To the Graduate Council:

I am submitting herewith a dissertation written by Amanda Jill Clemence entitled "Use of Rorschach Variables in the Assessment of Psychotherapy Progress." I have examined the final paper copy of this dissertation for form and content and recommend that it be accepted in partial fulfillment of the requirements for the degree of Doctor of Philosophy, with a major in Psychology.

Leonard Handler, Ph.D., Major Professor

We have read this dissertation
and recommend its acceptance:

Accepted for the Council:

Vice Provost and Dean of
Graduate Studies

Use of Rorschach Variables in the Assessment of Psychotherapy Progress

A Dissertation
Presented for the
Doctor of Philosophy
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Amanda Jill Clemence
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DEDICATION

To my husband, Tad Nix, for your ceaseless support, encouragement, and inspiration, without whom this dissertation would not be possible.

To my mother, Kris Lovell, my father, Jerry Clemence, and my brother, Jeff Clemence, for cheering me on at every school event, from childhood to the present, with gentle reassurance, kindness, and nurturing, and for seeing in me an ability to succeed before I ever noticed it in myself.

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ABSTRACT

The Rorschach Prognostic Rating Scale (RPRS) is a scale that provides a prognosis for psychotherapy change based on consideration of an individual's ego strength. This study investigated the effectiveness of the Rorschach Prognostic Rating Scale (Klopfer, Kirkner, Wisham, & Baker, 1951) in predicting psychotherapy outcome using a dataset of 90 seriously disturbed patients in long-term intensive psychotherapy. Patients in this study completed the Rorschach upon admission and again 15 months after beginning treatment. At the same time, progress during therapy was assessed using independent ratings of psychological and behavioral characteristics of individual patients collected from clinical case records. Regression analyses indicated that the RPRS may be most useful when used to predict the manifestation of symptoms such as depression, anxiety, hallucinations, and delusions during treatment, but less useful in reflecting the level of disorganized or odd behavior and flattened or labile affect after 15 months. Changes in RPRS scores from Time 1 to Time 2 demonstrated a decrease in Form Level scores and an increase in Animal Movement scores. Results are considered in relation to patient changes in clinical symptoms, in level of stress tolerance, and in access to primary process material during the course of intensive psychotherapy. Patients were also divided into groups based on the level of anaclitic and introjective psychopathology exhibited to allow a comparison of these groups on scores of ego strength. No interaction effects for group type over time in treatment were found. However, those patients exhibiting more introjective psychopathology were found to score slightly higher on Final Prognostic scores, and significantly higher on the Inanimate Movement and Color subscales than did anaclitic patients. The results are discussed in terms of the personality differences of the

two groups as measured by the RPRS. Overall, the findings of this study offer further evidence for the predictive validity of the RPRS and provide support for the clinical application of the Rorschach as a useful adjunct in the assessment of an individual's adjustment potential during the course of therapy.

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Chapter 1: Introduction

Bruno Klopfer and colleagues (Klopfer, Kirkner, Wisham, & Baker, 1951) created the Rorschach Prognostic Rating Scale (RPRS) for use as a clinical tool designed to assess a patient's potential response to treatment. The authors defined the RPRS as a scale that measures adjustment potential by quantifying fundamental aspects of ego strength, including "reality testing, emotional integration, self-realization, and mastery of reality situations" (Klopfer, et al., 1951, p.425). The scale was designed to access both available ego strength as well as potential ego strength. The inclusion of potential ego strength, or ego functions that may become activated during treatment, is what makes this scale so appealing for use with clinical populations. That is, it is designed to assist in identifying patients who would profit most from therapy, regardless of diagnosis or general functional capacity at the time of initiating treatment. Therefore, the RPRS has the potential for offering a great deal of information for use in understanding a patient's chances to benefit from therapy by tapping into those ego resources that are not always easily identifiable upon interview with the patient. In this sense, the RPRS could be a powerful and unique tool for accessing those resources that may be, figuratively speaking, "dormant" but that may be triggered by therapy for "reawakening" for future use by the patient.

Since the scale's publication in 1951, numerous researchers have investigated the ability of the RPRS to predict progress in psychotherapy. Klopfer, et al.'s (1951) assertion that the scale could be quite useful as a prognostic tool tapping into not only the current, most readily available aspects of an individual's ego strength, but also the

patient's unused but accessible aspects of ego strength, has intrigued researchers who were in search of a reliable and valid quantitative method for measuring this important therapy construct. The first studies to look into this tool were published in 1953.

Previous Studies Investigating the Ability of the RPRS to Predict Outcome

Adult Outpatient Samples

In one of the first published validation study of the RPRS, Mindess (1953) investigated the ability of the RPRS to predict level of adjustment and improvement in therapy. The sample was made up of 80 patients seeking treatment at a California clinic. Patients carried a wide range of diagnoses from psychotic to neurotic levels of symptomatology. Half of the patients were court-referred and half were seeking treatment voluntarily. Rorschachs were administered at the beginning of treatment. Level of adjustment was measured using an 11-point scale ranging from 5 ("problems can be handled without help") to -5 ("can be considered completely psychotic"). Ratings were assigned by therapists retrospectively for their patients' level of adjustment at the beginning of treatment and after at least six months of therapy. The RPRS score was found to be highly correlated with therapist-rated level of adjustment for the entire sample (r=.81). RPRS scores of ten psychotic patients were found to have the highest correlations with adjustment at six months. Therefore, these patients were removed from the analysis and the correlation was recalculated resulting in a slightly smaller correlation (r=.66). The authors found essentially no difference in the correlations of court-referred and non-court-referred patients (r=.65 and r=.67, respectively).

Kirkner, Wisham, & Giedt (1953) utilized case histories from 40 patients consecutively admitted for treatment at a VA hospital to examine the ability of the RPRS to predict improvement in psychotherapy. Pretreatment Rorschachs were scored using the RPRS, and outcome data were derived by reviewing the closure notes for each patient and rating the participants into categories of improved or unimproved according to their success in achieving their individual goals of psychotherapy. Mean RPRS score for the total sample equaled 5.77. The phi coefficients between the RPRS scores and patient improvement were .67 (chi square level of confidence <.01).

A study by Sheehan, Frederick, Rosevear, & Spiegelman (1954) examined a sample consisting of 35 stutterers in combined speech therapy and psychotherapy conducted both individually and in a group format. The goal of the psychotherapy in this setting was to increase stutterers' capacity for tolerating anxiety. RPRS Final Prognostic scores in this study were able to differentiate those who demonstrated improvement in psychotherapy and those who showed little to no improvement as measured by therapist ratings on a 4-point scale. Mean RPRS scores were 7.24 for the Most Improved group and 4.67 for the Least Improved group. These differences are significant at $p < .01$. The RPRS was also found to discriminate between those who remained in treatment and those who left treatment prematurely (dropped out) at $p<.01$.

Cartwright (1958) utilized a sample consisting of 13 individuals participating in client-centered therapy at a university counseling center in an examination of the ability of the RPRS to predict patient progress in treatment. In this study, improvement was measured using a dichotomous success score based on a cutoff point of a 9-point therapist

rating scale. The results of this study found pre-treatment RPRS scores to be related to therapist-rated improvement with a *tau* of .52 (p=.03).

In a later investigation of patients seeking treatment at a university-based counseling center, Schulman (1963) administered the Rorschach to 20 male patients prior to beginning therapy. At the termination of therapy, the Hunt-Kogan Movement Scale (Hunt & Kogan, 1950) was used as a measure of progress in therapy. Treatment for this sample averaged 28 sessions. A small but non-significant correlation was found (rho = .32) in the examination of the relationship between "movement" and RPRS scores.

Endicott & Endicott (1964) investigated the ability of the RPRS to predict improvement in a group of untreated individuals. They examined pre-treatment RPRS scores of 40 individuals assigned to a wait-list condition along with 21 individuals involved in once weekly psychodynamically-oriented outpatient therapy. After approximately six months in both conditions, participants were rated for level of improvement according to the criteria described in the Evaluation of Improvement Scale (Miles, Barrabee, and Finesinger, 1951). For the untreated wait-list group, the initial RPRS scores were correlated with improvement at r=.38 ($p<.05$). Correlations were even higher among the treated group (r=.43; $p<.05$). In this study, the MMPI was also examined and significant but slightly lower correlations were found between pretreatment MMPI *F* scale scores and improvement (r=.32 and r=.34, respectively). Likewise, a non-significant correlation was found between improvement and Barron's Ego Strength Scale (Barron, 1953) on the MMPI, further indicating that in this examination, the RPRS was a more effective predictor of patient improvement than the MMPI in both treated and untreated samples.

A study by Newmark, Hetzel, Walker, Holstein, & Finklestein (1973) also used the MMPI along with the Rorschach in their investigation of 27 participants exhibiting neurotic level symptoms (predominantly depression and anxiety) being treated with behavior modification techniques. The average number of sessions for this sample was 18.3, and all patients in the study had terminated therapy upon mutual decision between patient and therapist. Each participant completed a Rorschach and a MMPI prior to treatment and following termination. Outcome measures included MMPI difference scores for initial and termination protocols, therapist ratings of behavior change, and researcher ratings of improvement based on interviews (Miles, Barrabee, and Finesinger, 1951). The results indicated that the RPRS was able to significantly differentiate between improved and unimproved groups (point-biserial $r = .41$, $t=2.2$, $p<.05$) and that none of the MMPI scales, including Barron's Ego Strength scale, were significantly correlated with patient improvement. These results are consistent with those of Endicott and Endicott (1964).

Newmark, Finkelstein, & Frerking (1974) is a continuation of the previous study. Participants from the Newmark, et al. (1973) study are included as a comparison group with a second group consisting of 26 patients participating in rational emotive therapy. The RPRS was again able to differentiate improved and unimproved patients in the rational emotive group (point-biseial $r=.48$, $p<.05$). Comparisons of the RPRS with Barron's Ego Strength scale resulted in nonsignificant correlations of .06 for the behavior modification group and .23 for the rational emotive group. In addition, no significant differences were found between the improved and unimproved group using Barron's scale. Adams & Cooper (1962) found similar results among a group of VA hospital

patients. They found that Barron's scale was positively but non-significantly correlated with the RPRS at r=.13. These and previous findings suggest that the RPRS scale and Barron's Ego Strength scale may be measuring somewhat distinct constructs and that the RPRS may be a more effective tool than Barron's scale for assessing prognosis.

Fiske, Cartwright, and Kirtner (1964) and Luborsky, Mintz, and Christoph (1979) conducted exploratory investigations of the ability of numerous research measures to predict change in psychotherapy. In the Fiske, et al. (1964) study, participants were 93 individuals in client-centered psychotherapy at a university counseling center in Chicago. Therapy improvement was rated by patients, therapists and researchers. The Rorschach was administered to 42 of the participants in the sample, and their RPRS scores were found to be negatively and non-significantly correlated with all ratings of improvement, ranging from -.06 (client self-evaluation) to -.23 (TAT Adequacy score). Interestingly, this is the only study found using the RPRS in which a negative correlation was reported with improvement. In fact, none of the predictor variables defined in this study were found to be consistently positively and significantly related to measures of improvement in this sample.

The Fiske, et al. (1964) data were reanalyzed by Luborsky, Mintz, and Christoph (1979) who conducted a similar study as part of the Penn Psychotherapy Project. In the Luborsky et al. (1979) analysis, outcome was measured by patient, therapist, and researcher ratings of benefits as well as by a calculation of residual gain during treatment. Using these modified computations RPRS scores from the Fiske et al. (1964) study were again found to be negatively correlated with outcome measures at -.13 (residual gain) and -.28 (rated benefits). Luborsky et al. (1979) also used the RPRS in their investigation of

73 university counseling center patients receiving psychoanalytic psychotherapy. The results indicated that RPRS scores in their sample were positively correlated, but were not significant (r=.16, residual gain; r=.15, rated benefits).

In a sample consisting of 46 VA outpatients, Bloom (1956) separated participants into groups based on their level of productivity on the Rorschach and on their response to treatment. The author identified "underproductive Rorschachs," which are defined as protocols with ten or fewer responses and at least one rejection, and "normally productive Rorschachs," or Rorschachs that contained at least 30 responses and no rejections. The author found that when patients generated Rorschach protocols considered normally productive, the RPRS was able to differentiate those patients who demonstrated a good treatment history from those with a poor treatment history at a significance level of .02. Within this group, the average RPRS score for patients who improved in treatment was 5.2 while those who failed to improve demonstrated a mean score of 1.0. When the underproductive Rorschach group was examined, the RPRS failed to significantly discriminate the poor treatment responders from the good treatment responders. In fact, the mean RPRS scores for each group were almost identical (poor treatment history = 2.3; good treatment history = 2.2). These findings indicate that care should be taken when interpreting the RPRS with Rorschach protocols of ten or fewer responses when one or more rejection is present. However, as of this time, these results have not been cross-validated, and further research could be useful in providing additional information regarding the limitations of the RPRS with such underproductive protocols.

Adult Inpatient Samples

There have only been three previously published studies examining the RPRS in relation to outcome with adult inpatient populations since its creation. Filmer-Bennett (1955) used the RPRS as an instrument for understanding the nuances involved in intuitive clinical judgments of ego strength and prognosis. Outcome was measured by determining patient status 2 years on average following discharge from the hospital, and patient improvement was defined as "a continuously satisfactory vocational and social adjustment after leaving the hospital" (p. 331). Using pretreatment Rorschachs, the RPRS was found to differentiate improved versus non-improved patients in 4 of 11 matched pairs. It is important to keep in mind, however, that the author used a subjective and unvalidated method for separating patients into groups based on the original model put forth by Klopfer, et al. (1951) at the time of the scale's creation. These categories have no empirical basis and were presented as "tentative" delineations by Klopfer et al. (1951). When the data were analyzed by Meyer and Handler (1997), the RPRS was found to correlate with improvement at $r=.36$.

The relationship between RPRS scores and therapy outcome was further investigated by comparing the recovery and discharge status of 63 Caucasian male inpatients diagnosed with schizophrenia in the Seidel (1960) study. The RPRS Final Prognostic score was found to correlate with recovery status after three years of treatment at $r=.40$ ($p<.01$), indicating that higher RPRS scores at the beginning of treatment were related to improvement in therapy as long as three years after the initial testing.

Newmark, Konanc, Simpson, Boren, & Prillaman (1979) attempted to address methodological shortcomings of previous research investigating the RPRS by using more

stringent, standardized methods of diagnosis (Mental Status Schedule [Spitzer, Burdock, & Hardesty, 1964] and Newmark's Symptom Assessment Questionnaire [Newmark, Raft, Toomey, et al., 1975]) and of outcome (Whitaker Index of Schizophrenic Thinking [Whitaker, 1973], Brief Psychiatric Rating Scale [Overall & Gorham, 1962], and Profile for Rating Depressive and Schizophrenic Behavior [Sonnenberg, Stern, & Liberman, 1972]) (as cited in Newmark, et al., 1979). Participants were 98 male and female schizophrenic inpatients with a mean age of 22.5. For all participants, this was their first hospitalization and none had previous psychiatric treatment. Rorschachs were administered at time of admission and interrater reliability was r=.80. Treatment included psychotropic medication, structured therapeutic milieu, group therapy, family therapy, and insight-oriented psychotherapy conducted five times per week. Improvement was defined as evidence of remitted thought disorder on at least one of the three outcome scales. The results revealed that improved patients scored significantly higher on the RPRS scale than did those patients identified as unimproved (point biserial r=.37, $p<.05$ for females; point biserial r=.40, $p<.02$ for males).

Child Clinical Samples

In an investigation of the ability of the RPRS to predict improvement in play therapy, Johnson (1953) examined Rorschach protocols of a sample of 21 mentally retarded children (ages 9-16) receiving therapy at a residential school that offered milieu therapy and reeducation. Those children chosen for the study were individuals who were referred to more intensive clinical treatment due to significant problems with behavior, learning, or "undue tension" (Johnson, 1953, p. 321). The author divided the participants

into groups of children described as "improved" and "unimproved," and RPRS scores at the beginning of treatment and at the time of therapy termination were examined. Improvement was determined by therapist ratings of clinical progress (e.g., presence of insight and working through, projective play) and teacher ratings of social behaviors (e.g., decrease in observed symptomatology, improved interpersonal relations). Changes in RPRS scores from beginning of treatment to termination were found to be in the expected direction, with those in the improved group demonstrating a mean change of +0.9 and those in the unimproved group averaging a change of -0.5. A chi-square analysis found ratings of improvement to be significantly related to change in RPRS scores during treatment at $p < .01$.

Novick (1962) examined the ability of the RPRS to predict positive change in behavior of 44 "mildly disturbed" children (age range 8 to 10 years old) participating in brief psychotherapy. Significant improvement was correlated with RPRS scores after 20 sessions. In the Meyer and Handler (1997) meta-analysis, the correlation was reported to be .42.[1]

Non-Clinical Samples

In addition to the clinical use of the RPRS, previous studies have also investigated the use of the scale to assess level of ego functioning in non-clinical samples. Two studies were found that examined the ability of the RPRS to predict success in occupational training. Brawer and Cohen (1966) investigated the ability of the RPRS to

[1] Additional information regarding the results of this study is unavailable given that this study was published only as an abstract.

predict vocational adjustment among a sample of 20 beginning teachers. The correlation between pre-training RPRS scores and supervisors' ratings of performance after one year of teaching was r=.39 (p<.10)

In a somewhat similar study, Mindess (1957) investigated a sample of 68 young women in the process of training in nursing at a Canadian hospital. The RPRS along with the Wechsler-Bellevue were used to examine the ability of these instruments to predict success during training as measured by academic performance and supervisor ratings. Supervisor ratings ("Ward Grade") included assessment of the students' dependability, care of patients, and relationship with superiors and peers. The results indicated that the RPRS was significantly correlated with Academic Grades (r=.28, p<.05) and with Total Nurse Grade (combined Academic Grade and Ward Grade; r=.41, p<.01). Neither the RPRS nor the IQ score was found to correlate with Ward Grade. However, a multiple correlation using both scores was found to predict the Total Nursing Grade at the .01 level of significance (r=.59). This is especially interesting given that IQ scores were very weakly correlated with RPRS scores (r=.10), suggesting that each was tapping into distinct aspects of these individual's functioning, and that together, these scores were quite effective in predicting overall success in training. Given these findings, the author concludes that the RPRS could be quite useful if applied more generally to other areas of vocational assessment in the selection and evaluation of future employees.

Generally, the body of research reviewed herein suggests that Klopfer, et al. (1951) designed a scoring system that detects a number of subtle ego variables related to therapy prognosis and integrates them in such a way as to reflect an individual's likelihood for improvement as a result of psychotherapy. In addition, the RPRS

demonstrated an ability to assess ego strength not only among individuals seeking psychotherapy, but also in those pursuing occupational training. In fact, the RPRS was found to predict success in vocational adjustment as well as it predicts improvement in psychotherapy. Therefore, the RPRS is an instrument that may not be limited to the evaluation of psychotherapy potential alone, but may also be an effective tool for measuring ego strength as it pertains to a variety of areas of functioning in which the level of ego strength can contribute to success or failure. Furthermore, the RPRS Final Prognostic score is consistently significantly correlated with improvement in therapy with only a few exceptions in which the correlation is positive but not significant (Filmer-Bennett, 1955; Luborsky, Mintz, & Christoph, 1979; Schulman, 1963) and only one in which the correlation was negative and non-significant (Fiske, Cartwright, & Kirtner, 1964). However, when investigations turn to the individual variables that contribute to the RPRS Final Prognostic score, the findings have been inconclusive and diverse.

Subscale Score Analyses

Several authors have sought to arrive at subscale scores for the RPRS that would more accurately and more efficiently predict prognosis than the lengthy Final Prognostic Score on the RPRS. The results have been mixed and rarely have resulted in consistencies across patient groups. For example, Cartwright (1958) attempted to create a "Strength Score" using those RPRS variables that contributed most significantly to the prediction of success in therapy in her sample of outpatients at a University Counseling Center. She identified Human Movement, Color, and Form Level to be the variables that correlated most highly with success and calculated a simple scoring method (adding the 2

highest of the 3 subscale scores Human Movement, Color and Form Level) to determine the Strength Score. When the Strength Score was applied to this sample, the correlation was quite high (*tau* = .73; p=.003) between the Strength Score and rated success.

This finding is questionable, however, given the ad hoc nature of the analyses and the application of the new variable to the same dataset from which it was derived. Therefore, to further examine the possible use of this Strength Score, Cartwright (1959), reanalyzed the data presented by Kirkner, Wisham, & Giedt (1953) in a second paper in which she applied to their sample her formula for computing the Strength Score. She found the Strength Score to be correlated with improvement in therapy at r=.85 (p=.02). Although this correlation is quite high, it is slightly smaller than the RPRS total score for this sample which was significant at the p=.01 level when examined in regard to improvement. Therefore, the Strength Score was slightly less effective than the total RPRS score, but still demonstrated a very high correlation. In examining the results from the Kirkner, Wisham, & Giedt (1953) study, it is clear, however, that the weighted subscale scores of Inanimate Movement, Shading, and Human Movement are good standalone predictors of improvement in this sample (with p values of .01, .01, and .02, respectively), while Color and Form Level failed to reach statistical significance individually. This would suggest that in the Kirkner, et al. (1953) study, the best individual predictors of progress are different than those defined by Cartwright's (1958) Strength Score.

Schulman (1963) later attempted to replicate the Cartwright (1958/1959) studies using a similar sample. In his investigation, the correlation between the Strength Score and movement was "essentially zero." Given the lack of consistent replication for the

Strength Score, this configuration of scoring appears to lack evidence for the level of validity required for confident use in predicting the outcome of psychotherapy.

Indeed, further studies on the use of subscale scores as predictors of progress have demonstrated further discrepancies. In a study of stutterers in outpatient treatment, Sheehan, et al. (1954) found that the Human Movement, Inanimate Movement, and Animal Movement variables tended to exhibit the strongest relationship with improvement, with significance levels equivalent to that of the RPRS score ($p=.02$ for all). Of the individual determinants included in the RPRS, results from Mindess (1953) indicated that Form Level demonstrated the highest correlation with improvement, followed by Human Movement in a mixed sample of inpatients, outpatients, court referred, and non-court referred individuals. In a large sample of schizophrenic inpatients (Seidel, 1960), the Form Level score was found to predict improvement better than the RPRS score ($r=.44$ and $r=.36$, respectively), and in a sample of military personnel and their dependents seeking outpatient treatment (Endicott & Endicott, 1964), RPRS variables (raw scores) found to be most highly correlated with improvement were Shading, Color, and Number of Responses.

Further discrepancies were reported in a sample of outpatients participating in behavior modification therapy (Newmark, Hetzel, Walker, Holstein, & Finklestein, 1973). Individual RPRS variables were examined, and none was found to significantly predict improvement alone. A combined Human Movement and Color score was determined to be significantly correlated with outcome (point-biserial $r = .37$, $t=2.08$, $p<.05$). But again, it appears that the individual variables cannot do what the complete RPRS Final Prognostic scale score achieves.

From this body of research, it would seem that in the prediction of progress, variables contribute to different degrees to the Final Prognostic Score depending on the sample under investigation. Furthermore, among many of the studies cited here, there are methodological concerns that limit the interpretation of results due to the application of ad hoc analyses. Therefore, at this time, the research community has yet to discover a condensed set of variables that will predict progress as accurately as does the RPRS Final Prognostic Score. It is clear that more research should be conducted before considering any individual subscale variable as an effective predictor outside of the context of the Final Prognostic Score as calculated using the entire weighted scoring system.

Meta-Analysis

A more recent study investigated the ability of the RPRS to predict outcome in psychotherapy approximately one year after administration of the Rorschach (Meyer & Handler, 1997). The authors collected data on all relevant studies using the RPRS and combined the usually small samples to more accurately examine the scale's usefulness. The search led to a final combined sample of 752. Using a meta-analysis, the effect size between the RPRS Final Prognostic scores and outcome criteria was ρ=.56, demonstrating very high predictive validity for this scale. The binomial effect size display (BESD; Rosenthal, 1991; Rosenthal & Rubin, 1982: as cited in Meyer & Handler, 1997) summarizing the relationship between RPRS scores and outcome indicated that of those who demonstrate high scores on the RPRS, 78% will subsequently demonstrate a successful outcome (Meyer & Handler, 1997). Predictive validity of this level is very impressive, and as of this time, no other personality measure has been identified that

consistently demonstrates this level of prognostic power. In fact, it exceeds that of many other phenomena commonly regarded as related, such as extraversion test scores and success in sales (ρ = .09, N = 2316; Barrick & Mount, 1991: as cited in Meyer & Handler, 1997), Electrocardiogram Stress Test scores and subsequent cardiac disease (ρ = .21, N = 2855; Hasselblad & Hedges, 1995: as cited in Meyer & Handler, 1997), and gender and concurrent weight (ρ = .47, N = 1970; National Center for Health Statistics, 1987: as cited in Meyer & Handler, 1997). Thus, this measure holds great potential for use with clinical populations during a time when mental health care funding is often limited. It would be quite worthwhile to facilitate the use of this scale among settings in which the ability to benefit from therapy needs to be determined prior to beginning treatment. This could greatly increase the effectiveness of psychotherapy and could guide treatment planning in a variety of ways, possibly leading to more efficient and more precise therapy goals.

Anaclitic Vs. Introjective Configurations

In previous research examining patient change in general during the course of therapy, Blatt & Ford (1994) have discussed the importance of considering anaclitic and introjective personality configurations when investigating the effects of treatment on patient populations. This model of development follows closely the theory posited by Erik Erikson (1950) and builds on Erikson's model by elaborating on the aspects of development related to interpersonal attachment (Blatt, 1990; Blatt & Blass, 1990; Blatt & Shichman, 1983). The increased focus on interpersonal development resulted in a model that presents a more comprehensive theory of both interpersonal relatedness and

self-defintion, facets of the personality that evolve in tandem during the course of personality development. An individual is then described as anaclitic when he or she is primarily influenced by issues of interpersonal relatedness, and as introjective when they place greater emphasis on self-definition. These configurations may then become distorted or exaggerated resulting in the manifestation of psychopathology.

For example, anaclitic patients are described as other-oriented and are often focused on "libidinal and interpersonal issues such as conflicted attempts to establish satisfying interpersonal relations with feelings of trust, intimacy, cooperation, and mutuality" (Blatt & Ford, 1994, p. 16). They tend to struggle with issues of dependency, intimacy, relatedness, security, trust, and affection (Blatt, Quinlan, Chevron, McDonald, & Zuroff, 1982; Blatt & Zuroff, 1992). Symptoms of anaclitic configurations of psychopathology typically involve attempts to manage concerns regarding the consistency and dependability of caring interpersonal relations and may be manifested in fears of abandonment, feelings of helplessness, and rage over deprivation (Blatt & Ford, 1994).

The introjective configuration is characterized by an "exaggerated struggle to establish an acceptable self-definition and identity" (Blatt & Ford, 1994, p. 278). Individuals demonstrating psychopathology of this type tend to exhibit increased concern with autonomy, self-control, self-worth, and identity to the extent that it may interfere with the attainment of satisfying interpersonal relations. Efforts focused on the control of affect and an emphasis on maintaining independence may be revealed in symptoms of paranoia, intense guilt, obsessive-compulsive behaviors, and narcissism (Blatt & Ford, 1994).

Because these patient groups are said to demonstrate unique patterns of psychopathology, Blatt & Ford (1994) suggest that the differential investigation of response to treatment between these two groups may reveal much more about the changes that occur during therapy than the examination of the sample as a uniform whole. In their research, Blatt & Ford (1994) investigated patient changes during therapy from an object relations' perspective. Using the dataset under investigation in the current study, they found that patients demonstrated significant progress during their course of treatment. More specifically, they found that patients demonstrated a decrease in clinical symptoms and better interpersonal relations in general from admission to approximately one year into treatment. In addition, when they examined possible differences in change across patient groups, they found that introjective patients tended to demonstrate more apparent and dramatic improvements than did anaclitic patients on measures of symptom change by 15 months into treatment.

Rationale For the Current Study

The results of the meta-analysis were found to clearly demonstrate the usefulness of the RPRS in predicting subsequent psychotherapy outcome, given that there are few, if any, other scales available that demonstrate this level of predictive validity. Therefore, the application of the RPRS with psychotherapy patients certainly seems warranted, especially in situations in which the potential effectiveness of psychotherapy needs to be determined prior to beginning treatment (Frank, 1999). This may often be the case when psychotherapy is just one of many possible choices of treatment for the individual. Furthermore, it would be interesting to examine whether the RPRS would predict

outcome now, some 50 years after its creation, and given the impressive findings of the Meyer and Handler (1997) study, it is unfortunate that little research using the RPRS is currently being conducted.

The current study also serves as an extension of Blatt and Ford's (1994) research investigating patient changes during therapy from an object relations' perspective. Given their previous research, it is clear that the patients in their sample do in fact demonstrate improvement during their hospitalization. Therefore, this study strives to determine whether scores on the RPRS are able to predict change in patient symptoms and behavior in a sample of seriously disturbed inpatients. Following the model of Blatt and Ford (1994), it was considered worthwhile to examine the possible differences among RPRS scores for both anaclitic and introjective patients. It is expected that an analysis of the data by groups could reveal additional information about the nature of change as measured by the RPRS.

This study is unique in that it investigates the use of the RPRS in a sample of seriously disturbed inpatients in long-term psychodynamically-oriented psychotherapy. The results will be useful in understanding the changes that occur in such populations as they receive an intensive therapeutic approach and will further our understanding of the application of the RPRS with hospitalized patients. Based on prior research and clinical intuition, the following hypotheses were developed:

Hypothesis 1

Given the general consistency in findings regarding the strong relationship between RPRS scores and improvement, it was hypothesized that higher scores on the

Final Prognostic scale would be related to lower case record ratings of symptoms at 15 months into treatment.

Hypothesis 2

Based on the assumption that patients who benefit from therapy are likely to exhibit increased ego strength, it was expected that patients will demonstrate greater RPRS scores after 15 months in treatment than at the initial assessment. Prior research has found that the Rorschach, using scores from the Comprehensive System (Exner, 1986), is capable of detecting improvement in psychotherapy in both long-term and short-term treatment groups up to four years into treatment (Weiner & Exner, 1991). Changes in Rorschach scores from the initial assessment to subsequent testings at one year, two years, and four years from admission found that the Rorschach demonstrated improvements across several dimensions of personality functioning. These improvements included increased stress management abilities, increased tendency toward openness and consistency in managing life experiences, better capacity for affect modulation, more effective ideation, increased satisfaction with self, and increased interest in interpersonal relations (Weiner & Exner, 1991).

Previous research in the changes that occur on RPRS scores over time has been sparse, however. Only two studies were identified in which RPRS scores from the beginning of treatment to termination were examined. In a previously discussed study of adult outpatients, Sheehan, et al. (1954) collected a second set of Rorschachs for 26 participants in their sample at the termination of treatment. The results showed that RPRS score exhibited a slight trend downward with differences that were non-significant (Pre-

therapy Mean = 6.51; Post-therapy Mean = 6.18). In an investigation of mentally retarded children, Johnson (1953) found that RPRS scores at termination of treatment generally increased in the group of children identified as "improved" and generally decreased in the group identified as "unimproved." Given that the sample under investigation in the current study has been shown to demonstrate improvement across treatment (Blatt & Ford, 1994), it is expected their RPRS scores will similarly increase over time.

Hypothesis 3

Because introjective patients tended to demonstrate earlier and more apparent treatment gains in the Blatt and Ford (1994) study, it was hypothesized that the introjective group will show greater increases in ego strength as measured by the RPRS from admission to 15 months into treatment when compared to anaclitics. Due to such wide discrepancies in previous research regarding individual subscale scores, no initial hypotheses were made regarding possible subscale score differences or relationship with improvement. However, exploratory post hoc comparisons were conducted in an attempt to further understand the relationship between ego strength and improvement as well as to assess the differences between the anaclitic and introjective configurations in this sample.

Chapter 2: Method

Participants

Participants in this study were seriously disturbed individuals seeking treatment at the Austen Riggs Center, an intensive, long-term inpatient facility in the northeastern United States. Patients were selected from an archival sample of 1200 patients admitted between 1953 and 1975. Patients were chosen for inclusion in the study if they met the following criteria: 1) Length of treatment in the program of at least 1 year, 2) patient ages between 18 and 29 years, 3) the availability of complete and legible assessment information from admission and at about one year.

Ninety patients met criteria for inclusion in the study. Each had been given the Rorschach, the TAT, and intelligence testing at admission and again around one year of treatment. All had IQ scores above 80, and none demonstrated evidence of central nervous system damage. Half of the participants were male and half were female. Participants had a mean age of about 21 and were primarily of middle socioeconomic status. Fifty-seven percent of the patients in this sample had at least one prior psychiatric hospitalization lasting several months. Of those patients, there was an average of 1.32 admissions and a total average hospitalization of 4.75 months. Patients also had an average of more than 2 years (28.45 months) of outpatient treatment prior to admission to this facility.

Because the patients in this study were admitted to the hospital between 1953 and 1975, they were admitted at a time that spanned different versions of the *Diagnostic and Statistical Manual of Mental Disorders* (DSM-I & DSM-II; American Psychiatric Association, 1952, 1968). Therefore, diagnoses were determined retrospectively using

case record data and criteria established by the *Diagnostic and Statistical Manual of Mental Disorders, Third Edition, Revised* (DSM-III-R, American Psychiatric Association, 1987), the version of the manual available at the time of data collection. DSM diagnoses for this group were then categorized into three general types. Fifty (56%) patients were identified as having severe personality disorders (including borderline and narcissistic disorders), 29 (32%) were considered psychotic, and 11 (12%) were diagnosed as primarily depressed.

Participants were divided into groups based on the level of anaclitic and introjective psychopathology present using a rating scale modeled after the conceptualization described by Blatt and Shichman (1983). Raters reviewed case records of those in the sample and rated the patient as either primarily anaclitic or primarily introjective. They then assigned each patient a score on a 100-point scale indicating the degree to which that individual appeared to be exhibiting either anaclitic or introjective characteristics. For the purposes of interrater reliability, the two raters compared their scores on 18 patients from the sample. They demonstrated excellent interrater reliability agreeing on the primary configuration of 17 of the 18 patients and reaching an Item Alpha of .93 for their scores on the 100-point scale.

Forty-eight patients were identified as predominantly introjective, and 42 were judged to be predominantly anaclitic. Sixty-seven percent of the anaclitic participants were female and 67% of the introjective participants were male. In an analysis conducted by Blatt and Ford (1994), no significant sex by group interactions were found for the case record ratings or for any of the psychological test variables used in their study. Likewise, there were no significant differences between the anaclitic and introjective groups on the

level of premorbid functioning as measured by premorbid adjustment scales applied to the sample by Blatt and Ford (1994) or on the number of participants receiving medication. At the time of the initial testing, six anaclitic patients and six introjective patients were receiving antipsychotic medication. At the second testing (15 months), only two introjective patients were receiving antipsychotic medication (equaling approximately 120-150mg of thorazine daily) and none of the anaclitic patients were receiving antipsychotic medication.

Procedure

Treatment was provided following a psychodynamic model with patients receiving intensive psychotherapy several times per week. The treatment center is a private, long-term care facility that treats very seriously disturbed patients in a setting that offers numerous educational opportunities, recreational activities, and support services to late adolescent and adult inpatients. Patients are administered extensive clinical assessments at admission, at approximately one year of treatment, and again at discharge. The average length of time between the initial assessments and the second assessment for this sample was 15 months. Patients in this sample had a mean total hospitalization at this facility of 26 months. All patients included in the study received at least 200 sessions of individual, psychoanalytically-oriented psychotherapy at this facility between assessments, averaging 3.12 sessions per week. Thus, of all patients admitted to this facility, these individuals were quite ill and required a very long hospitalization with over two years of inpatient treatment on average for this sample. Also, the second testing occurred close to the midpoint of treatment and almost a year prior to discharge on

average, making this an investigation of progress during treatment as opposed to outcome of long-term psychotherapy.

Cases were assigned to therapists on the basis of clinician availability, size of caseload, and various other considerations typical of the routine functioning of an inpatient hospital. This procedure, consistent with the general operation of the institution, ensures the ecological validity of the study, and because the information was collected archivally, information regarding patient participation in the study was not available to therapists when cases were assigned.

Instruments

Klopfer's Rorschach Prognostic Rating Scale (RPRS)

Rorschach protocols that were administered to the 90 patients in the study at admission and again at 15 months were scored using the Rorschach Prognostic Rating Scale. The Rorschach Prognostic Rating Scale (RPRS; Klopfer, et al. 1951) is a scale that provides a prognosis for psychotherapy change based on consideration of an individual's ego strength. The RPRS is made up of 6 subscales and a Final Prognostic Score. The subscales are Human Movement, Animal Movement, Inanimate Movement, Shading, Color and Form Level. Scores within each subscale are weighted based on quality and type of percept.

In determining the Animal Movement and Human Movement scores, the movement response is scored by considering the amount of movement in space (running, crouching, merely alive/sleeping), freedom in seeing movement, and cultural distance of the animal or person to the examinee. The Inanimate Movement score is based on the

features of the natural, mechanical, and abstract forces represented in the response, while Shading responses are scored based on type and quality of the texture, vista, and projected dimension (topographical maps and x-ray) responses. The Color score is determined through consideration of the nature of each chromatic color response in terms of the use of form and the influence of color on the description of the percept. The Form Level score takes into account the accuracy of the percept to the blot area being used, the definiteness of the percept and the organization of percept parts. Weighted subscale scores are added algebraically to determine the Final Prognostic Score, with possible scores ranging from –12 to 17. Higher scores are said to represent persons with the highest levels of potential and available ego strength. Possible range for subscale weighted scores are listed on Table 1[2].

The Rorschach protocols used in this study were scored by a team of six raters, all of whom were advanced graduate students in a clinical psychology Ph.D. program. Each rater participated in an extensive training process that included 2 to 3 hour weekly group meetings conducted over a period of approximately one month (totaling approximately 12 hours of group training). The meetings were designed to allow the raters to learn about the Klopfer method of scoring from an experienced clinician with over 35 years of experience in teaching, administering, and interpreting the Rorschach and who was originally trained in the use of the Klopfer technique. Raters were taught scoring methods and theory of the RPRS during the group meetings, and practice scoring was assigned to individuals between group meetings. Practice protocols (protocols that were included in a Rorschach training manual and that were not of the set under investigation) were then

[2] All tables and figures are listed in Appendix 1.

reviewed and discussed at the group meetings, allowing the team to come to a mutual understanding of the technique and approach to scoring. Once the entire team of six raters reached a consistently acceptable level of agreement on individual scores (defined as greater than 80% agreement across the six raters for a single protocol of 20 responses), scoring for the calculation of interrater reliability was pursued.

Thus, for the purpose of determining interrater reliability for the set of protocols used in this study, one-third (60) of the 180 initial and follow-up Rorschach protocols were scored by pairs of raters randomly selected across the six raters involved in the study. The 60 protocols were chosen at random and scored independently by each rater who was unaware of the other coder's scores and of group assignment. The two sets of scored protocols were then compared to one another, and one-way random effects intraclass correlation coefficients (ICC; Shrout & Fleiss, 1979) were calculated for all rater pairs across all relevant scoring categories.

Weighted scores for each subscale of the RPRS and the Final Prognostic score were used in the assessment of interrater reliability. Weighted scores were chosen in view of the fact that they were the scores being used in the final data analyses and were, therefore, the primary variables under investigation in this study. In a further attempt to increase reliability in scoring, each rater produced only individual item scores for each response. These item scores were then entered into a computer program designed by the primary author to ease calculation of weighted scores and final prognostic scores. It was expected that the addition of a computerized method for calculating these scores would improve the efficiency of the project by decreasing the workload of each individual

scorer and would increase the reliability of the scoring by reducing human errors in calculation.

Strauss-Harder Case Record Rating Scales

Clinical symptoms were measured using independent ratings of the Strauss-Harder Case Record Rating Scale (Strauss & Harder, 1981). This measure was designed to allow clinician's to rate patient symptoms through information collected from the patient record. The scale assesses a variety of symptom dimensions originally derived from factor analysis and clinical judgment. The items in the scale make up the following four factors: A psychotic factor (Psychosis) that includes hallucinations, delusions, derealization, depersonalization, and suspiciousness; A neurotic factor (Neurosis) that includes symptoms such as anxiety, depression, restlessness, somatic concerns, obsessions, withdrawal, and presence of insight; A Bizarre-Retarded factor that assesses psychomotor retardation, flat affect, and bizarre behavior; And a Bizarre-Disorganized factor which includes symptoms of incongruous affect, lability, unkempt appearance, and bizarre and/or nonsocial speech. Items are made up of a listing of symptoms, and the rater gives a score of 0 if the symptom is not present, 1 if the symptom is present and 2 if the symptom is present and is continuous or severe. Thus, lower scores reflect fewer reported symptoms.

For the purposes of interrater reliability, the case records were independently scored by two raters, an MSW social worker and an advanced graduate student in clinical psychology. In this study, raters reached an acceptable level of reliability for the scale with an Item Alpha >.65. Once interrater reliability was established, each judge was

randomly assigned half of the records for Time 1 and half of the records for Time 2. Scoring was completed independently and blind to the other judge's scoring.

Chapter 3: Results

Interrater Reliability

Table 3 lists the level of interrater reliability for each of the weighted RPRS subscale scores and the Final Prognostic score. Reliability was found to range from .51 (Inanimate Movement) to .85 (Final Prognostic Score). All of our scores were in the Good to Excellent range except Inanimate Movement which was considered Fair at .51, as noted by Fleiss (1981). Only seven previous studies using the RPRS reported interrater reliability statistics. Of those, reliability was found to range from .79 (Newmark, Finkelstein, & Frerking, 1974) to .86 (Endicott & Endicott, 1964) for the entire scale. Other investigators have reported "good" to "excellent" levels of agreement ranging from 71% to 88% (Sheehan, Frederick, Rosevear, & Spiegelman, 1954) and from .93 to 1.00 (Adams & Cooper, 1962) among rater pairs for the calculation of individual variables resulting in the Final Prognostic score. These results are comparable to the interrater reliability found in the present study. No interrater reliability for individual subscales has been reported in previous studies preventing comparison with those of the current study.

Descriptive Statistics

The means and standard deviations for the clinical symptom scales for Time 1 and Time 2 are listed in Table 4. As can be seen by the means, symptom scores decreased from admission to about one year into treatment, suggesting that patients were demonstrating fewer symptoms across this time period. Analyses of these data are presented in Blatt & Ford's (1994) book, *Therapeutic Change: An Object Relations*

Perspective. They found that "the data clearly and consistently indicate that after an average of 15 months of treatment, there are substantial constructive changes in social behavior and interpersonal relations in the total group of patients" (p. 78). In terms of the symptom scales, these changes were significant for Neurotic and Bizarre-Retarded symptoms for the entire sample from Time 1 to Time 2. Although psychotic symptoms tended to decrease, Blatt and Ford (1994) found no significant difference from Time 1 to Time 2 on this factor. As can be seen by the means, the Bizarre-Disorganized scores demonstrated no change from Time 1 to Time 2.

For all participants, Final Prognostic scores on the RPRS at time 1 demonstrated a mean score of 3.35 with a standard deviation of 3.44. Final Prognostic scores at Time 1 for the two groups are similar with the introjective group demonstrating a mean score of 3.49 (SD = 3.40) and the anaclitic group exhibiting a mean score of 3.18 (SD = 3.51). A t-test of the group means at Time 1 indicated that there were no significant differences for RPRS scores between anaclitic and introjective groups ($F = .03$, $p = .86$).

There are no standard normative data available for this scale, but compared to previous studies using the RPRS, average scores have ranged from 1.66 (sd=4.21; Filmer-Bennett, 1955) to 2.37 (sd = 1.77; Newmark, et al., 1979) among groups of adult inpatients, 3.18 (sd=4.20; Bloom, 1956) to 6.85 (sd=2.32; Newmark, et al., 1974) with most mean scores clustering around 5.5 to 6.00 among outpatient samples, and 6.25 (sd=2.58; Mindess, 1957) to 7.48 (Brawer & Cohen, 1966; [no sd reported]) among non-clinical groups reviewed. Thus, the individuals in the current sample exhibit average scores that are slightly higher than those of other inpatient groups studied and near the lower end of the outpatient groups reviewed.

RPRS scores at Time 1 range from –4.63 to 10.17, demonstrating a wide range of scores for our sample upon admission. This range of Final Prognostic scores suggests that even though this is a sample of seriously disturbed psychotic, depressed, and character disorder patients, a wide array of available and potential ego functioning is present despite the severity of diagnosis. This is consistent with Klopfer's formulation of the scale in that he intended it to be useful in detecting *potential* ego strength in those patients that might benefit from treatment despite their diagnostic label.

In his 1951 article, Klopfer and colleagues included a set of tentative descriptions regarding patient scores on the Final Prognostic Scale (See Table 2). According to Klopfer, et al. (1951), someone scoring in the lower range of our sample, between –3 and –6, is described as "a difficult case that may be helped somewhat but is generally a poor treatment prospect" (p. 428). Someone who scores in the higher range for this sample, between 7 and 12 on the RPRS, is depicted as "not quite capable… to work out his problems himself, but with some help is likely to do pretty well" (p. 428). No one in our sample scored in the highest range of the scale (13 to 17: "the person is almost able to help himself. A very promising case that just needs a little help" [p. 428]), as might be expected given the severity of problems these patients experience. Likewise, no one scored in the lowest range of –7 to –12, which Klopfer calls "A hopeless case" (p. 428).

It may be that despite the severity of their illness, these are people that have enough potential ego strength to allow them to remain in the treatment program, but that at the same time have required extensive treatment as reflected by the average length of stay for this patient sample. The average score of 3.35, however, suggests that several patients likely fall in the 3rd category, "Better than a 50-50 chance; Any treatment will be

of some help" (p. 428). Although these are compelling descriptors, it is important to keep in mind when using this scale that these descriptions were created by Klopfer intuitively and that these delineations were not developed out of any empirical research. Thus, they may simply be considered descriptive and may have little value as true predictors of improvement.

Subscale Analyses

The RPRS was further examined using Pearson *r* correlations among the subscale and total scores at Time 1 to investigate the degree to which subscales are measuring unique aspects of the general ego strength construct. The results are listed in Table 5. The subscales were found to have low to moderate correlations with one another (ranging from .-.14 to .45), with six comparisons demonstrating statistical significance. These findings indicate that the subscales are measuring somewhat related but primarily distinct constructs. Thus, multicollinearity is unlikely to influence the stability of the regression weights in the following analyses (Nunnally & Bernstein, 1994).

Regression Analyses

To begin to understand the relationship between RPRS scores and clinical symptoms after 15 months of treatment, regression analyses were used to determine the factors that best predict ratings on the symptom scales. Findings are described in terms of standardized regression coefficients (β) and coefficients of determination (R^2). Standardized regression coefficient (β) values denote the correlation between the criterion variable and the predictor variable, holding all other predictors constant during the

analyses. Because predictor variables are standardized in the computation of β in the final model, this information allows direct comparison of those variables found useful in predicting the criterion variable. The R^2 value can also be useful by denoting the amount of variance explained by the variables entered (Nunnally & Bernstein, 1994).

When the RPRS Final Prognostic score from Time 1 was entered as an independent variable into a regression with the Neurotic symptom scale at Time 2 as the dependent variable (Table 6), the Final Prognostic score was found to be a significant predictor at $p<.005$ with a standardized regression coefficient of -.30. (B = -7.85, β = -.30; R^2 =.09; F=8.43; $p<.005$). When the Final Prognostic score from Time 1 was then entered into a regression with scores on the Psychotic scale as the dependent variable, the Final Prognostic score was again found to be a significant predictor at the $p<.05$ level (B = -9.43, β = -.21; R^2 =.05; F=4.10; $p<.05$). Therefore, total scores on the RPRS were significantly and negatively correlated with Neurotic and Psychotic symptoms at 15 months. In other words, higher RPRS scores were significantly correlated with lower scores on neurotic and psychotic symptoms during the course of treatment as measured by record ratings. The Final Prognostic score from Time 1 was not found to significantly predict scores on the Bizarre-Retarded ($p = .71$) or Bizarre-Disorganized scale ($p = .45$) at Time 2.

Because the Final Prognostic Scores were found to be significant predictors of the Neurotic and Psychotic symptom scales, an investigation of the relationship that RPRS subscale scores might have with ratings of these symptoms at 15 months into treatment was pursued. All six subscale scores were entered into a regression analysis with the Neurotic symptom scores at Time 2 as the dependent variable. The results of this analysis

are listed in Table 7. The Animal Movement score was found to be significant and the Color score neared significance with a p-value of .07. When the subscales were entered into a regression analysis with the Psychotic symptom scale as the dependent variable, none of the subscales reached significance. The Human Movement score neared significance with a p-value of .10.

Two-Way Repeated Measures ANOVA

In order to investigate scores on the RPRS during treatment as well as to examine possible differences on scores of ego strength between patients with anaclitic and introjective psychopathology, a two-factor repeated measures ANOVA using RPRS scores from Time 1 and Time 2 was utilized. The results listed in Table 8 indicate that there are distinct changes in RPRS scores in the total group of patients from Time 1 to Time 2 with main effect differences for Form Level, Animal Movement, and the Final Prognostic score.

Figure 1 shows that the Final Prognostic scores exhibited a significant decrease from the initial assessment to Time 2 but no significant difference between anaclitic and introjective groups was found. A significant decrease for the total sample is also demonstrated in the Form Level scores by the second testing (Figure 2), while the Animal Movement score shows a significant increase across groups (Figure 3). Although the Animal Movement score shows the two groups at equal points at Time 2 and more dramatic improvement in the introjective group, there were no significant main effects or interactions with group type for this or for the Form Level scale. In looking at Figure 3, it

seems that Animal Movement scores might continue to increase if measures were taken again closer to termination.

In looking at the Color subscale scores from Time 1 to Time 2, patients with anaclitic psychopathology demonstrated main effect differences when compared to patients with introjective pathology, with introjective patients demonstrating significantly higher scores on Color than the anaclitic patients. A main effect for group type was also found on ratings of Inanimate Movement, again with introjectives scoring significantly higher than anaclitics on this subscale. Neither of these scales demonstrated main effect differences for time in treatment, and there were no significant interactions found in this analysis (Figures 4 & 5).

Chapter 4: Discussion

Hypothesis 1

It was expected that higher scores on the RPRS upon admission would be related to lower symptom scores during the course of treatment. Consistent with previous research, the RPRS prognostic scores in our study were found to significantly predict symptom scores with higher admission prognostic scores correlating significantly with fewer reported symptoms after approximately 15 months of treatment. Regression coefficients were significant for both the Neurotic and Psychotic symptom scales, but low correlations were found with measures of flattened affect, labile affect, and bizarre behavior (Bizarre-Retarded and Bizarre-Disorganized scales). Therefore, the RPRS may be most useful when used to predict the reduction of symptoms such as depression, anxiety, hallucinations, and delusions during treatment, but less useful in reflecting the level of disorganized or odd behavior and flattened or labile affect.

The exploratory investigation of the ability of the subscales to predict Neurotic and Psychotic symptoms at 15 months revealed that Color and Animal Movement were significant predictors of neurotic symptoms, while Human Movement neared significance as a predictor of Psychotic symptoms. The Color scale is purported to assess an individual's emotional responsiveness with higher scores reflecting an individual's capacity for emotional integration, potential efficacy in responding to emotional situations in their environment, and intensity of emotional experience. In this sample, higher scores on the Color subscale were found to be correlated with fewer Neurotic symptoms at 15 months into treatment. This result makes intuitive sense given that the symptoms described in the Neurotic scale are primarily related to expression and

management of emotion (e.g, depression, anxiety, obsessions, etc), suggesting that the Color scale may be reliably measuring what it is purported to measure, providing evidence toward the construct validity of this subscale.

Likewise, the Human Movement scale was found to predict Psychotic symptoms with a significance level of .10. Human Movement scores in the Klopfer system are said to reflect the individual's "inner stability" with low scores reflecting a higher level of preoccupation with inner experiences to the degree that external reality situations are neglected and social relationships suffer. Conversely, higher scores indicate an ability to integrate external reality and internal fantasy in such a way that empathy and self-realization are fostered (Klopfer, et al., 1954). Again, this finding makes intuitive sense in terms of the symptoms being measured by the Strauss-Harder Psychotic scale, which include a variety of delusions, hallucinations, depersonalization, and derealization. These are certainly symptoms that reflect an over-reliance on internal fantasy material to the detriment of external reality and of the ability to relate to others. This finding further supports the construct validity of this subscale to measure what it is theorized to measure. Further research would be quite useful in providing more rigorous testing for cross-validation of these findings.

Hypothesis 2

It was expected that during the course of therapy, patients who remain in treatment would demonstrate higher RPRS scores after 15 months in treatment than at the initial assessment. Keeping in mind that previous research by Blatt and Ford (1994) using this sample found that these patients in fact demonstrated improvement across several

areas of functioning, including a decrease in observed symptomatology, one is left to wonder why there is a significant decrease on the RPRS Final Prognostic score as patients improve. One can speculate that because the measures were given at around the midpoint of treatment, these patients have not yet reached optimal improvements in ego functioning that could be provided by intensive psychotherapy. It may be that the RPRS ego scores demonstrate a dip down at the midpoint and then increase from the midpoint as they near termination. Such a finding would lead to a greater understanding of the change processes during treatment and to the factors that affect patient improvement as a result of therapeutic intervention. However, it is not possible to determine this from the existing data.

It is also important to keep in mind that this sample is derived from a population of seriously disturbed individuals that typically have a long history of mental illness and serious problems in functioning. These patients tend to require extensive periods of treatment and may show little improvement despite the intensity of treatment. It is possible that with such an intensive treatment being conducted with such a disturbed population that the subsequent decrease in certain aspects of ego functioning may allow for later improvement. In support of this notion, Frank (1999; p.284) suggests that the intensity of the individual therapy situation may produce temporary "psychological upheavals," especially in those patients with weak egos, surfacing as an aspect of regression that allows the patient further access to primary process material while in the presence of a safe, controlled environment.

Indeed, when the patterns of the various subscales over time were investigated, the aspect of the RPRS that tends to decrease most significantly is the Form Level

subscale. Form Level is conceptualized by Klopfer et al. (1954) as a measure of reality testing. He theorized that difficulties with reality testing would be reflected in the Rorschach data via distortions in the use of form data supplied by the blot. One could then speculate that Form Level decreases might suggest the emergence of more primary process material that is stimulated by intensive psychodynamic psychotherapy. Such changes could reflect a loosening of a rigid thinking style that may allow the patient to demonstrate an improvement in their cognitive flexibility within the context of the therapy, and in addition, it may reflect the further emergence of the projection of internal needs on the surrounding environment (and the inkblot) as facilitated by the emphasis of transference in the therapeutic interaction via intensive psychotherapy. In addition, it is important to keep in mind that these patients are being studied at a point midway through treatment, and that at 15 months into treatment, patients with this level of initial psychopathology may still have a way to go before achieving the full benefits of psychotherapy.

Although the Final Prognostic scores tend to decrease, the Animal Movement subscale scores demonstrate significant improvement across patients from admission to 15 months. Klopfer et al. (1954) noted that the Animal Movement score "indicates impulses for immediate need gratification" and is "closely associated with the handling of 'stress tolerance'" (p. 578). He further suggested that, "The unfolding of emotional integration is dependent upon the development of stress tolerance because only in the extent to which immediate need gratification can be postponed are opportunities provided for the facilitation of this process" (p. 578). Therefore, the Animal Movement score is

said to reflect an individual's management of drive impulses as well as the level of comfort one feels concerning his drive impulses.

Theoretically, then, this finding may suggest that patients in this sample are demonstrating an increase in their capacity for stress tolerance, as measured by the RPRS Animal Movement score. Because this factor was also found to significantly predict fewer neurotic symptoms at 15 months in the regression analysis, the Animal Movement score may provide important information about the way patients change during treatment that is not revealed with the Final Prognostic score alone. It is not difficult to imagine that an increase in stress tolerance could be a key factor related to the reduction of neurotic symptoms in this population. This would certainly seem to be a very important component in the context of therapy given that one goal of psychodynamic psychotherapy is often to improve a patient's ability to better organize conflicting thoughts and feelings by integrating them into a more manageable, ego-syntonic whole. Weiner and Exner (1991) likewise found that patients in their sample demonstrated a similar increase in their ability to manage stress after 12-14 months of treatment as measured by the Rorschach. Thus, more seriously disturbed inpatients often experience great difficulty in this area, and improvements in the level of stress tolerance may in a sense pave the way for future improvements in other areas.

For example, the increase in Animal Movement scores occurs at the same time that these patients are experiencing an increase in primary process material as reflected in lower Form Level scores for the entire sample. Thus, these two factors in conjunction may provide valuable information concerning the reasons why patients in the current sample demonstrated lower scores on Form Level while simultaneously demonstrating

fewer overt psychotic and neurotic symptoms. In combination, these findings may indicate that patients are becoming better able to tolerate the emergence of loose thinking via improved stress tolerance, possibly resulting in the patient's improved capacity for exploration of unconscious drives and wishes in the context of the therapy interaction or the Rorschach test. Furthermore, because patients are demonstrating a reduction in symptoms from admission to 15 months, they may be achieving some success in producing this material in the testing session, but containing it better when on the ward.

Hypothesis 3

It was further expected that introjectives would show greater improvement than anaclitic patients in RPRS scores from admission to 15 months into treatment. Although there were no interaction effects for group type over time in treatment, those patients exhibiting more introjective psychopathology were found to score slightly higher on Final Prognostic scores, and significantly higher on the Inanimate Movement and Color subscales than did anaclitic patients. Inanimate Movement is described by Klopfer et al. (1954) as an expression of, "an awareness of conflict which might exist either between different impulses within the personality, or between the impulses of the individual and some frustrating forces in his environment." (p. 579). He goes on to say, "this awareness serves as a 'warning system' against seeking immediate gratification for such impulses" (p. 579). Klopfer, et al. (1954) defined the Color subscale as a measure that reflects an individual's approach to handling or "responding to the emotional impact of an actual life situation" by tapping into the depth and intensity of affective experiences (p. 582). The

authors further suggest that the way a person responds to color reflects the ways in which he experiences the management of emotions.

Because introjective psychopathology is conceptualized as a tendency to exhibit excessive concern regarding issues of self-control and containment of affect, it is not surprising then to find that introjective types score significantly higher on both the Inanimate Movement and Color subscales than do anaclitics. This finding lends support for the conceptualization of these two groups as differing psychologically and reflects the ability of the RPRS to detect such differences between these two groups.

Summary

In summary, the results of this study are useful in further demonstrating the ability of the Rorschach Prognostic Rating Scale to predict progress in therapy, particularly in terms of neurotic and psychotic symptom presentations during treatment. This finding is consistent with previous research that has found the RPRS to be an effective predictor of therapy progress and treatment outcome. However, this study is unique in that it investigated the ability of the RPRS to predict change in a group of inpatients at a functional level midway through treatment. These findings provide evidence for the application of the Rorschach as a useful adjunct in the planning and development of an individual's course of treatment based on the individual's adjustment potential.

Limitations

Of course, the findings regarding the subscale scores are highly speculative and exploratory given the post hoc nature of the analyses. However, these speculations

represent an initial discussion of findings that may allow for the formation of future hypotheses to be tested on a similar sample in later analyses. Such research could be very effective in adding to our understanding of the factors that contribute to therapeutic change during inpatient treatment.

Also, because there were no standardized methods of determining patient diagnoses for this sample, it was not possible to determine whether differences between anaclitic and introjective groups may have been due to individuals in those groups consisting of an unbalanced proportion of a particular diagnosis. Likewise, changes from admission to 15 months may have varied across patient groups. However, because this is an effectiveness study maintaining the ecological validity of the routine operations of the hospital in which the study was conducted, the results may closely reflect the experience of the general population regardless of diagnosis. Additional investigation of patient groupings, however, could certainly add to the understanding of the results of this study.

Furthermore, follow-up testing was conducted at 15 months, which was approximately one year prior to termination on average for this sample. Therefore, the results reflect the level of improvement little more than halfway through treatment. It is not clear how these patients would score on these instruments at termination when their treatment is considered complete and therapeutic gains are maximal. It does speak to the power of the scale, however, that despite these patients being only midway through the treatment process, the RPRS was still correlated significantly with patient improvement. Indeed, it is very likely that the findings would be much more robust if the Rorschach and symptom measures were taken again closer to termination.

Future Research

Indeed, further research is warranted to increase our understanding of the importance of individual subscale scores in regards to the patient's potential ego strength, as well as to further understand the impact that additional variables, such as diagnosis, sex, and premorbid level of functioning may have on the interpretation of these data. Further investigation would also be useful into the reliability and validity of the subscale constructs.

A major limitation of the RPRS at this time is the lack of normative data and the absence of empirically validated cutoff scores for demarcating the range of scores that are most predictive of response to treatment. At this time, it is unclear which ego scores meaningfully represent the potential for improvement in therapy. Without some knowledge of the meaning of individual scale scores in terms of ego functioning, it is difficult to apply the RPRS on an individual basis to those in one's patient population. Future research could certainly contribute significantly to this endeavor. The calculation of diagnostic efficiency statistics may be one approach that could achieve this by providing data that will increase the clinician's accuracy when using the RPRS with individual patients.

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APPENDIX

Table 1
Scoring Range for Rorschach Prognostic Rating Scale Weighted Subscale Scores

Subscale	Range	Description
Human Movement	-1 to 3	
Animal Movement	-2 to 1	
Inanimate Movement	-1 to 2	
Shading	Varies	Items are scored from –1 to 1. The individual shading items are added algebraically. This total is then multiplied by 3 and divided by total number of shading items scored.
Color	Varies	Items are scored from –1 to 1. The individual color items are added algebraically. This total is multiplied by 3 and divided by the total number of color items scored.
Form Level	Varies	Average form level score is used with possible item scores ranging from –2 to 5.

Table 2
Tentative Descriptions for the Range of Possible Final Prognostic Scores*

Final Prognostic Score	Group	Meaning
17 to 13	I	The person is almost able to help himself. A very promising case that just needs a little help.
12 to 7	II	Not quite so capable as the above case to work out his problems himself, but with some help is likely to do pretty well.
6 to 2	III	Better than a 50-50 chance; any treatment will be of some help.
1 to –2	IV	50-50 chance.
-3 to –6	V	A difficult case that may be helped somewhat but is generally a poor treatment prospect.
-7 to –12	VI	A hopeless case.

*This table is recreated from Klopfer, et al. (1954, p. 695).

Table 3
Interrater Reliability Analyses of the Rorschach Prognostic Rating Scale

RPRS scales	ICC	
Form Level	.84	excellent
Inanimate Movement	.51	fair
Animal Movement	.72	good
Human Movement	.79	excellent
Shading	.72	good
Color	.77	excellent
Final Prognostic	.85	excellent

Table 4
Means and Standard Deviations for Strauss-Harder Case Record Rating Scales at Time 1 and Time 2 for Total Sample (n=90)

	Time 1		Time 2	
	Mean	SD	Mean	SD
Neurotic Symptoms*	7.10	2.98	6.24	2.55
Psychotic Symptoms	2.72	2.04	2.42	1.54
Bizarre-Disorganized	1.25	1.30	1.25	1.19
Bizarre-Retarded**	.58	.96	.26	.59

**= $p \leq .01$
* = $p \leq .05$

Table 5

Pearson *r* Correlations Between Ratings on the Rorschach Prognostic Rating Scale Subscales at Time 1 (*n*=90)

	RPRS Subscales				
	Animal Movement	Human Movement	Inanimate Movement	Shading	Color
Form Level	.45**	.38**	.18	.09	.27**
Animal Movement		.41**	.04	.04	-.14
Human Movement			.10	.13	.10
Inanimate Movement				.13	.29**
Shading					.21*

* = p < .05; ** = p < .01.

Table 6
Standardized Regression Coefficients of the RPRS Final Prognostic Score at Time 1 Compared With Measures of Patient Symptoms at Time 2 (n=90)

	SRC	R^2	*p*
Neurotic Symptoms	**-.30**	.09	**.005**
Psychotic Symptoms	**-.21**	.05	**.046**
Bizarre-Disorganized	-.08	.01	.449
Bizarre-Retarded	.04	.00	.706

Table 7
Standardized Regression Coefficients of RPRS Subscale Scores at Time 1When Compared With Neurotic and Psychotic Symptom Measures at Time 2 for Total Sample (n=90)

	Neurotic Symptoms		Psychotic Symptoms	
	Beta	*p*	*Beta*	*p*
RPRS SCALES				
Form Level	-.01	.91	-.16	.20
Animal Movement	**-.25**	**.05**	-.04	.77
Human Movement	-.07	.56	-.19	.10
Inanimate Movement	-.06	.61	.04	.68
Shading	.02	.82	.16	.14
Color	**-.22**	**.07**	-.18	.13

Table 8
Two-Way Analysis of Variance of Rorschach Prognostic Rating Scale Scores for Anaclitic and Introjective Patients at Time 1 and Time 2

	Means				ANOVA (*df*=1)		
	Anaclitic		Introjective		*F* values (repeated measures)		
	TI	T2	T1	T2	A/I	TI/T2	AxB
RPRS SCALES							
Form Level	.39	.31	.37	.31	.07	**7.71****	.04
Animal Movement	-2.38	-.36	-6.38	-.36	.02	**5.70***	.02
Human Movement	1.05	.88	.96	.85	.11	.98	.05
Inanimate Movement	.21	.12	.45	.34	**3.93***	1.19	.00
Shading	1.00	.67	.83	.68	.10	1.50	.21
Color	.54	.40	.97	1.03	**3.85***	.03	.20
Final Prognostic Score	3.18	2.03	3.52	2.86	1.06	**4.10***	.29

** = $p \leq .01$
* = $p \leq .05$

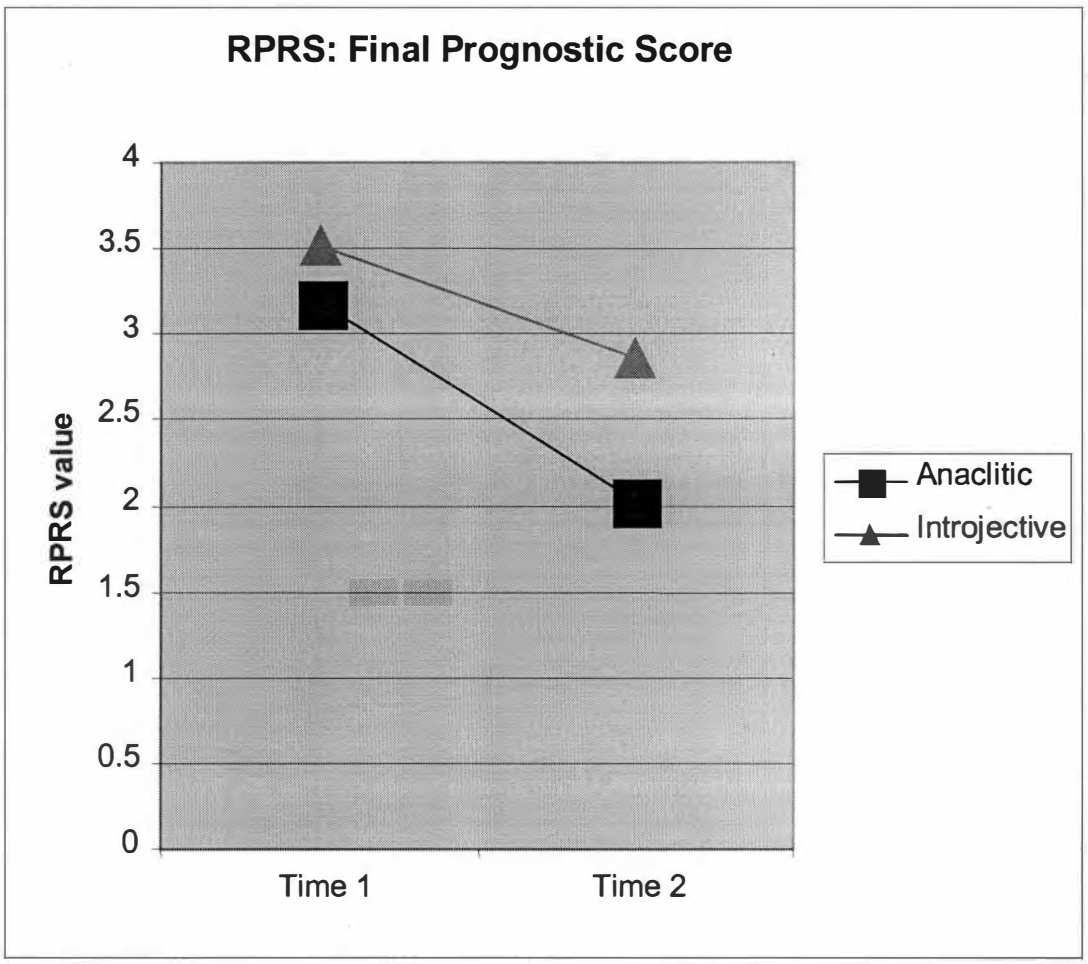

Figure 1. Final Prognostic Scores at Time 1 and Time 2 Across Groups

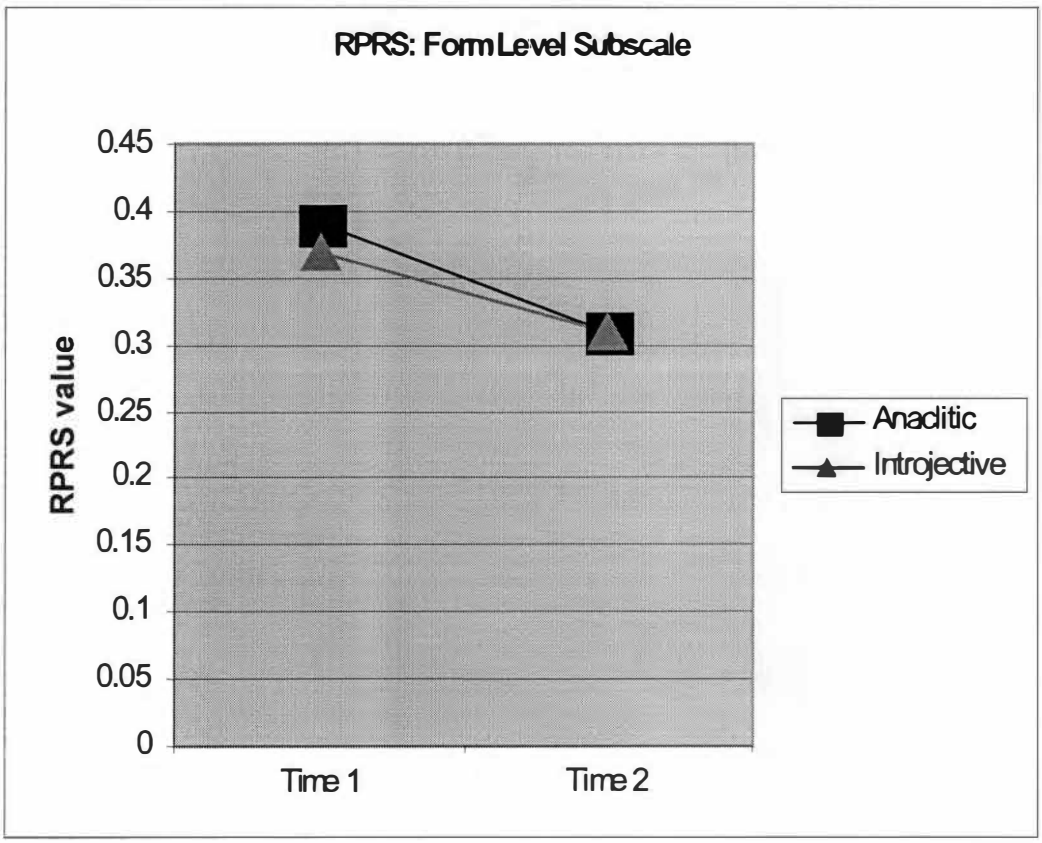

Figure 2. Form Level Scores at Time 1 and Time 2 Across Groups

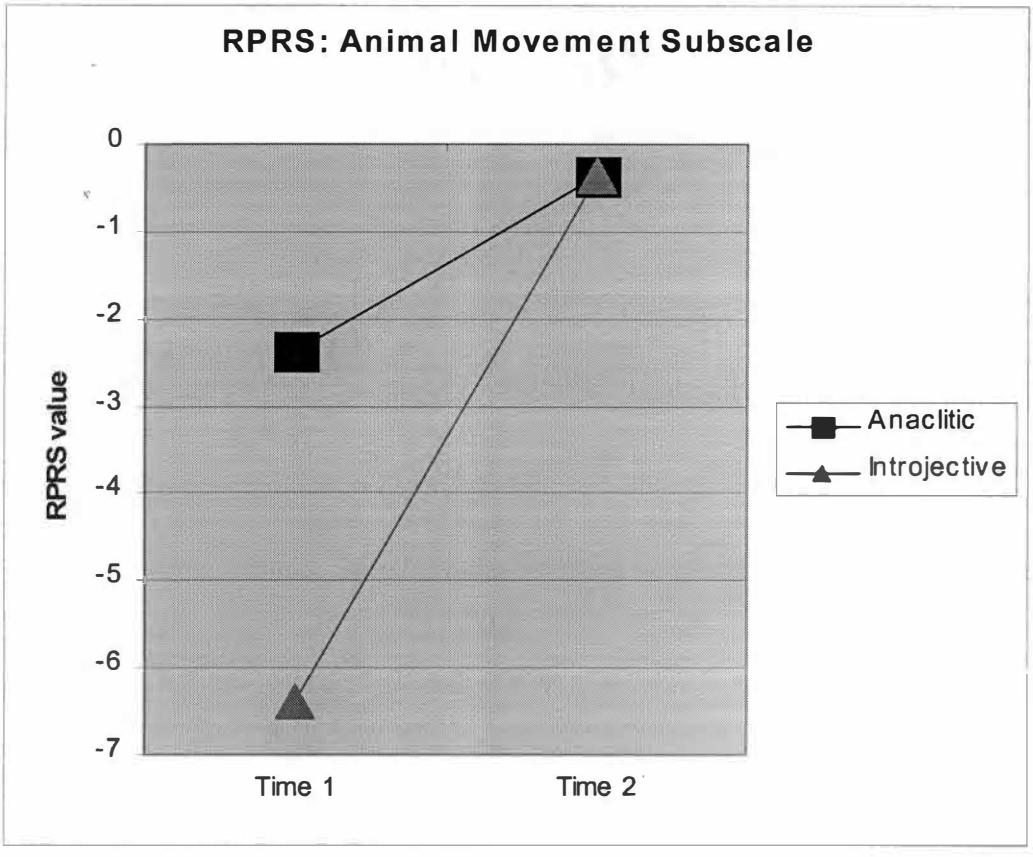

Figure 3. Animal Movement Scores at Time 1 and Time 2 Across Groups

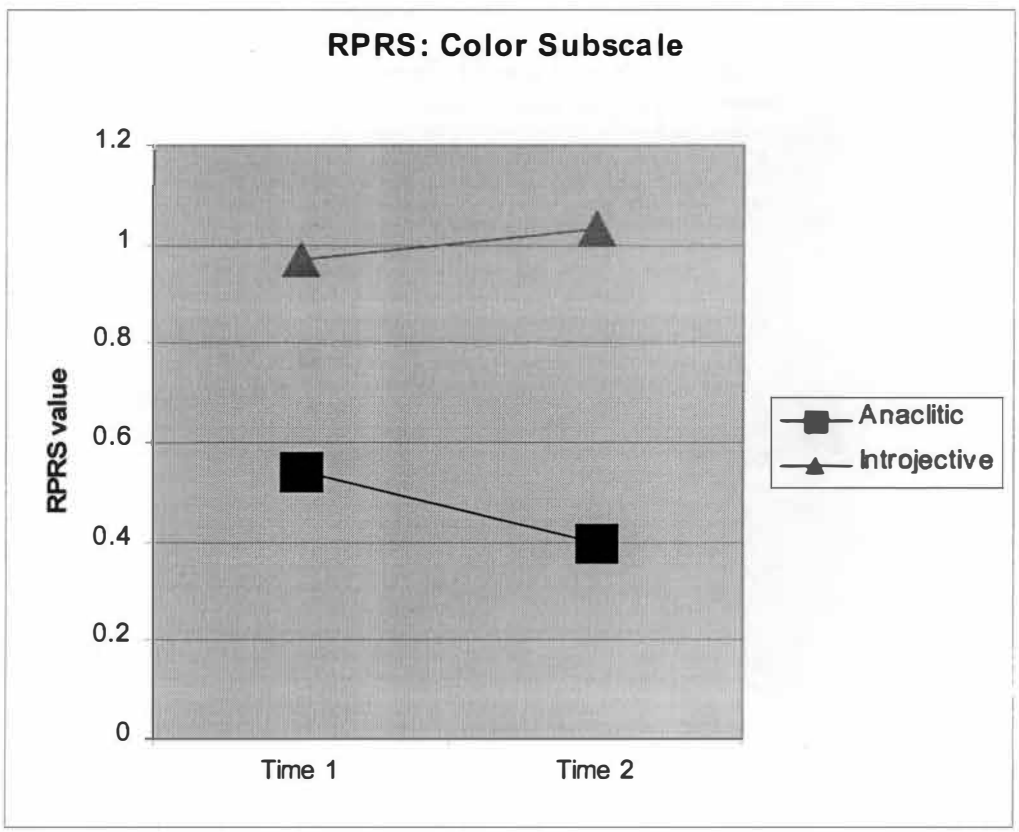

Figure 4. Color Scores at Time 1 and Time 2 Across Groups

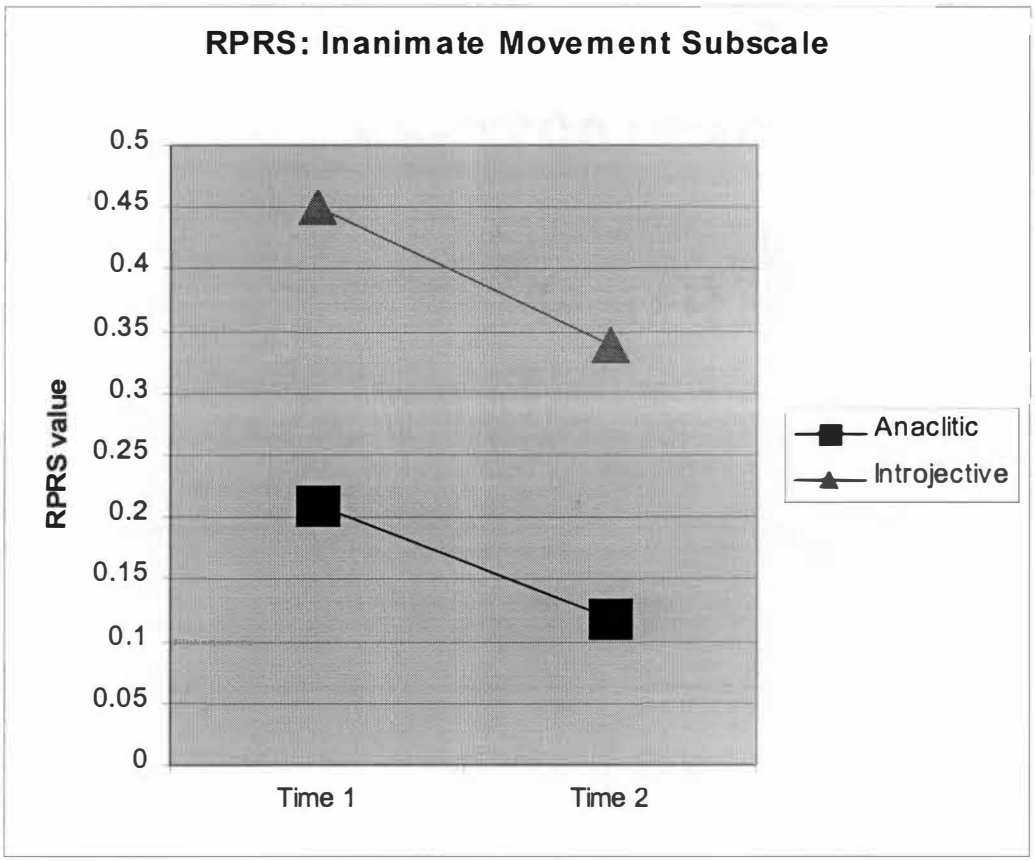

Figure 5. Inanimate Movement Scores at Time 1 and Time 2 Across Groups

Vita

Amanda Jill Clemence was born in Rogers, Arkansas, on December 20, 1973. She was raised in the same town, attending grade school at Southside Elementary School and junior high at Elmwood Junior High School. She graduated from Rogers High School with Honors in 1992. Amanda then chose to attend college at the University of Arkansas where she received a full academic scholarship. After three years at the university, Amanda moved to Nashville, TN, to take a position at the Vanderbilt University Medical Center, where she worked in a treatment program designed to provide multimodal therapy to children with behavioral and emotional disorders. Amanda later returned to Arkansas to complete her undergraduate degree and, in 1998, graduated from the University of Arkansas, Summa Cum Laude, with a Bachelor's degree in Psychology. From there, she went to the University of Tennessee, Knoxville, to pursue graduate training in Clinical Psychology. Amanda received her doctorate of philosophy degree in psychology in 2003.

Currently, Amanda is a post-doctoral fellow at Pennsylvania Hospital and the University of Pennsylvania School of Medicine. She continues to conduct research investigating personality assessment techniques and the processes of psychotherapy.