYPOMANIC DENIAL = distortions used to avoid experiencing strong emotion
- justification of response based on wish to see something rather than actual percept,
- attempts to deny aggressive content by criticizing blot construction,
- pollyannish concepts (goodness)
- aggressive characters with incongruent nice or cute features.
- idiosyncratic justifications for percepts, confabulations,
- hypomanic mood described, euphoric affect during testing
- repetition of affective words (e.g. mean witches are mean)

MASSIVE DENIAL = massive distortions of blot without recognition
-incongruous hybrids without justification, figures engaged in impossible activities, merged figures,
-rejections on cards I, III, VI, and VIII.
-pure F responses
-absence of populars

APPENDIX D

APPENDIX D

RORSCHACH VARIABLES AND SCORING SYSTEMS

1. Defenses:

Rorschach Defense Scale, (Cooper, Perry, & Arnow, 1988).

Neurotic defenses: denial, intellectualization, isolation, reaction
formation, repression, rationalization, and pollyannish
denial
Borderline Defenses: splitting, primitive idealization,
devaluation, omnipotence, projective identification, and
projection
Psychotic Defenses: massive denial and hypomanic denial

Scoring formula:
[1 x (# Neurotic defenses) + 2 x (# Borderline Defenses) + 3 x (#
of Psychotic Defenses)] / R = weighted average

Scoring cutoffs:
Neurotic = < 1.33
Borderline = 1.34 to 2.00
Psychotic = > 2.00

2. Reality Testing:

Exner's Comprehensive System (Exner, 1986b)

WSUM6 (weighted sum of 6 special scores):
Deviant Verbalizations, level 1 or 2 (DV or DV2),
Deviant Response, level 1 or 2 (DR, DR2)
Incongruous Combinations, level 1 or 2 (INCOM1,
INCOM2)
Fabulized Combination, level 1 or 2 (FABCOM1,
FABCOM2)
Contamination (CONTAM)
Inappropriate Logic (ALOG)

APPENDIX D

2. Reality Testing: (Cont'd)

Scoring formula :
(1) x DV + (2) x DV2 + (2) x INCOM + (4) x INCOM2 + (3) x DR1 + (6) x DR2 + (4) x FABCOM + (7) x FABCOM2 + (5) x ALOG + (7) x CONTAM

Scoring Cutoffs :
Normal, no thought disturbance:	0-5
Borderline, likely thought disturbance	6-12
Psychotic, severe thought disturbance	12+:

3. Ego Capacity:

Exner Comprehensive System (Exner, 1986b)

1. Pure C	(overly intense, poorly modulated emotions)
2. CF + C > FC	(poor impulse control)
3. CF + C > FC and any of the following:	
X-% > .29	(potential for decompensation)
AG > 1	(aggression)
S > 2	(anger, oppositional tendencies)
Afr > .85	(overresponsivity to emotional stimuli)
4. Lambda > 1.2 or < .32	(emotional overinvolvement or constriction)
5. WSumC $\geq$ M + 2	(lack of capacity for delay, reflection)
6. D < 0	(poor stress tolerance)

Scoring formula:
sum of items 1 - 6

Scoring Cutoffs:
Neurotic/ good:	0 - 1
Borderline/moderate:	2 - 4
Psychotic/severe:	5 - 6

APPENDIX D

4. **Object relations:**

Human Experience Variable (HEV), from the Ego Impairment Index, (Perry & Viglione, 1991). Derived from Exner's scoring:
"Good" humans: Good form quality, no special scores, populars, responses with COP
"Poor" humans: Poor form quality, special scores, AG or MOR, (H), (Hd), Hd or Hx.

Scoring formula:
z score = .51 (# of Poor humans) - .75 (# of Good humans) + .04.

Scoring Cutoffs:
Neurotic/good:	$z \leq -.70$
Borderline/moderate	$z > -.69$ and $< .54$
Psychotic/severe:	$z \geq .55$

LIST OF REFERENCES

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Acklin, M. W. (1993). Psychodiagnosis of personality structure II: Borderline personality organization. Journal of Personality Assessment, 61(2), 329-341.

American Psychiatric Association (1980). Diagnostic and Statistical Manual of Mental Disorders, Third Edition. Washington, DC: American Psychiatric Association.

American Psychiatric Association (1987). Diagnostic and Statistical Manual of Mental Disorders, Third Edition, Revised. Washington, DC: American Psychiatric Association.

American Psychiatric Association (1994). Diagnostic and Statistical Manual of Mental Disorders, Fourth Edition. Washington, DC: American Psychiatric Association

Arnow, D., & Cooper, S. H. (1984). The borderline patient's regression on the Rorschach test: An object-relations perspective. Bulletin of the Menninger Clinic, 48(1), 25-36.

Barasch, A., Frances, A., Hurt, S., Clarkin, J., & Cohen, S. (1985). Stability and distinctness of borderline personality disorder. American Journal of Psychiatry, 142(12), 1484-1486.

Barrash, J., Kroll, J., Carey, K., & Sines, L. (1983). Discriminating borderline disorder from other personality disorders: cluster analysis of the diagnostic interview for borderlines. Archives of General Psychiatry, 40, 1297-1302.

Berg, J. L. (1990). Differentiating ego functions of borderline and narcissistic personalities. Journal of Personality Assessment, 55(3&4), 537-548.

Berg, M. (1983). Borderline psychopathology as displayed on psychological tests. Journal of Personality Assessment, 47(2), 120-133.

Blatt, S. J., Brenneis, B., Schimek, J. G. & Glick, M. (1976). Normal development and the psychopathological impairment of the concept of the object on the Rorschach. Journal of Abnormal Psychology, 85(4), 364-373.

Blatt, S. J., D'Afflitti, J. P., & Quinlan, D. M. (1976). Experiences of depression in normal young adults. Journal of Abnormal Psychology, 85, 383-389.

Blatt, S. J., & Ford, R. Q. (1994). Therapeutic Change: An Object Relations Perspective. New York: Plenum Press.

Blatt, S. J., & Lerner, H. (1983). The psychological assessment of object representation. Journal of Personality Assessment, 47(1), 7-28.

Blatt, S. J., Tuber, S. B., & Auerbach, J. S. (1990). Representation of interpersonal interactions on the Rorschach and level of psychopathology. Journal of Personality Assessment, 54(3&4), 711-728.

Burns, B., & Viglione, D. J. (1996). The Rorschach human experience variable, interpersonal relatedness, and object representation in nonpatients. Psychological Assessment, 8(1), 92-99.

Buttenheim, M. C., Lohr, N. E., & Kerber, K. (1985, August). The impact of depression on ego functioning. In Lohr, N. E., (Chair) Borderlines and depressives: A comparative study of ego functions. Symposium presented at the annual convention of the American Psychological Association, Los Angeles, CA.

Carlson, C. F., Kula, M. L., & St. Laurent, C. M. (1997). Rorschach revised DEPI and CDI with inpatient major depressives and borderline personality disorder with major depression: validity issues. Journal of Clinical Psychology, 53(1), 51-58.

Carpenter, W. T., & Gunderson, J. G. (1977). Five year follow-up comparison of borderline and schizophrenic patients. Comprehensive Psychiatry, 18, 567-571.

Carr, A. (1987). Borderline defenses and Rorschach responses: A critique of Lerner, Albert, and Walsh. Journal of Personality Assessment, 51(3), 349-354.

Carr, A. C., Goldstein, E. G., Hunt, H. F., Kernberg, O. F. (1979). Psychological tests and borderline patients. Journal of Personality Assessment, 43, 582-590.

Carsky, M., & Bloomgarden, J. W. (1981). Subtyping in the borderline realm by means of Rorschach analysis. Psychiatric Clinics of North America, 4, 101-116.

Chessick, R. D. (1968). The "crucial dilemma" of the therapist in the psychotherapy of borderland patients. American Journal of Psychotherapy, 22(4), 665-666.

Clark, L. P. (1919). Some remarks upon the use of modified psychoanalysis on the treatment of borderland neuroses and psychoses. Psychoanalytic Review, 6, 306-308.

Clarkin, J. F., Widiger, T. A., Frances, A., Hurt, S. W., & Gilmore, M. (1983). Prototypic typology and the borderline personality disorder. Journal of Abnormal Psychology, 92(3), 263-275.

Cohen, J. (1968). Weighted kappa: Nominal scale agreement with provision for scaled disagreement or partial credit. Psychological Bulletin, 70 (4), 213 - 220.

Coonerty, S. (1986). An exploration of separation-individuation themes in borderline personality disorder. Journal of Personality Assessment, 50(3), 501- 511.

Cooper, S. H., Perry, J. C., & Arnow, D. (1988). An empirical approach to the study of defense mechanisms: I. Reliability and preliminary validity of the Rorschach defense scales. Journal of Personality Assessment, 52(2), 187-203.

Cooper, S. H., Perry, J. C., Hoke, L., & Richman, N. (1985). Transitional relatedness and borderline personality disorder. Psychoanalytic Psychology, 2(2), 115-128.

Cornell, D. G., Silk, K. R., Ludolph, P. S., & Lohr, N. E. (1983). Test-retest reliability of the diagnostic interview for borderlines. Archives of General Psychiatry, 40, 1307-1310.

Exner, J. E. (1986a). Some Rorschach data comparing schizophrenics with borderline and schizotypal personality disorders. Journal of Personality Assessment, 50(3), 455-471.

Exner, J. E. (1986b). The Rorschach: A Comprehensive System, Volume 1: Basic Foundations, Second Edition. New York: John Wiley & Sons.

Exner, J. E. (1990). A Rorschach Workbook for the Comprehensive System, Third Edition. Asheville, NC: Rorschach Workshops.

Exner, J.E. (1996). Critical bits and the Rorschach response process. Journal of Personality Assessment, 67(3), 464-477.

Frances, A., Clarkin, J.F., Gilmore, M., Hurt, S.W., & Brown, R. (1984). Reliability of criteria for borderline personality disorder: a comparison of DSM-III and the diagnostic interview for borderline patients. American Journal of Psychiatry, 141(9), 1080-1084.

Frieswyk, S. & Colson, D. (1980). Prognostic considerations in the hospital treatment of borderline states: the perspective of object relations theory and the Rorschach. In J.S. Kwawer, H.D. Lerner, P.M. Lerner, & A. Sugarman (Eds.), Borderline Phenomena and the Rorschach Test (pp. 229 - 255). New York, New York: International Universities Press, Inc.

Frosch, J. (1964). The psychotic character: Clinical psychiatric consideration. Psychiatric Quarterly, 38, 81-96.

Gacono, C. B., Meloy, J. R., & Berg, J. L. (1992). Object relations, defensive operations, and affective states in narcissistic, borderline, and antisocial personality disorder. Journal of Personality Assessment, 59(1), 32-49.

Gartner, J., Hurt, S. W., & Gartner, A. (1989). Psychological test signs of borderline personality disorder: A review of the empirical literature. Journal of Personality Assessment, 53(3), 423-441.

Goldstein, E. G. (1990). Borderline Disorders: Clinical Models and Techniques. New York: The Guilford Press.

Grala, C. (1980). The concept of splitting and its manifestations on the Rorschach test. Bulletin of the Menninger Clinic, 44(3), 253-271.

Grinker, R. R., Werble, B., & Drye, R. C. (1968). The Borderline Syndrome. New York: Basic Books.

Gunderson, J. G., & Singer, M. T. (1975). Defining borderline patients: An overview. American Journal of Psychiatry, 132(1), 1-10.

Gunderson, J. G., Kolb, J. E., & Austin, Y. (1981). The diagnostic interview for borderline patients. American Journal of Psychiatry, 142, 277-288.

Kernberg, O. (1975, 1985). Borderline Conditions and Pathological Narcissism. Northvale, NJ: Jason Aronson, Inc.

Kernberg, O. F. (1979). Two reviews of the literature: an assessment. Schizophrenia Bulletin, 5(1), 53-58.

Kernberg, O., Goldstein, E. G., Carr, A. C., Hunt, H. F., Bauer, S. F., Blumenthal, R. (1981). Diagnosing borderline personality: A pilot study using multiple diagnostic methods. The Journal of Nervous and Mental Diseases, 169, 225-231.

Knight, R. P. (1953). Borderline states. In R. P. Knight & C. R. Friedman (Ed.s), Psychoanalytic Psychiatry and Psychology, (pp. 97-109). New York: International University Press.

Kullgren, G., & Armelius, B. (1990). The concept of personality organization: A long-term comparative follow-up study with special reference to borderline personality organization. Journal of Personality Disorders, 4 (2), 203-212.

Leichtman, M. (1996). The nature of the Rorschach task. Journal of Personality Assessment, 67(3), 478-493.

Lerner, H. D., Albert, C., & Walsh, M. (1987). The Rorschach assessment of borderline defenses: A concurrent validity study. Journal of Personality Assessment, 51(3), 334-348.

Lerner, H. D., Sugarman, A., & Gaughran, J. (1981). Borderline and schizophrenic patients: a comparative study of defensive structure. The Journal of Nervous and Mental Disease, 169(11), 705-711.

Lerner, H. D., & St. Peter, S. (1984). Patterns of object relations in neurotic, borderline, and schizophrenic patients. Psychiatry, 47, 77-92.

Lerner, P. M. (1990). Rorschach assessment of primitive defenses: A review. Journal of Personality Assessment, 54(1&2), 30-46.

Links, P. S., Mitton, J. E., & Steiner, M. (1990). Predicting outcome for borderline personality disorder. Comprehensive Psychiatry, 31(6), 490-498.

Links, P. S., Mitton, J. E., & Steiner, M. (1993). Stability of borderline personality disorder. Canadian Journal of Psychiatry, 38, 255-259.

Mayman, M. (1967). Object representations and object relationships in Rorschach responses. Journal of Projective and Personality Assessment, 31, 17-24.

McGlashan, T. H. (1984). The Chestnut Lodge follow-up study: Follow-up methodology and study sample. Archives of General Psychiatry, 41, 573-585.

McGlashan, T. H. (1986). The Chestnut Lodge follow-up study: III. Long-term outcome of borderline personalities. Archives of General Psychiatry, 43, 20-30.

Murray, J. F. (1993). The Rorschach search for the borderline holy grail: An examination of personality structure, personality style, and situation. Journal of Personality Assessment, 61(2), 342-357.

Nelson, H. F., Tennen, H., Tasman, A., Borton, Kubeck, M., & Stone, M. (1985). Comparison of three systems for diagnosing borderline personality disorder. American Journal of Psychiatry, 142, 855-858.

Nigg, J. T., Silk, K. R., Westen, D., Lohr, N. E., Gold, L. J., Goodrich, S., & Ogata, S. (1991). Object representations in the early memories of sexually abused borderline patients. American Journal of Psychiatry, 148(7), 864-869.

Paris, J., Brown, R., & Nowlis, D. (1987). Long-term follow-up of borderline patients in a general hospital. Comprehensive Psychiatry, 28, 530-535.

Paris, J. (1988). Follow-up studies of borderline personality disorder: A critical review. Journal of Personality Disorders, 2(3), 189-197.

Patrick, J., & Wolfe, B. (1983). Rorschach presentation of borderline personality disorder: primary process manifestations. Journal of Clinical Psychology, 39 (3), 442-447.

Perry, J. C. (1988). A prospective study of life stress, defenses, psychotic symptoms, and depression in borderline and antisocial personality disorders and bipolar type II affective disorder. Journal of Personality Disorders, 2(1), 49-59.

Perry, J. C., & Cooper, S. H. (1986). A preliminary report on defenses and conflicts associated with borderline personality disorder. Journal of the American Psychoanalytic Association, 34, 863-893.

Perry, W., & Viglione, D.J. (1991). The ego impairment index as a predictor of outcome in melancholic depressed patients treated with tricyclic antidepressants. Journal of Personality Assessment, 56(3), 487-501.

Perry, W., McDougall, A., & Viglione, D. (1995). A five-year follow-up on the temporal stability of the ego impairment index. Journal of Personality Assessment, 64(1), 112-118.

Plakun, E. M. (1991). Prediction of outcome in borderline personality disorder. Journal of Personality Disorders, 5(2), 93-101.

Pressler, E. J. (1990). Short-term Outcome of Patients with BPD. Unpublished Doctoral Dissertation, University of Michigan, Ann Arbor, MI.

Rappaport, D., Gill, M., & Schafer, R. (1946). Diagnostic Psychological Testing, Volume 2. Chicago: Year Book Publishers.

Rosegrant, J. (1995). Borderline diagnosis in projective assessment. Psychoanalytic Psychology, 12(3), 407-428.

Schafer, R. (1967). Projective testing and psychoanalysis. New York: International Universities Press, Inc.

Segal, H. G., Westen, D., Lohr, N. E., Silk, K. R., & Cohen, R. (1992). Assessing object relations and social cognition in borderline personality disorders from stories told to the picture arrangement test of the WAIS-R. Journal of Personality Disorders, 6(4), 458-470.

Silk, K. R., Lohr, N. E., Ogata, S. N., & Westen, D. (1990). Borderline inpatients with affective disorder: Preliminary follow-up data. Journal of Personality Disorders, 4(2), 213-224.

Spear, W. E., & Lapidus, L. B. (1981). Qualitative differences in manifest object representations: Implications for a multidimensional model of psychological functioning. Journal of Abnormal Psychology, 90, 157-167.

Spitzer, R. L., Endicott, J., & Gibbon, M. (1979). Crossing the border into borderline. Archives of General Psychiatry, 36, 17-24.

Stern, A. (1938). Psychoanalytic investigation and therapy in the borderline group of neuroses. Psychoanalyic Quarterly, 7, 467-489.

Stone, M. H. (1987). Systems for defining a borderline case. In J. S. Grotstein, M. F. Solomon, & J. A. Lang, (Ed.s)., The Borderline Patient: Emerging Concepts in Diagnosis, Psychodynamics, and Treatment, Vol 1, (pp. 13-35), Hillsdale, NJ: The Analytic Press.

Stone, M. H. (1990a). Multimodal therapy: Applications to partial hospitalization in the light of long-term follow-up of borderline patients. International Journal of Partial Hospitalization, 6, 1-14.

Stone, M. H. (1990b). The Fate of Borderline Patients: Successful Outcome and Psychiatric Practice. New York: The Guilford Press.

Stuart, J., Westen, D., Lohr, N., Benjamin, J., Becker, S., Vorus, N., & Silk, K. (1990). Object relations in borderlines, depressives, and normals: An examination of human responses on the Rorschach. Journal of Personality Assessment, 55, 296-318.

Sugarman, A., & Lerner, H. D. (1980). Reflections on the current state of the borderline concept. In J. S. Kwawer, H. D. Lerner, P. M. Lerner, & A. Sugarman, (Ed.s), Borderline Phenomena and the Rorschach Test (pp. 11-37), New York: International Universities Press.

Thaler Singer, M., & Larson, D. G. (1981). Borderline personality and the Rorschach test. Archives of General Psychiatry, 38, 693-698.

Urist, J. (1977). The Rorschach test and the assessment of object relations. Journal of Personality Assessment, 41, 3-9.

Urist, J. (1980). The continuum between primary and secondary process thinking: Toward a concept of borderline thought. In J. S. Kwawer, H. D. Lerner, P. M. Lerner, & A. Sugarman, (Ed.s), Borderline Phenomena and the Rorschach Test (pp. 133-154), New York: International Universities Press.

Weiner, I., & Exner, J. (1991) Rorschach changes in long term and short term psychotherapy. Journal of Personality Assessement, 56, 453-465.

Werble, B. (1970). Second follow-up study of borderline patients. Archives of General Psychiatry, 23, 3-7.