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Indicators of Empathy in the Rorschach Inkblot Test

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INDICATORS OF EMPATHY IN THE RORSCHACH INK BLOT TEST

by

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VITA

The author, Elaine Dorothy Rado, is the daughter of Jane Port Rado and Ernest David Rado. She was born on January 30, 1954 in Fairfield, Connecticut.

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INTRODUCTION

The construct of empathy has become increasingly important in models of interpersonal relationships, where it is considered by some theorists to be central to both the development of the self and to the ability to interact with others in a meaningful way (Jordan, 1984). Paralleling this emerging importance have been many attempts to identify indicators of empathy in the Rorschach Ink Blot Test. Object Relations theorists have led the way, with studies of formal scoring variables as well as with investigations of content. Exner's Comprehensive System of Rorschach interpretation (1986), which is widely used in personality assessment, however, has only begun to address this question, in the creation of the Cooperative Movement Score (COP). Overall, Exner's Comprehensive System provides little guidance in the exploration of interpersonal capacity and empathic ability of the subject. It is the goal of this study, working within the Exner scoring system, to identify a set of determinants which, when combined, correlate with an external measure of empathy. In addition, this study will look at the relationships of some content scoring scales to the external measure of empathy. It is conceivable that the formal scoring

system alone may not be able to assess the construct of empathy. A content based scoring system, or a combination of formal and content scoring, may be more effective.

REVIEW OF RELEVANT LITERATURE

The Construct of Empathy

Most simply stated, empathy "involves a successful two-way relationship in which an experience is shared" (Mayman, 1967, p. 20). The means and nature of that experience have been conceptualized in two ways. One definition focuses on a cognitive reaction which manifests as the ability to see things from another person's perspective. This has been called role-taking, perspective taking, and predictive ability. (Gladstein,1983). The other is more visceral, defining empathy as an emotional reaction to another person which involves a vicarious affective experience (Davis, 1983; Hoffman, 1977). Terms associated with this definition are identification, emotional reaction, emotional contagion and resonation (Gladstein, 1983). Which of the two definitions is chosen in any study is important, as it affects the measures developed and the approach to the project. Marks (1986), in his discussion of methodological considerations in empathy research, points this out. The theoretical orientation of the researcher, he suggests, will inevitably shape both the conceptualization and the operational definition of

empathy. After reviewing the literature on empathy conceptualization and research, Deutsch and Madle (1975) note that there has been an increase in agreement about some aspects of empathy. " The major areas of disagreement, however, pertain to whether the empathic response is cognitive, affective, or both and what processes explain empathy" (pp. 271-272).

Current literature purports that empathy is in fact both cognitive and affective. Gladstein (1983) suggests that "perhaps we should be looking at which type of measure to use for which type of empathy" (p. 470). Marks concludes that empathy is a multidimensional construct "which can be viewed from a variety of operational and theoretical perspectives" (p. 18) and states that studies must reflect this complexity. Davis (1980) conceptualizes empathy as an interdependent system of cognitive and affective components, with each influencing the other. He suggests that these components must be assessed together if a study of empathy is to be meaningful. Jordan, in her paper on Empathy and Self Boundaries (1984), also conceptualizes empathy as an integration of intellectual and emotional components, and going further, states that "there must be a balance of affective and cognitive, subjective and objective, active and passive" (p. 3).

Jordan also brings other components into her construct. She states that in an empathic experience there is "a momentary overlap between self and other representations as distinctions between self and other blur experientially" (p. 3). Such an interaction as this requires a well differentiated sense of self, flexible boundaries, a desire to interact with others, and the ability to surrender to feelings as well as active cognitive structuring.

The self-other differentiation which Jordan mentions as a factor in empathic capability is seen as important by theoreticians from diverse groups. Rogers, (1958) states that "empathy is the ability to sense the client's private world as if it were your own, but without ever losing the 'as if' quality" (in Deutsch & Madle, 1975, p. 271). Working from a cognitive perspective, Dymond (1948, in Deutsch and Madle, p. 271) suggests that, unlike in projection, the empathizer is detached and neutral. "The empathic response therefore is considered as cognitive requiring clear self-other differentiation". Both Jordan (1984) and Mayman (1967) are careful, in their discussions of empathy, to point up the difference between the conscious blurring of boundaries seen in empathy and the more primitive, unconscious fusion due to inadequate interpersonal

boundaries, which characterizes imitation and introjection.

> Empathy and identification as used here are differentiated from each other in terms of the intactness maintained by the ego in interaction with others. In empathy the ego preserves its integrity; there is a feeling with, but not a total immersion in, the experience of the other person. The narcissistic person may sometimes seem to empathize deeply and respond intensely to another person, but this closeness usually proves to be an essentially selfish act aimed at closing an intolerable gap between self and others (Mayman, p. 20).

Based on this literature, it appears that a study of empathy must necessarily address several factors. It should be able to differentially measure both the cognitive and the affective elements of the empathic experience. It should also assess the sturdiness and flexibility of boundaries, and it should be able to distinguish between true empathy and the more narcissistic form of affective involvement which Mayman calls identification.

A Multidimensional Measure of Empathy

Davis (1980) has constructed a multi-dimensional measure of empathy, The Interpersonal Reactivity Index (IRI), which simultaneously measures both the cognitive and affective aspects of empathy. Each is measured independently, in this way enabling a study of the factors that compose empathy, the extent of individual differences and, conceivably, different types of empathy

altogether. This approach recognizes that "empathy encompasses a variety of individual predispositions and cognitive sets, both of which can have a distinctive influence on different kinds of reactions to other people" (1987, p. 130).

The IRI has four scales, two of which focus on the cognitive aspects of empathy, and two of which measure the affective component. Perspective Taking (EPT) is the prototypical cognitive scale, assessing the degree to which an individual can adopt another's point of view. The Fantasy Scale (EF) also has a cognitive flavor. This scale addresses the individual's tendency to "imaginatively transpose oneself into fictional situations" (Davis, 1980, p.9). Both Empathic Concern (EEC) and Personal Distress (EPD) measure affective response to emotional situations. The former is more pure a measure of affective empathy, assessing the tendency of an individual to have feelings of warmth, compassion and concern for others. Personal Distress addresses the uncomfortable affects stirred up in an individual when witnessing the negative experience of others. These scales were devised through a rigorous process of investigation and validation. Both internal and test-retest reliabilities are high, and intercorrelations indicate that the four scales are

indeed measures of independent dimensions.

In 1983, Davis published the results of his investigation into the divergent and discriminant validity of the IRI. In a rather comprehensive design, Davis selected 18 scales as external criteria to provide correlational data with the IRI. The results relevant to this study are summarized below.

1. A high score in Perspective Taking is associated with good social functioning in that these individuals are able to anticipate behaviors of others and accommodate to them. They show a sensitive concern for the feelings and needs of others, rather than a more self-oriented concern for how others view them. Davis also found that these individuals have good self-esteem.

2. Even though fantasy is a cognitive activity, Davis found in high fantasizers a significant presence of emotional vulnerability, as well as a slight tendency towards fearfulness. Thus, high scorers are more likely to respond affectively to stimuli. These individuals also are quite sensitive to the feelings and behaviors of others, with a concern that is both self oriented and other oriented.

3. High scorers on Empathic Concern, like Fantasy high scorers, tend towards emotional vulnerability,

fearfulness and insecurity. Their concern for others is more akin to high scorers in Perspective Taking, in that it is primarily other oriented. Davis, to his surprise, also found that high empathic concern correlated positively with shyness, and with both social and audience anxiety, but despite this, was negatively related to loneliness.

4. Individuals who score high in Personal Distress have more difficulty developing and maintaining rewarding interpersonal relationships. They are shy people who are more vulnerable to feelings of discomfort and anxiety in both social and emotional situations. Consequently, they experience anxiety in social situations, are more introverted, and have low self-esteem.

As he predicted, Davis found a positive intercorrelation between perspective taking and empathic concern and a negative one between perspective taking and personal distress. Thus it is possible for an individual to cognitively take the other's perspective while experiencing warmth and compassion for that person's negative experiences. Davis also found a negative correlation between Perspective Taking and Personal Distress. This can indicate either that the ability to take a perspective precludes personal

distress, or, conversely, that the experience of personal distress in response to another's plight impedes the development of a more cognitive empathic response. An unexpected finding was the significant intercorrelation of fantasy and empathic concern. This points to a commonality of affective experience in individuals who score high on these scales.

Moving into investigations of the multidimensional construct, Davis conducted several studies on individual differences in empathy. In one study (Davis, 1983, p.168), he questioned if "individual differences in empathy can influence empathic emotion and personal distress, above and beyond the influence of situational variables". Davis found strong support for his hypothesis. Individuals who experience warmth, concern and sympathy in response to an 'easy escape' appeal for help were significantly more likely to offer aid than those who experience personal distress in the same situation. Perspective Taking scores were completely unrelated to empathic response in this study. However, when looking at behavior which is neither an emotional reaction nor one which would be strongly affected by emotions, Bernstein and Davis (1982, in Davis, 1983) found that Perspective Taking scores were a better predictor of empathic behavior than were scores on

Empathic Concern. Investigating person perception, Bernstein and Davis found a significant relationship between high Perspective Taking scores and an individual's success at matching individuals with their self-descriptions. An essentially cognitive task, accurate person perception correlated positively only with the cognitive measure of empathy, Perspective Taking. Davis (1983) concludes that these data "lend further support to the suggestion that empathy can be usefully considered as a set of related constructs, and that the facet of empathy most influential in affecting any specific behavior will depend upon the specific nature of that behavior" (p. 182). This is an important distinction. As will be seen in the following sections, the many empathy studies utilizing the Rorschach are quite variable in their definition of empathy, and thus their choice of variables for investigation. Many have focused on the type of empathy desired in a good clinician, a standard which may be inappropriate when assessing other populations. This standard may present an unrealistic perception of everyday empathic behavior.

Concepts of Empathy in the Rorschach

Empathy has been of interest to most of the major Rorschach theorists. Rorschach, himself, mentions it briefly in Psychodiagnostics (1942). He suggests that

empathy requires in the personality the presence of both intellectual (introversive) and affective (extratensive) elements. However, he also makes reference to "intellectual empathy" and "emotional empathy". The former is found in people who have Human Movement (M) but no Color in their protocols. The latter is possible if intellectual components are able to break the emotional boundaries and in this way make possible adaptations on an emotional level. In the protocol, this manifests as Color responses which are dominated by form (FC). Rorschach also describes a third type of individual, one who desires an empathic connection, but is not capable of the necessary adaptations. These people are seen as egocentric and demanding, with a need to see others as similar to themselves. Their protocols are characterized by Color dominated responses (CF or C). Rorschach's conceptualization of forms of empathy is strikingly in line with that of current theorists, making the distinction between empathy which integrates affect and cognition, intellectual empathy, emotional empathy, and the more narcissistic state where undercontrolled affect demands the adaptation of others.

Beck (1966, in Stark, 1968) focuses on the simultaneous presence of Color and Movement (Experience Actual- EA) in addressing the question of empathy. A

movement response reflects emotions experienced while the presence of Color reflects emotions released. The former is characterized by the ability, through fantasy, to put oneself in another's place, and in this way experience the feelings of the other. In the Rorschach, this is represented by Human Movement (M). The latter, manifested in Color responses, is conceptualized as an ability to reach out, affectively, to others, and in this way openly experience the other's affective states.

Stark (1968) takes Beck's conceptualization a step further, proposing a different Rorschach picture for two types of relating or "role-taking". He suggests that the protocol described by Beck, containing good amounts of both Color and Movement, is indicative of one type of empathy. This he calls intuitional, characterizing it as feminine, identificational, passive, participational, perceptual, surrendering, and receptive. It is ultimately, experiential. He also postulates a second type of role-taking or empathy, found in protocols which are low in both Human Movement and Color responses. This type is abstract, analytic, detached, intellectual, masculine, reflective and active. He calls this type inferential, and equates it with disciplined thinking. The two, Stark believes, are mutually exclusive.

Klopfer, Ainsworth, Klopfer and Holt (1954) focus

on the human percepts, and particularly those with movement, as indicators of one's capacity for empathic relationships with others. They state that people with a history of good interpersonal relationships produce more M, whereas those who lack closeness to others may see animals where a human response is normative. Partial and fantastical contents, Klopfer et al. say, are indicative of hostility, and of a preoccupation with the self which impedes empathy and interpersonal connections. Klopfer et al. see the Texture responses as a mediating variable in empathy, reflecting the degree of need for contact. People with little Texture but sufficient M have the ability to take the other person's perspective but do not have a need for acceptance or approval. They characterize this state as having a "recipient flavor" (p. 274). A large amount of Texture in responses would then be indicative of strong affectional needs which may impede the individual's ability to focus on the other. While Klopfer et al. do not mention the Color response per se, they do suggest that this capacity for good object relations "is both a condition and a result of a high level of emotional integration" (p. 255). Their discussion of Color, however, focuses on the social aspects of emotional engagement rather than the empathic ones.

Mayman wrote extensively on manifestations of empathy within the Rorschach, seen primarily in the Human (H) and Human Movement (M) responses. He put forth the hypothesis that "a person's most readily accessible object-representations called up under such unstructured conditions (the Rorschach test) tell much about his inner world of objects" (1967, p.17). More specifically they "tell us about the person's internalized sense of participation in or alienation from his social milieu as well as his preferences and expectations regarding the composition of that milieu" (1967, p.18). These images can be assessed for the formal characteristics (determinants), for content, for style, and, most relevant to empathy, for degree of self-other differentiation maintained in the "relationship" with the imagined other (the percept). "Overly close images", characterized by extreme vividness of and involvement with the image, and often by highly fabulized content are characteristic of the narcissistic person whose interpersonal interactions take the form of identification. The empathic response, in contrast, will be "more varied in content, more objectively described, and more likely to express warmth, interest, pleasure, amusement at the doings of others, but in a way that makes it clear that the

perceiver is talking about a distinctly separate person" (p. 21). In this way, Mayman points up the need to look not only at the quantity of human percepts, which he feels is clearly related to empathy, but also at their quality. It is possible that these responses indicate only fantasized interpersonal relationships, or they could be identifications, as described above. Mayman also suggests that "M's should be associated with other indications of responsiveness and warmth before they may be taken as an unambiguous expression of the capacity for ready mutuality and rapport" (p. 21).

Urist (1976), like Mayman, also focuses on M as a measure of empathy in the Rorschach. Drawing from Schactel's phenomenological view of movement, Urist suggests that M "refers to that aspect of empathy that involves being attuned to the selfhood of others", as perceiving movement "involves sharing for a moment the subjective experience of the figure" (p. 576). He adds that this, alone, is a central but not complete index of empathy. The protocol, overall, should have good form quality (+ or o). If this can indeed, as believed, indicate the individual's capacity for self-other differentiation, "...then kinesthetic empathy should be distinguishable from psychotic fusion on the basis of form level of the M response" (p. 577). Urist also

makes a distinction between whole human percepts and human detail. The latter should not be included in assessment of empathy, as they may indicate an orientation towards unmetabolized part-objects. Urist adds that there are other criteria for empathy which cannot be measured by M. These are intactness of ego boundaries, and, as Mayman suggests, delineation of the connection to the other as empathic or narcissistic.

Overall, it seems most theorists would agree that one must look at several determinants in an investigation of empathy within the Rorschach. All focus on the Human Movement response, and most on Color as well. Form quality is emphasized as a means of separating out the responses of people with poor reality testing and/or poor boundaries. A few focus on a more comprehensive analysis of the Human and Movement content as the source of deeper understanding. Even these theorists, however, recognize that some aspects of the construct empathy must be found in other parts of the record.

Single Determinant Studies

Despite recognition of a need for multiple determinant studies, the majority of empirical data on empathy and the Rorschach have been derived from studies of single determinants, usually M or H. These studies

will be reviewed, as will studies on other determinants which, theoretically, would seem relevant to empathic capacity. For some variables, there is no relevant empirical work, thus only their conceptualization and the research which examines these determinants for construct validity will be discussed.

Human Movement. The Human Movement response has been a variable in most Rorschach studies on empathy, with many positing a linear relationship between the two variables (Mueller & Abeles, 1964). The rationale for this relationship delineated by Schactel (1966) is described by Urist (1976).

> He suggests that M reflects the subject's ability to be attuned to the subjective experience of others; that is, it is specifically in the perception of movement on the Rorschach that the subject knows 'not merely from the outside but from the inside, how the human figure seen in the inkblot moves or holds his posture. It was as if he were for a moment and to some extent the figure' (Urist, p. 576).

The scoring of M is somewhat consistent across all these studies; i.e., a response in which a whole human figure is moving. (Some include animals if they a performing a human activity.) This includes the more passive or static states, such as "A man with his arms out". Some studies also score human detail (Hd) for movement. Others argue that the projection of movement onto part-objects conveys a different phenomenological

experience and is associated with different personality features. This question will be discussed in the section on Fantastical Human and Human Detail percepts. It is noteworthy that many studies do not explicitly state their criteria for scoring Human Movement, thus making comparisons across studies of questionable validity.

The operational definition of empathy, and thus the emphasis of these studies is quite varied. Some, such as Mueller and Abeles (1964) focus on empathy as the social perception of others and of the self. Mueller and Abeles found that M production on the Holtzman Ink Blot test correlated positively with the accuracy with which others perceive one's behavior. This may be best understood as a manifestation of congruence between behavior and intention, as well as an openness to others. Mueller and Abeles, in their discussion, postulated that quality of the response could also be a variable. They suggested that one who produces M's of high quality would be a more discriminating perceiver while one who produces a large number of M's is "more likely to sensitize his peers regarding his own behavior" (p. 328), and thus be perceived accurately by them. Mueller and Abeles also found that this capacity to be perceived accurately by

others was independent of the content of the Movement response.

Capacity for role-taking behavior is another operational definition used in studies of empathy, one which focuses on the cognitive aspects. Drawing from the work of Klopfer and of Phillips and Smith, Kurz and Capone (1967) suggest that one psychological function represented by M is "the ability to play a variety of roles in a meaningful way and to shift roles so that a person understands his own behavior as well as that of others from diverse points of view" (p. 657). To test this assumption, Kurz and Capone looked at role-taking ability and Rorschach M production in a sample of 128 boys (ages were not reported). They found the expected relationship between M and role-taking ability and noted that this was not affected by age. Another set of studies looked at empathy as a trait which characterizes a good therapist. Kelly and Fiske (1951, in Lerner, 1975) found that of the variables studied, M% (the number of M responses divided by the total number of responses) had the most value as a predictor of good or poor trainees in clinical psychology. Mayman (1967) found that judges could discriminate effective from ineffective psychiatric residents by their number of M responses. Similar studies by Frankle (1953), and by

Holt and Luborsky (1958) had congruent results (in Mayman, 1977).

More recently, studies have looked at empathy as it relates to the capacity for mature interpersonal relationships. These studies emphasize the quality of M by examining the content. These studies will be discussed in the section on content scales.

Dana (1968) concluded, after reviewing the literature, that the M response expresses one's potential for caring about others. He qualified this, however, stating that this does not reflect the manner or actual use of this potential. Lerner (1975), in his review of this research, concluded that there is a relationship between empathy conceptualized as a general trait and M. However, when one breaks down the construct into its component parts, "particularly in terms of a composite of self-other types of attitudes and behaviors, then it becomes evident that M is more related to the self side of the coin" (p. 342-343). He suggested that people who give many Human Movement responses are more self-aware, self accepting, and thus open to others, qualities which provide "a base for a humanized interpretation of the world" (p. 352). This observation is concordant with the conceptualizations of empathy proposed by Jordan (1984) and by Dymond and

Cotrell (1949, in King, 1958), which suggested that these qualities of self are a necessary, though not sufficient criteria for empathic capacity. One can infer, from Lerner's focus on the "self" aspect in relation to M, that the "other" aspect, the sensitivity to and connection with other people, manifests elsewhere in the Rorschach, if at all.

Human Content. The Human Content score, H, is assigned to percepts of whole human figures which are realistic (as opposed to fantastical or mythological). There is of course considerable overlap between this score and M, but there is some rationale for treating them as separate variables. Not all responses containing a human image are scored for movement, thus important information may be overlooked if only M is studied. Lerner (1975) suggests that M and H may even be related to different criteria. Studies of H seem to support Lerner's suggestion. There has been little support for a relationship between empathy and H, when empathy is treated as a general trait. There is good empirical support, however, for a correlation between H and social interest or an orientation towards others, as was hypothesized, Lerner (975) reports, by Phillips and Smith (1953), Piotrowski, (1957) and Rappaport, Gill and Schafer (1946).

Fernald and Linden (1966) used the Holtzman Ink Blot Test to directly assess the relationship between H and empathy, social isolation, and social interest, anticipating significant relationships to all three. They did not find the hypothesized correlations between either social isolation or empathy, but did find a significant positive correlation for H and social interest.

A series of studies which looked less directly at the meaning of H are studies of H production by members of various professional groups. Reiger (1949, in Draguns, Haley & Phillips, 1967) found that people in highly social professions, such as administrators, have more H in their protocols than those in technical professions. In a more comprehensive study, Roe (1951, in Lerner, 1975) found that psychologists and anthropologists are high H producers, while those in the physical and biological sciences are lower in H production. Dorken (1949, in Draguns et al., 1967) looked at medical interns who chose to specialize in psychiatry. He found that these interns had more H in their protocols than physicians who specialize in the non-psychiatric areas of medicine. Both Lerner and Draguns et al. conclude that these studies support the relationship between social interest and H production

"if choice of occupation can be regarded as an index of social interest" (Lerner, p. 328).

The relationship between H and social interest has also been assessed in studies of different pathological groups. As might be expected, members of anti-social groups have few H responses. Draguns et al. (1967), summarizing the studies of pathology, conclude that H "appears to differentiate individuals who maintain some reality oriented social contacts from those who retreat into self-blame, inactivity and fantasy" (p. 23).

Developmental cross-sectional and longitudinal studies have demonstrated a change in H production with age. Both the number of H and the percent of H in a protocol steadily increase up to age 10 (Ames, 1952, in Lerner, 1975; Draguns, et al., 1967). These studies link H with social maturity. Lerner argues that H can also be related to social interest, both of which would be expected to develop with age.

There are a few studies which attempt to investigate the relationship between other personality factors and the number of H responses. Fisher (1962, in Draguns et al. 1967) looked at H production and self-descriptions. He found that a positive self-image, free from feelings of fragility, vulnerability and sexual confusions correlated positively with high H. Shatin

(1955) studied the relationship between TAT stories and the Rorschach. Regarding H, he concludes that "Human Content is related to potentially rich fantasy life with vigorous associative energy and self-expression" (p. 326). He also points to an orientation towards action, strong expression of feeling-tone and an approach to the environment which is critically cautious. Rosenstiel (1969) defined H more specifically, as the need for human contact, and hypothesized that the number of H would be negatively correlated with empathy in anxious subjects. His results supported this hypothesis. Anxious subjects may have a great deal of interest in others, but interpersonal interaction makes them anxious, thus reducing capacity for an empathic connection.

Summarizing his review of Human Content in the Rorschach, Lerner (1975) concludes that there is little support for a relationship between H and empathy, but a relationship is found between H and social interest, and also between H and maturity in social relations. I would take this a step further and suggest that social interest and a capacity for mature social relationships are both components of empathy as it is defined in the present research.

Human Detail and Fantastical Human Content. There

are two other Human Content scores , both of which may be scored for movement in the Comprehensive system. Human Detail (Hd) is any percept which includes a part of the human figure. Fantastical Human Content [(H)], is any percept of fantastical or mythological human or human-like figures. This category also includes characters from stories, movies or plays, such as Alice in Wonderland. There is also an [(Hd)] score for partial representations of these types of figures.

It is reasonable to question whether these contents represent the same psychological functions and personality features as H, and logically flowing from this, to wonder if movement in these percepts has the same relationship to empathy as does movement in a whole, "real" human image. There is very little research on these determinants, but what is available suggests that Hd, (H), and (Hd) are not comparable to H or M.

Rorschach (1942) noted an increase of Hd in depressives, as compared to normals. Kobler and Steil (1956, in Draguns et al. 1967) found the same result in their review of studies in this area. Elevations in Hd have also been found in the records of non-paranoid schizophrenics (Blatt & Lerner, 1983; Draguns et al., 1967). Reviewing traditional content scoring, Draguns

et al. also found reports of elevated Hd in maladjusted children, and in individuals who are "socially maladjusted" such as deaf-mute children and normal adolescents. They also cite a study by Horn, Bona and Tarkovass (1966) which compared the Rorschach protocols of children raised in foster homes to those of children raised in institutions. They found an elevation of Hd and a depression of H in the institutionalized children relative to the foster child population. Of course this difference may be related to the reasons for ongoing institutionalization, that is a greater degree of psychological disorder. Coming from a different direction, King (1958), in two separate samples, found correlations between H and Hd to be quite low, that is, between .15 and .20.

Interpretively, Klopfer, et al. (1954) suggests that a tendency to focus on minor parts of the body in isolation, as seen in Hd, can be indicative of a compulsive attention to detail accompanied by limitations in one's ability to deal effectively with other people. Exner (1986) postulates that an elevation in Hd most likely signifies "an overtly pedantic and possibly distorted view of others" (p. 403). On Human Content scoring scales, partial human responses are given less weight. These percepts are considered to be

indications of a developmentally lower capacity for good object relations, and thus for empathy. Urist (1976) posits that these Hd percepts suggest a capacity to perceive individuals only as part-objects.

Fantastical Human Content [(H)] is rarely mentioned in the literature. Blatt and Lerner (1983) found (H), along with Hd to be elevated in non-paranoid schizophrenics. A study cited by Draguns et al. (1967) found an elevation of (H) in murderers placed in a psychiatric facility.

Interpretively, Klopfer, et al. (1954) suggest that Fantastical Human Content makes awareness of affects and behaviors more distant, thus identification with the image is less close than the identification manifested by an H response. Exner (1986) also suggests that Fantastical Human Content indicates detachment from reality.

Even with the limited amount of data available, it would appear that Hd and (H) to some degree represent poorer psychological adjustment and/or psychological distancing from others. It seems reasonable then to postulate that these representations tap a different dimension than H, and that M scored from these percepts should be assessed separately than M scored on whole human percepts.

Color. Color responses on the Rorschach are believed to reflect the individual's response to and management of emotions, a factor that would have a decided effect on empathic capacity. Klopfer, Burchard, Kelly and Miale (1939) concluded

> that the color responses are significant for the emotional ties with outer reality...Thus, the subject's reaction to the color ...of the blot reflects closely his general emotional attitude to outer reality (in Hertz and Baker, 1943, p. 9).

The quality of that relationship can be found in the degree to which form elements shape the response. The Form-Color (FC) response is one where form predominates in the percept but the impact of Color is also expressed. "A red butterfly" on card III is an FC response. These responses are seen by Rorschach (1942) as indicators of an emotional approach to the environment. Beck (1945) suggests that FC "requires feeling in tune with that [feelings] of others, and in fact indicates understanding of others through the medium of feelings" (p. 29). In the Color-Form (CF) response the individual responds primarily to the chromatic aspects of the blot but the percept has a definite form. An example of this is "All the colors make me think of flowers" given for card X. Rorschach

saw these responses as a more direct expression of the internal affective state, and in this way more egocentric. Piotrowski views CF as an indicator of "emotional lability, of desire for good social adjustment which, however, because of egocentric affectivity, cannot be realized" (1937, p. 98 in Hertz & Baker, 1943, p.10). The third type of Color response is Pure C (C). These responses are characterized by a strong response to Color and a total lack of form. "All different flavors of ice cream melting together" would be a C response to card IX. Such responses are infrequent in adults, and are understood to relate to unrestrained or primitive emotionality. Piotrowski (1937) describes C as "a propensity for impulsive emotional behavior from which all thought of social adjustment is absent" (in Hertz and Baker, 1943, p. 8).

Like the movement response, the quality of the Color response can be important. FC responses which are of poor quality (Form quality of minus) were considered by Rorschach (1942) to indicate a desire to approach the environment affectively in a person who lacks the requisite skills. Klopfer et al. (1939, in Hertz & Baker, 1943) saw it as an indicator of inadequate emotional adjustment.

Another point of consideration, in looking at

Color in the Rorschach, is the balance of the ratio FC: CF + C. Rorschach suggested a balance of 3FC: 1CF + 0C as optimal in individuals with good psychological adjustment. Beck (1938, in Baker & Hertz, 1943) expected both the quantity of FC and the weighted total FC to be greater than CF + C.

> When the score for this pattern is positive and high, the writers conclude that there is much emotional energy at the disposal of the individual and that its expression, whatever form it may take, makes for emotional rapport with the world. When the result is negative and high, considerable emotional energy is again indicated, but the expression takes the form of impulsiveness, unrestrained outbursts of temper, i.e., the more infantile and less mature emotional responses. In any event, emotional adaptability is deficient (Beck, 1938, in Hertz & Baker, 1943, p. 14).

Rappaport, Gill and Schafer (1976) suggest that at least two FC responses should be present in the average length protocol, along with one CF response, the latter showing that "the affective adaptation represented by the FC responses is not simple and complacent, but has strong drives behind it" (p. 381). Unlike other theoreticians, they do not see the presence of one Pure C response as necessarily pathognomonic, provided that a good balance of other Color scores is present as well.

Rappaport et al. (1976) describe the interpretive meaning of deviations from their formula. A few FC and no other Color responses is seen in individuals who "merely fit in with their environment" (p. 381), but

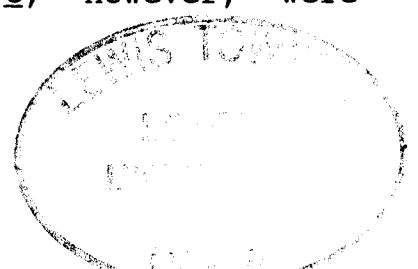
lack in zeal. They suggest that overly compliant individuals will give four or more FC percepts with no other Color responses in the record. A preponderance of CF responses, with few or no FC's indicates poor affective control and impulsivity of expression.

The conceptualization by Rappaport et al. of the Color Balance most clearly suggests that FC may be curvilinear in its relationship to good affective adjustment and, especially important for this study, empathic capability. FC is desireable in a record, but too much of this score, unmitigated by a proportional presence of CF, is a sign of constriction.

These theoretical distinctions among the Color responses are not always carried into the realm of empirical investigation. Most of the Rorschach Color studies focus on Sum C; the weighted or unweighted total of all Color responses. Still, there are a few investigations in which various Color scorings have been studied separately. One set of studies compares the quantity of FC and CF + C responses to an external criterion. Hertz (1935, in Hertz & Baker, 1943) found high CF to be related to emotional instability, poorer adaptability, and more neurotic involvement as measured on the Woodworth-Matthews Psychoneurotic Inventory. High FC scores showed the opposite picture. Ackerman

(1954) explored the relationship between FC and emotional maturity in high school students. She found that when total non-Color responses were controlled, emotional maturity correlated with FC in the expected direction.

In a study of Rorschach correlates with the MMPI, Clark (1948) found that the presence of two or more FC responses generally was correlated with good adjustment. However, such individuals also tended to be overly cautious in their social standards and both indecisive and harshly self-critical. These latter traits may increase with the number of FC's, such that too much FC, as is suggested by Rappaport et al. (1976), may be indicative of maladjustment. Unfortunately Clark gives no guidance as to when enough becomes too much. Looking at CF, Clark also found that high CF scores correlated with a lack of regard and consideration for social conventions and the feelings of others. A more recent MMPI-Rorschach study by Kunce and Tamkin (1981) found that FC correlated negatively with a profile which they associated with social extroversion; a Pd-Ma high point pair. Based on this finding, they ascribed to the high FC person "socially reserved, controlled behavior" (p. 5). Their findings on CF + C, however, were inconclusive.



Shatin (1955) looked at the relationship between Color responses and TAT stories. He reported that the TAT responses towards others of individuals high in FC are suggestive of a desire for emotional rapport. These individuals want to adapt and interact, but, much like the findings of Clark (1948), do so with a great deal of control and careful study of the consequences of any decision. As for protocols with a predominance of undercontrolled Color (CF + C), Shatin suggested that it "is directly related to verbal and emotional aggression, and represents a trend toward affective expressiveness" (p. 326). Shatin also pointed out, as have others, that excessive emphasis on form in the Color responses indicates too much inhibition of affective expression. The person's capacity for emotional responsiveness is strangled.

Bills (1953) looked at self-acceptance (as measured by the Index of Adjustment and Values) and by the Rorschach. He found that subjects with more FC than CF + C were low in self-acceptance. Conversely, those who were high in CF + C were high in self acceptance. He interpreted this to mean that people with high self acceptance scores have stronger and less well controlled emotions than those who are less accepting of themselves. These results seem counter-intuitive,

based on the other studies reported here. There are two possible ways in which this apparent contradiction can be understood. Bills's high FC subjects may have little undercontrolled Color, and thus be constricted in expression of affect, and possibly have impaired self esteem. Another possibility is that his measure of self-esteem actually measures the type of overvaluing of the self seen in narcissistic individuals, a group which would show more egocentric expression of affect (CF + C) in their protocols.

Developmental studies have consistently found more CF + C in children than in adults up to age 10. Like the Human Movement response, the amount of FC increases with age to a point where it is slightly less than CF + C (Ames, 1959; Exner, 1986; Hertz & Baker, 1943), reflecting the increase in conscious control over the emotions, emotional stability and willingness to adapt and adjust to the environment (Hertz & Baker, 1943).

In summary, Color responses are seen as expressions of a response to emotional situations which vary in the degree of cognitive control utilized. Ideally, in a normal length record (total responses = 23), individuals should have at least two, and preferably three FC responses in their records, along with one CF response and no pure C. Individuals with

this balance are attuned affectively to the environment and are able to express their feelings in a manner that facilitates emotional rapport with others. This, then, would be the expected ratio in an individual with good empathic capacity. A high number of CF's may be a signal that the "empathic connection" suggested by other variables is actually the more primitive identification discussed by Mayman (1967). Excessive FC would move the individual away from an empathic stance, as the individual becomes increasingly cautious and constricted.

Other Determinants. There are other Rorschach determinants in the Comprehensive System which are conceptually tied to empathy: the Affectivity Ratio (Afr), the Egocentricity Ratio (3r+(2)/R), Isolation Index (II), Texture (T), and Cooperative Movement (Cop). There is little or no research relating these variable to empathy. I will therefore talk briefly about the interpretation of these variables, and how each is relevant to this study.

The Affectivity Ratio (Afr), also called 8,9,10% is derived by dividing the number of responses to the three fully chromatic cards by the number of responses to the other seven. It is believed to be a measure of psychological receptiveness to stimuli which evoke

emotions. It may also indicate the person's tendency or willingness to invest energy in the cognitive processing of these stimuli (Exner, 1986; Klopfer et al., 1954). Klopfer et al. (1954) suggest that an Afr <.30 indicates either a lack of responsiveness or an inhibition of responsiveness under conditions of strong environmental impact. An Afr of ≥.40 can be understood as a strong reaction to emotional impact of the environment, even if the person does not overtly express it. As Afr is related to but not equal to the number of Color responses, it can provide an indication of affective sensitivity in subjects who give few responses which use color, making it an important additional variable for this study.

The Egocentricity Index was added to the interpretation of the Rorschach by Exner (1986). Two determinants are used to derive this variable: the pair responses (2) which are percepts that describe two of a kind based on the symmetrical properties of the blot, and reflections, responses in which two of a kind are described, based on the symmetry of the blot, but are called reflections or mirror images. The sum of pairs plus three times the number of reflections is divided by the total number of responses. Exner (1986) sites several studies by himself and his associates in which

both pairs and reflections correlate positively with an over-involvement with the self. One study took a behavioral measure, the number of times the subject looked in a mirror while waiting to be interviewed. Another correlated pair and reflection responses with the use of the pronouns I, Me or My during a 10 minute interview. Looking at demographic groups, Exner (1986) has found a low Egocentricity Index in depressives, obsessive-compulsives, phobics and psychosomatics. High scores are found in antisocial personalities, homosexuals, artists, and theatrical dancers. Children also have a high index, which gradually declines from age five to age 16. An Egocentricity Index greater than .44 in the Comprehensive System is considered high, and is found in individuals who are very self-focused, maintaining more superficial relationships with others. A low Egocentricity Index, less than .31, indicates a person with low self esteem, who feels unable to meet his/her own desires and expectations. People on both ends of the continuum may be less empathic than those in the normative range. The high scorers are overly focused on the self, and may even tend towards the percepts which Mayman relates to identification. The low group may be quite sensitive to other's cognitive and affective states. However, as this group looks to

the outside for standards and values, their focus on others would be self-oriented, essentially attending to what other expect or desire of them.

The Isolation Index (II) is derived by Exner (1986) from the scoring of content. The number of percepts which contain Clouds (Cl), Botany (Bt), Geography (Ge), Landscape (La) and Nature (Na) correlates highly with social alienation and isolation, measured by therapists' ratings (Exner, 1986). The total number of these percepts is divided by the number of responses in the protocol. It has been demonstrated that people who manifest a positive social attitude most often have an Isolation Index which is less than .25. A score greater than .25, and particularly, greater than .33 has been found to be a marker of possible social isolation. Higher scores have been found in records of withdrawn children and schizoid adults. Exner recommends cautious use of this ratio as findings are based on limited data, and many questions about the findings remain unanswered. However it is reasonable to postulate a negative relationship between the Isolation Index and empathy as one sign in a larger profile.

The Texture determinant (T) is scored where shading in the blot stimulates a perception of texture. The norm is one such response per record, in both child

and adult populations. The Texture determinant was discussed earlier in this review, as a mediating variable for movement (Kolpfer et al., 1954). Coan (1956) also suggested that a combination of Human Movement and Texture in a response is indicative of an inner sensitivity or of empathy. Exner's studies (1986) report an increase of T in women recently separated or divorced, and in children recently placed in foster homes for the first time. In contrast, the majority of foster children studied, who have not been placed within the last 14 months had no T in their protocols. Exner concluded that people with more than one T have a greater need for closeness to others, at the time of testing. A T-less protocol is found in individuals who are more distant and guarded in interpersonal interactions. Its lack of temporal stability limits the texture response's usefulness as an indicator of empathic capacity, but may be explanatory of fluctuations in an individual's empathic ability over time. For example, stronger needs for emotional connection may stimulate empathic connections.

The Cooperative Movement score (Cop) was added to the Exner Comprehensive Scoring System in 1987 (Exner), and is actually a content scoring system. Scoring criteria are cooperative, positive interaction between

two figures; human or animal. Initial investigation suggests a relationship between Cop and interpersonal skills. Cop is also found to be stable over time. As these investigations have not yet been published, this variable remains experimental in interpretation. It is useful in this study, as the only variable in the Comprehensive System which attempts to address the quality of interpersonal interaction.

Two additional Rorschach variables from the Exner system addressing style of processing information were included in this study. While it has not been examined in the empirical literature, there is a possibility that these variables, as measures of involvement with the percept and the task, may facilitate the differentiation between empathy and narcissistic interpersonal engagement, specifically, that average scores would be expected in individuals with good empathic abilities.

Organizational Efficiency (Zd), was derived by Exner from Beck's Z score, the latter being the sum of weighted response scores based on the type of organization used in the response in conjunction with the complexity of the stimuli. Exner developed a table of normative scores, the ZEst, based on the number of responses which involved organizational activity. He derived Zd by finding the difference between the

normative score for the number of organizational responses in the individual's record, and that individual's actual Z score, which he calls the ZSum. While earlier work related Z score primarily to intelligence, Exner focused instead on the relationship of his Zd to processing of information, and found two styles. Individuals with scores $\geq$ +3.0 are considered to be overincorporators, that is, they become overly involved with the stimulus field. He has found that such individuals are more cautious, even in relatively unimportant areas, and tend to be obsessive and perfectionistic. Underincorporators have scores $\leq$ -3.0. Such individuals are hasty, and thus negligent in their processing of the stimulus field. Characteristic of young children, underincorporation in adults is often associated with impulsivity, and while such individuals demonstrate faster performance, they also make more errors (Exner, 1986). A tendency towards underincorporation may be congruent with a more narcissistic style of interpersonal relationships, wherein the individual does not look closely for differentiation of self from other. Overincorporation, on the other hand, may reflect a cautious style which maintains interpersonal distance.

Exner's Lambda (L) is a ratio which compares the

number of pure form responses to the number of other responses in a record. High Lambda (>1.2) is seen to reflect cognitive economy, that is, responses are simplistic. This may serve a defensive function which is situational or stylistic, and is found to be significantly higher in individuals who manifest antisocial or asocial behaviors. Low Lambda is seen as indicative of overinvolvement in the stimuli, a state which is not subject to the individual's control because of the press of unfulfilled needs, conflicts and emotions (Exner, 1986). This inability to turn away, while mimicking involvement, may also be a manifestation of the more narcissistic merger. The other extreme, high Lambda, however, would seem reflective of interpersonal distance and a lack of empathy. For this variable, good empathic ability may be best reflected in an average score.

Multiple Determinant Studies

Viewing empathy as a multi-dimensional, complex trait, it is reasonable to suggest that a combination of variables would be more predictive of empathic capacity than a single determinant alone. Several theorists discussed in the section on concepts of empathy in the Rorschach suggested such an approach, particulary for Human Movement and Color. A few studies have attempted

this approach.

Carlson (1970) tried to find Rorschach criteria which could predict success in clinical training. She first described the characteristics of the ideal clinician, one of which is empathy. Carlson then translated these into Rorschach variables, for example, mature expression of affect and dependency was translated into Form-Color and Form-Texture responses. The resulting "psychogram" was:

$\underline{M} \geq \underline{\text{Sum C}}$

$\underline{M} + \underline{FC} \geq \underline{CF} + \underline{C}$

$\underline{FC} \geq \underline{CF} + \underline{C}$

$\underline{F\%} < 50$

At least one FC and one Fc (texture) response.

She found that this psychogram was most accurate in predicting extremely successful clinicians, particularly in a group of older, heterogenous trainees. By way of explanation, Carlson suggested that her Rorschach Index "demands a degree of maturity, differentiation and experience-in-living which may not be readily found in beginning graduate students" (p. 702). There were a high number of false negatives in her sample, but this she ascribes to the intent of the index to identify only the best subjects. Carlson concluded that this particular psychogram may not be useful in the selection

of beginning graduate students because of the maturity variable, but feels that the approach which she used here shows promise as a tool of Rorschach assessment and prediction.

Berry (1970) also looked at Rorschach variables as possible predictors of success in counselor training. Using the Beck scoring system and group administrations of the Rorschach she tested subjects before and after their training. She hypothesized that subjects high in empathy, as measured on the Truax Empathy Scale would have a greater number of Human Movement (M), Form-Color (FC) and Human Content (H) responses, all of good form quality, as well as less Animal Content (A) responses than the low empathy subjects. Berry did find a trend in the expected direction, but it was non-significant ($p<.10$). She suggested that the weakness of her results could be due to her choice of empathy measure. The Truax Scale, designed to measure empathic skills in therapists, has been demonstrated to have face, but not construct validity. Another problem was a restriction in range of empathy in her subjects. Last, she pointed to Klopfer's (1954) hypothesis that predictions and correlations which are based on individual administrations may not be transferable to protocols from a group administration.

Makowski (1980), using college undergraduates, also tried to identify a set of Rorschach signs which would correlate positively with a good empathic capacity. She too used the Truax as her measure of empathy, and administered the Rorschach in group format. Her formula, using Beck's scoring system, was:

M > 3

FC > 3

FC > CF

No C responses.

Makowski's hypothesis was not supported. She suggested several factors which may have led to this result. Like Berry, she pointed to the lack of construct validity for the Truax, and noted, further, that it is designed for trained therapists, thus may not be effective as a measure of empathy in untrained undergraduates. Makowski also cited a restriction of range in her subjects, and the group administration of the Rorschach as possible problems.

These studies, with their mixed results, point up some of the considerations and possible confounds in such research. Still, there may be a link, admittedly a weak one, between some combination of the variables M, FC, CF, and H, in specific proportions, and good empathic capacity. A study using a more appropriate

measure of empathy, individual Rorschach administration, and a sign system that accommodates to the population being studied may have more success.

Content Scoring Scales

It has been suggested by theorists in the Object-Relations school, that the content of a Human or Human Movement response tells much more about the quality and nature of a person's interpersonal perception and interaction than is conveyed by quantity alone. Phillips and Smith (1953) state "The M response is a perception of human activity two steps removed from the stimulus material and so is particularly conducive to the expression of the individual's characteristic attitudes and fashions of behavior. From these, interpersonal relations may be inferred" (in Pruitt and Spilka, 1964 p. 332).

Hertzman and Pearce (1947) were the first to systematically investigate this idea. They administered Rorschachs to subjects prior to the start of treatment. After six months of therapy they had the therapists look at the Human Content responses in their patient's Rorschachs for images with personal relevance, based on material which had emerged in treatment. Identifiable, though perhaps unconscious, personal meaning was found in 75% of the human figures.

As was discussed in the section on concepts of empathy in the Rorschach, Mayman (1967) also endorsed a focus on the quality and nature of the percepts, emphasizing a differentiation between responses based on empathic relatedness and those based on the dissolution of ego boundaries (see Appendix A). He reported a 1966 study in which human percepts were excerpted from the Rorschachs of the seven best and the seven poorest psychiatric residents. Raters were asked to identify which of the two groups had generated each response. Findings were accurate, in consensus, 90% of the time, and within each percept, there was most often unanimity. Another study investigated the degree to which human percepts on the Rorschach test, when rated for psychopathology, would correlate with clinical assessment. Assessing only the excerpted Human responses, each protocol was rated on the Luborsky Health-Sickness Scale (1962, in Mayman 1967). These ratings were found to correlate significantly and in the expected direction with eight of the 12 variables rated in the clinical assessment: severity of symptoms (r=-.63), extent to which environment suffers (r=-.59), level of psychosexual development (r=.71), patterning of defenses (r=.81), anxiety tolerance (r=.67), ego strength (r=.79), motivation for change (r=.71), and quality of

interpersonal relationships (r=.77).

Mayman's rating criteria, as can be seen in Appendix A, are rather loose, leaning toward the intuitive side of the fence. He uses consensus scoring and inter-rater reliability to achieve consistency. This works well for a small number of subjects, but would be cumbersome in larger studies.

Pruitt and Spilka (1964) developed a scale for measuring "an individual's ability to empathize with others and establish object relationships" (p. 335) in the Rorschach which offers more specific scoring criteria. The Rorschach Empathy-Object Relationship Scale (RE-OR) assesses percepts which have Human Content, Fantastical Human Content, or representations of humans in them. It also includes animals or animated objects in a human type action (see Appendix A). Weights were assigned to each category "on the rational basis that both the kind and the quantity of Rorschach Human Movement and Content responses are objective measures of empathy-object relationships" (p. 333). The total weighted score is divided by the number of responses, to control variation in the number of responses. Pruitt and Spilka suggested that the weight of each item "represents the manner in which a person's human and human-like percepts reflect his capacity and

mode of relating to other people" (p. 335).

Pruitt and Spilka (1964) used their scale in a study on the effects of group therapy and vocational rehabilitation on emotionally disturbed people. They found that subjects who attended group therapy had more human movement and content responses than the non-therapy group, responses which were less distanced and more specific. They also found a significant increase over time in the scores of the therapy group members. Lerner (1975), in his review of studies which assess interpersonal relations on the Rorschach noted that the study just described is the only one in the literature which utilizes the RE-OR. He stated that "although these preliminary findings are encouraging, more research is clearly required" (p. 325).

Urist (1977) also believes that a systematic, qualitative assessment of the relationship between the figures within a percept, moving or not, should reflect the individual's definition and experience of human relationships. He suggests that this is the case for all relationships depicted in the content of the Rorschach: people, animals, plants, inanimate objects vague forces, and so on. It also applies to percepts in which a relationship is implied but not explicit. He offered, as an example of this, a squashed bug (Urist &

Shill, 1982).

Urist's scale measures the "attainment of capacity to attribute to others an autonomous, inherent identity and to cathect them in their own right" (1977, p. 3). He delineates this on a continuum which ranges from primary narcissism to empathic object-relatedness (see Appendix A). His scale, theoretically rooted in the work of Kernberg and Kohut, describes a developmental progression toward separation-individuation. This measure was validated on 40 adults in a psychiatric inpatient facility. Scores on the Mutuality of Autonomy Scale were correlated with staff ratings on a comparable measure, as well as with patients' autobiographies. Results showed good inter-rater reliability, and supported a strong positive relationship between all three measures.

In a second study, Urist and Shill (1982) controlled for the effect of other variables on the rating of percepts by excerpting only the parts of the response that were directly relevant. The excerpted percepts were rated with the Mutuality of Autonomy Scale and compared with a comparable rating of each subject's record by an independent clinician. The overall score for the Rorschach percepts correlated highly with the clinical ratings (r=.53, p=.001). As with Pruitt and

Spilka's scale, there are no reports in the literature of applications of this scale, thus it too must remain in the realm of a promising but as yet unsupported method.

There are other content scoring scales which assess degree of object relations. A notable one designed by Blatt, Brenneis, Schimek and Glick (1976, in Blatt and Lerner, 1983), looks at degree of differentiation, accuracy, and content of the human percepts. Less known is the Rorschach Interaction Scale, designed by Graves and Thomas (1981) to examine different approaches by individuals to human relationships. This latter scale has been used primarily in investigations of the relationship between interpersonal style and physical health. Neither of these scales is seen as appropriate to the current study, but they do demonstrate a recent trend towards a more qualitative orientation in investigation of interpersonal relationships through the Rorschach.

STATEMENT OF THE PROBLEM

It seems likely that, if there are any factors in Rorschach which are associated with empathic ability, they will be one or more of the determinants or contents reviewed here. However, the manner in which they might relate to empathy is far from clear. This study will explore some of the possibilities suggested in the literature (summarized below), applying cross-validation methodology as a control. Using half of the sample, the variables will be examined for both linear and curvilinear relationships to two types of empathy, emotional and cognitive, as measured respectively by the Empathic Emotional Concern (EPT) and Empathic Perspective Taking (EPT) scales of the Interpersonal Reactivity Index (Davis, 1980). Optimal combinations of variables will also be explored. Any variables or combinations retained will then be applied to the second half of the sample for cross-validation.

While there are no formal hypotheses proposed in this study, there are a number of specific areas of investigation suggested by the literature, which will be used to structure the data analysis.

1. Two Rorschach variables, Human Movement and Color, which are most consistently linked in theory to empathy

are expected to have significant relationships to the measures of empathy.

2. Both Human Movement and Color can be broken down into sub-categories to investigate the relationship further.

   a. Movement: sub-categories are Movement responses which contain only whole human percepts, and all Human Movement responses. The literature suggests that whole human percepts may be better indicators of empathic capability.

   b. Color: sub-categories are Color responses dominated by form (FC) and those in which the chromatic aspects predominate (CF). There is some reason to believe that the form dominated response may relate more strongly to empathic capability, but a combination of both types may in fact be optimal.

3. The literature indicates that it is the movement in Human responses, rather than the Human Content alone which reflects empathic capacities. Human Content responses, which do not necessarily involve movement will be included in the study to investigate this belief. Sub-categories are Whole Human Content, and Partial and Fantastical Human Content. These are not expected to bear a significant relationship to empathic

capability.

4. Some other Rorschach variables may also be related to Empathic Emotional Concern or to Empathic Perspective Taking, although the nature of the relationships suggested by the literature is more equivocal. These variables are the Affectivity Ratio (Afr), Isolation Index (II), and the Texture response (T).

5. The literature suggests that the quality of the Rorschach response may distinguish empathic capability from a more narcissistic type of merger, to the degree that it reflects the sturdiness and flexibility of interpersonal boundaries. Quality, in the sense meant here, is assessed by several Rorschach variables.

a. Form quality can be used to make this distinction. Thus and Color responses with good form quality (defined here as Exner's +, o, or u form quality), the literature suggests, should have a positive relationship to measures of empathy that is more significant than that of total Human Movement and total Color.

b. Organizational Efficiency (Zd) and Lambda, two other Rorschach variables which are related to the degree of involvement with a response may have relationships to empathic capability. Good empathic capability would be expected to be

manifested in average scores.

6. Content of the Human and/or Movement responses may distinguish between empathic capability and more primitive forms of interpersonal engagement. Measures evaluated are Cooperative Movement (Cop) (Rorschach Workshops, 1986), The Rorschach Empathy-Object Relations Scale (RE-OR) (Pruitt and Spilka, 1964), and the Mutuality of Autonomy Scale (Urist, 1982).

7. A combination of the selected variables is expected to have a stronger relationship to empathic capability than any one of the Rorschach variables or content scoring systems alone.

METHOD

Subjects

All data was be drawn from the test archives maintained by the Assessment Laboratory in Loyola University's Department of Psychology. This database consists of assessment batteries given to undergraduate psychology students, who received extra credit for their voluntary participation. Anonymity is maintained through a coding system which eliminates all personal identification from the files.

The tests in the archives have been gathered over the course of three and one half years, under the supervision of a Ph.D. psychologist, as part of the Psychological Assessment class sequence taken by all first year doctoral candidates in clinical psychology. The 138 subjects used in this study were administered the Interpersonal Reactivity Index in addition to the Rorschach Ink Blot Test along with a variety of other measures (e.g., the Thematic Apperception Test, the Minnesota Multiphasic Personality Test, Projective Drawings) not utilized in this current study.

Measures

The Rorschach Ink Blot Test is a series of 10 blots administered under the standardized procedure

delineated by John Exner in his Comprehensive System (1986). Scoring of these protocols also is in accordance with the Comprehensive System. Exner has found a consistently high degree of inter-rater reliability in protocols scored according to his system. He cites coefficients which range from 87% to 98% agreement (between 20 raters on 25 records) for the variables used in this study (Exner, 1986). All protocols, once scored by the first year clinical psychology students, were rescored by an advanced graduate student under the supervision of a doctoral-level clinical psychologist. Disagreements in scoring were arbitrated by the supervising psychologist.

The Interpersonal Reactivity Index (IRI; Davis, 1980) is a multi-dimensional, self-administered measure of empathy. The instrument is composed of four sub-scales, each containing seven items. The two sub-scales which will be used in this study are Empathic Perspective Taking (EPT) and Empathic Emotional Concern (EEC). The former contains items which assess the individual's spontaneous efforts to adopt the perspective of others, such as "I believe that there are two sides to every question and try to look at them both". Empathic Emotional Concern addresses the individual's feelings of compassion, concern and warmth

towards others. One item from this scale is "I am often quite touched by things I see happen". Subjects rate these randomly ordered statements on a five point scale which ranges from 0 (does not describe me at all) to 4 (describes me very well). Ratings for items on each scale are summed to provide four sub-scale scores.

Davis (1980) has demonstrated internal reliability of the four factorially derived sub-scales, with standardized alpha coefficients which range from .72 to 78. He reports, further, that the structure underlying the sub-scales is not affected by sex, but that mean scores for females are consistently higher than those of the males, on all four sub-scales. Test-retest reliability has also been demonstrated for both sexes, with correlations on the sub-scales ranging from .61 to .81.

The Rorschach Empathy-Object Relationship Scale (Pruitt & Spilka, 1964) is applied to all Rorschach percepts containing Human Content, Fantastical Human Content, human representations (such as puppets, dolls and drawings) and content in which animals perform human activities. A weight, ranging from one to 18 is given for each percept based on the presence or absence of movement, the temporal-spatial location, differentiation of sex, and the type of figure described (that is human,

doll, etc., see Appendix A for complete criteria and weights). The total score is divided by the number of responses in the protocol, so as to control for individual variation in response production. Pruitt and Spilka report the reliability of their scale to be good on two administrations of their measure (r=.66 on the first trial and r=.59 on the second; p<.01 on each).

The Mutuality of Autonomy Scale (Urist, 1977) is a content scoring system for the Rorschach Ink Blot Test. It is composed of seven points which delineate the development of object relations from the undifferentiated stage of Envelopment-Incorporation to the highly evolved stage of Reciprocity-Mutuality (see Appendix A for the specific stages and scoring criteria). All responses which depict a relationship receive a score. In addition to human interaction, this scale is applied to relationships among fantastical creatures or people, animals, plants, inanimate objects and vague forces. It also is utilized on percepts which contain only an implied relationship, such as a squashed bug (Urist & Shill, 1982).

Urist (1977) reports reliabilities for the Mutuality of Autonomy Scale in terms of percent of agreement between two raters. The two raters came within one point of each other 86% of the time.

Agreement within 1/2 of a point occurred on 66% of the responses, and on 52% there was exact agreement. Urist and Shill (1982) found an exact hit rate of 58% on a study of excerpted responses and scores given by the raters fell within one point of each other 72% of the time.

Urist and Shill (1982) also provide some construct validity. Mutuality of Autonomy Scores on the Rorschach correlated significantly (r=.53, p=.001) with scores attained from the application of the same scale to the individual's clinical record.

Procedure

The data used in this study is archived in the Testing Library of the Loyola University Psychology Department. Consent for the test results to be used in later research was obtained at the time of testing.

The sample of subjects (n=138) was split in half, with the halves matched for gender distribution of the subjects (males, n=25; females, n=44) and time of testing during the academic year. For the first half, Rorschach protocols were scored on the Mutuality of Autonomy Scale and the Rorschach Empathy-Objects Relationship Scale, in addition to the formal scoring of determinants described above. These data were be analyzed, using the Statistical Package for the Social

Sciences-X (SPSS-X) computer program. Categorical analyses of the relationship between the various Rorschach variables and the two scales of the IRI were performed. These included exploration of both linear and curvilinear models. Composite scores, based on significance level of the selected predictors, were also derived. Variables and composites which demonstrated significant differences with the empathy measures were scored for the second half of the protocols and submitted to a cross-validational analysis.

RESULTS

Results of the analyses on the first sample (n=69) which utilized Empathic Emotional Concern (EEC) as the independent variable were in line with a number of the possibilities suggested in the literature; however, none of these results were confirmed on the validation sample (n=69). The means and standard deviations for the significant variables at each level of Empathic Emotional Concern are reported for both samples in Table 1.

The significance found in the initial sample, well beyond chance (seven of the 17 variables were significant at $p<.05$ or better), its concordance with the literature, and the complete lack of corroboration in the cross-validation sample point toward the hypothesis that one or the other sample is aberrant. Therefore, the un-cross-validated results of the initial sample will be reported in the subsequent sections.

Individual Variables

Rorschach determinant variables were adjusted for response length by setting each in ratio to the number of responses. These adjusted values were used in all subsequent analyses. One-way Analyses of Variance were performed on all the Rorschach variables and variable

Table 1

Empathic Emotional Concern

Descriptive Statistics for Levels in Samples I and II

	Sample I			Sample II		
Rorschach	Low	Mid	Hi	Low	Mid	Hi
Variable	n=19	n=25	n=25	n=30	n=24	n=15
Whole Human Mvmt						
Mean	.15	.13	.09	.13	.11	.13
SD	.14	.07	.10	.08	.06	.09
Total Human Mvmt						
Mean	.25	.25	.17	.23	.21	.23
SD	.16	.11	.10	.10	.11	.15
Total Color						
Mean	.17	.20	.13	.19	.19	.19
SD	.10	.11	.08	.12	.08	.13
Egocentricity						
Mean	.46	.50	.37	.46	.44	.47
SD	.17	.19	.14	.15	.10	.16
Whole Good Human Mvmt						
Mean	.13	.12	.08	.12	.09	.10
SD	.12	.07	.08	.06	.06	.07
Total Good Human Mvmt						
Mean	.20	.20	.14	.19	.17	.18
SD	.12	.10	.08	.09	.09	.12
Organization (Zd)						
Mean	-.42	1.58	-1.54	1.18	.21	-.93
SD	3.33	4.71	5.40	4.36	4.95	5.10
Lambda						
Mean	.60	.49	.89	.54	.54	.56
SD	.30	.29	.52	.34	.39	.39

sub-categories selected for study, using the two Interpersonal Reactivity Index empathy scales as independent variables. Significant results were probed using Student Newman Keuls analyses (p=.05). Where the assumption of homogeneity of variance was not met, Kruskal Wallis One-way ANOVA's are reported and probes of significance were performed using a Mann-Whitney U. Results of the probes are reported in Table 2.

No significant results or trends were found when the scale of Empathic Perspective Taking served as the independent variable. However, ANOVA's which used the scale of Empathic Emotional Concern (EEC) as the predictor yielded significance in many areas of this study. Consequently the following results to be reported are only those of the initial sample and using levels of Empathic Emotional Concern as the independent variable.

Human Movement. The literature suggests that Human Movement responses in the Rorschach are related to empathic capability, with Movement percepts containing Whole Human Content being the better indicator than total Human Movement. As Whole Human Movement was not homogeneous in variance, a Kruskal Wallis ANOVA was conducted for Empathic Emotional Concern. This yielded a significant difference, chi^2 (2)=6.89, p=.04. Probes

Table 2

Significant Differences Between Cell Means for Empathic Emotional Concern

Variable	levels	p	levels	p	analysis
Human Movement	1>3	.05	2>3	.02	MWU
Total Human Movement	---	--	2>3	.05	SNK
Total Human Movement	1>3	.02	2>3	.003	MWU
Total Color	---	--	2>3	.05	SNK
Egocentricity	---	--	2>3	.05	SNK
Whole Good Human Mvmt	1>3	.05	2>3	.02	MWU
Good Human Movement	1>3	.05	2>3	.05	SNK
Good Human Movement	1>3	.02	2>3	.003	MWU
Zd	---	--	2>3	.10	Sch
Lambda	1<3	.07	2<3	.002	MWU

SNK = Student Newman Keuls Analysis
MWU = Mann Whitney U Analysis
Sch = Scheffe's Analysis

using Mann-Whitney U found the mean rank for low EEC (M=.15) to be significantly higher than that of the high level group, (M=.09), z=-2.00, p=.04. The mean rank for the middle (M=.13) level was also significantly greater than that of high (M=.09) Empathic Emotional Concern, z=-2.28, p=.02.

The ANOVA for Empathic Emotional Concern (EEC) employing Total Human Movement as a dependent variable also yielded a significant difference (F (2,66) =3.14, p=.05). A probe, utilizing a Student Newman Keuls Analysis ($p \leq .05$) demonstrated that the scores on this variable for the middle level EEC group were significantly higher (M=.25) than those of high level group (M=.17). The low level group (M=.25) was not significantly distinguished from the other levels. To facilitate comparison of the relative strength of the relationships of the two human movement variables to Empathic Emotional Concern, a Kruskal Wallis ANOVA was performed on Total Human Movement which yielded a significant difference, chi^2 (2)=9.68, p<.01. Probes of this finding located this difference between the mean ranks of low and high levels of Empathic Emotional Concern, z=-2.24, p=.02, as well as between the middle and high levels of this measure, z=-2.92, p=.003, with mean rank for high level EEC significantly lower than

those of the other two levels. The relatively stronger relationship between Total Human Movement and Empathic Emotional Concern on the non-parametric analysis, as well as its significance on the more powerful parametric test suggests that total quantity of Human Movement may be the more important factor in assessing empathic capability than only the number of Whole Human Movement percepts.

Color. There is some support in the literature for a relationship between Rorschach Color responses and the emotional aspects of empathy, with the implication that form dominance in these responses may also be a factor. The ANOVA for Empathic Emotional Concern yielded a significant difference for Total Color Responses (F (2,66) =3.42, p=.04), with the middle level group (M= .20) scoring significantly higher than the high (M=.13) level group on this variable (Student Newman Keuls, p = .05). However, significant relationships were not found when Color responses were divided on the basis of form dominance. There was also no support for the superiority of the specific color ratio suggested in the literature (2FC + 1CF + 0C) as an indicator of emotional empathic capability. Together, these findings indicate that it is the total number of Color responses, regardless of form dominance, that

bears a relationship to emotional aspects of empathic capability.

Egocentricity. The ANOVA for Empathic Emotional Concern yielded a significant difference for Egocentricity (defined operationally as the number of pairs plus the number of reflections times three, divided by the total number of responses) ($F(2,66)=4.13$, $p=.02$), supporting the suggestion that degree of self involvement may be related to empathic capability. Probing, utilizing Student Newman Keuls demonstrated that the significant difference lies between the middle ($M=.50$) and high ($M=.37$) levels of Empathic Emotional Concern (EEC), with the high EEC group scoring significantly lower than those individuals in the mid-level range.

Human Content. Supportive of existing literature on the topic, ANOVA's for Empathic Emotional Concern with the categories of human content demonstrated no significant differences using these variables.

Other Rorschach Variables. There were no significant differences on level of Empathic Emotional Concern for the Affectivity Ratio, the Isolation Index, or Texture Responses.

Response Quality. A consistent theme in the Rorschach empathy literature concerns the importance of

the quality of the response in distinguishing empathic capability from more primitive forms of interpersonal engagement. This was explored using form quality, as well as the Rorschach summary scores Zd (Organizational Efficiency) and Lambda.

Form Quality in Human Movement Responses: A significant difference was demonstrated for the variable Whole Good Human Movement. The Kruskal-Wallis ANOVA for Empathic Emotional Concern yielded a significant difference on this variable (chi^2 =6.28, p=.04). Probes using the Mann-Whitney U identified significant differences in mean rank between middle (M=.12) and high (M=.08) levels of Empathic Emotional Concern, z=-2.3, p=.02, and between mean ranks for the low (M=.13) and high (M=.08) levels, z=-1.94, p=.05. In both cases, the high level group had the lowest rank on this variable.

Looking at all Good Human Movement responses, the ANOVA for Empathic Emotional Concern (EEC) also yielded a significant difference (F (2,66)=3.45, p=.04). Probing of these results using the Student Newman Keuls (p =.05) analysis did demonstrate a significant difference between low (M=.20) and high (M=.14) levels of Empathic Emotional Concern, once again, with the mean score for the higher group being significantly lower. The mid-level group (M=.205), with a mean almost

identical to the low group was not significantly different at the .05 level from high Empathic Emotional Concern, however, the pattern of mean rank again showed higher scores for the mid-level group, in comparison to the high EEC subjects.

A non-parametric ANOVA was also performed on Total Good Human Movement, to facilitate comparison to the variable of good whole human responses. This Kruskal Wallis ANOVA for Empathic Emotional Concern also yielded a significant difference, chi^2 (2)=10.61, p=.005. Probes utilizing the Mann-Whitney U analyses identified a significant difference in mean rank for low and high levels of Empathic Emotional Concern, z=-2.38, p=.02, as well as between the middle and high levels, z=-2.97, p=.003, with the same pattern of difference seen on the parametric analysis. The comparison of the two variables on the non-parametric measure of significance shows results comparable to those found above, on the total Human Movement variables. Narrowing the category to only Whole Human Responses did not strengthen the relationship to Empathic Emotional Concern (EEC).

Comparable variables for poor human movement were not significant for levels of Empathic Emotional Concern.

Form Quality in Color Responses: Sub-categories

based on form quality for Color responses were not significantly related to Emotional Concern.

Organizational Efficiency (Zd): The ANOVA for Empathic Emotional concern yielded a significant trend on Zd, ($F(2,66)= 2.86$, $p < .06$). Results were probed using a Scheffe ($p = .10$) analysis. This probe demonstrated a trend towards significance between the middle ($M=1.58$) and high ($M=-1.54$) levels of Empathic Emotional Concern, with the mean for mid-level subjects being higher on this variable. While these are not vigorous relationships, it appears likely that organizational efficiency may have some impact upon empathic capability.

Lambda: The Kruskal Wallis ANOVA for Empathic Emotional Concern yielded a significant result for this variable, chi^2 $(2)=10.356$, $p=.006$. Probes of these results found the mean rank for the middle level group ($M=.49$) to be significantly smaller than that of the high ($M=.89$) level of Empathic Emotional Concern, $z=-3.13$, $p=.002$. There was also a trend towards difference between the low ($M=.60$) and high ($M=.89$) levels, $z=-1.80$, $p=.07$, again with the high level group ranking higher on this variable. Thus the ability to simplify and disengage from stimuli, measured by Lambda, appears to vary directly with the level of Empathic Emotional

Concern.

Content Scoring Systems

The Rorschach literature on empathy suggests that a distinction can be made regarding empathic capability through an evaluation of various content features of the Rorschach responses. In this study, none of the three systems employed (Rorschach Empathy-Object Relations Scale, Mutuality of Autonomy, and Cooperative Movement) were found to yield significant differences using levels of either Empathic Emotional Concern or Empathic Perspective Taking as independent variables.

Combined Variable Analyses

Variables which were found to have significant differences between levels of Empathic Emotional Concern were converted into a z-score format, and then combined together to explore the possibility of an optimal combination which would better discriminate between the three levels of this measure than did the single variables. As the variable Lambda had demonstrated a pattern of means which was the opposite of all other variables, it was given a weight of -1 in the composite variables.

Combinations which yielded the highest levels of significance all included the Rorschach variables Total Color Responses and Egocentricity. Most of the best

combinations also included a human movement variable, either Total Human Movement or Good Human Movement. All included a variable which was thought to assess boundaries, either Zd, or Lambda. These combinations, listed in Table 3, are the ones which were significant at $p<.0005$. Follow up probes using Scheffe's analysis, found the same pattern in the combined variables as had been demonstrated in each variable individually, that is, the combinations discriminated between low and high levels, and middle and high levels of Empathic Emotional Concern, but at a higher level of significance ($p=.01$ and $p=.005$ respectively).

Comparison of the Samples

As none of the results for the initial sample cross-validated, the two samples were contrasted on the overall means and distributions on the variables of interest in this study. Means and standard deviations are listed in Table 4. The goal was to determine if differences existed between these samples that could, in some way, help explain the inability to cross-validate initially impressive findings. Differences between the variable means of two samples were evaluated by t tests, and F tests assessed homogeneity of variance.

The t test of the Interpersonal Reactivity Index variable Empathic Emotional Concern (EEC) yielded a

Table 3

ANOVA's for Combined Variables

Variable Combinations	F(2,66)	p	Group Means		
			low	mid	high
Total Human Movement + Total Color + Zd + Egocentricity + L	10.97	.0001	.51	1.64	-2.03
Good Human Movement + Total Color + Zd + Egocentricity + L	11.11	.0001	.48	1.68	-2.04
Total Human Movement + Total Color + Egocentricity + L	9.54	.0002	.58	1.28	-1.72
Good Human Movement + Total Color + Egocentricity + L	9.91	.0002	.55	1.33	-1.74
Total Color + Egocentricity + L	9.81	.0002	.34	1.08	-1.34
Good Human Movement + Total Color + Zd + L	9.75	.0002	.36	1.34	-1.62
Total Human Movement + Total Color + Zd + L	9.41	.0003	.39	1.30	-1.60
Total Human Movement + Total Color + Zd + Egocentricity	9.15	.0003	.35	1.22	-1.49
Good Human Movement + Total Color + Zd + Egocentricity	9.30	.0003	.33	1.26	-1.51

L = Lambda
Zd = Organizational Efficiency

Table 4
Descriptive Statistics for Samples I and II

Variable	Sample I		Sample II	
	Mean	SD	Mean	SD
Age	19.01	1.85	18.90	1.43
EEC	21.71	4.41	20.35	4.16
EPT	18.25	5.03	15.58	5.41
Response Number	21.70	8.48	21.55	8.49
Whole Human Movement	.12	.10	.12	.08
Total Human Movement	.22	.13	.22	.12
Total Color	.16	.10	.19	.11
Form Dominated Color	.08	.07	.10	.08
Color Dominated Form	.08	.08	.08	.07
Egocentricity	.44	.17	.45	.14
Whole Human Content	.14	.11	.14	.08
Human Detail and Fantasy	.15	.09	.13	.09
Affectivity Ratio	.48	.19	.48	.19
Isolation Index	.20	.10	.20	.12
Texture	.04	.04	.04	.05
Good Whole Human Mvmt	.11	.09	.10	.06
Good Human Mvmt	.18	.10	.11	.06
Poor Whole Human Mvmt	.02	.03	.02	.03
Poor Human Mvmt	.04	.06	.04	.05
Organization (Zd)	-.10	4.79	.38	4.74
Lambda	.67	.43	.55	.37

significant trend in the difference between the means, $t(136)=1.87$, $p=.064$, with Sample II being lower. A significant difference with the same pattern of means was also found for the Empathic Perspective Taking scale of the Interpersonal Reactivity Index, t $(136)=3.00$, $p=.003$. The only significant difference between the means for the Rorschach variables was in the higher amount of Total Form Dominated Color (FC) in Sample II, t $(136)=-1.94$, $p=.054$, and a significant trend for Lambda to be higher in Sample I, t $(136)=1.82$, $p=.070$. The F tests for homogeneity of variance yielded a lack of homogeneity between the two samples on the variables Good Whole Human Movement, $F=2.00$, $p=.005$, Total Whole Human Movement, $F=1.88$, $p=.01$, Total Whole Human Content, $F=1.99$, $p=.005$, and Age, $F=.168$, $p=.033$.

Tests for differences between the two samples on significant variables at each level of the independent variable Empathic Emotional Concern, which were also performed, proved more informative. Descriptive statistics and significances for these comparisons are reported in Table 5. Significant differences between means of several crucial variables which did not appear in the overall analysis were found when comparing the high Empathic Emotional concern (EEC) groups. There was a significant trend of higher means in Sample II for

Table 5

Descriptive Statistics for Significant Variables in Samples I and II at Each Level of EEC

	Low EEC		Mid EEC		Hi EEC	
	I	II	I	II	I	II
Variable	n=19	n=30	n=25	n=24	n=25	n=15
Whole Human M						
Mean	.15	.13	.13	.11	.09	.13
SD	.14	.08***	.07	.06	.10	.09
Total Human M						
Mean	.25	.23	.25	.21	.17	.23
SD	.16	.10**	.11	.11	.10	.15
Total Color						
Mean	.17	.19	.20	.19	.13	.19*
SD	.10	.12	.11	.08	.08	.13**
Egocentricity						
Mean	.46	.46	.50	.44	.37	.47**
SD	.17	.15	.19	.10**	.14	.16
Whole Good Human M						
Mean	.13	.12	.12	.09	.08	.10
SD	.12	.06	.07	.06	.08	.07
Total Good Human M						
Mean	.20	.19	.20	.17	.14	.18
SD	.12	.09	.10	.09	.08	.12
Organization (Zd)						
Mean	-0.42	1.18	1.58	.21	-1.54	-0.93
SD	3.33	4.36	4.71	4.95	5.40	5.10
Lambda						
Mean	.60	.54	.49	.54	.89	.56**
SD	.30	.34	.29	.39	.52	.39

* $p = .10$
** $p = .05$
*** $p = .01$

total color, t (20.07)=-1.82, p=.08, and a similar pattern which was significant at the .02 level for form dominated color, t (38)=-2.39. The mean for egocentricity in Sample II was also significantly higher at this level of Empathic Emotional Concern, t(38)=-2.01, p=.05, while that for Lambda was lower, t(38)=2.14, p=.04. The two low EEC groups had some significant differences in variance on the movement variables and form dominated color, while for the middle groups, no significant differences whatsoever were found between means and variances in the two samples.

DISCUSSION

The goal of this study was to identify variables in the Rorschach Ink Blot Test that might be predictive of Empathic capability, as measured by two scales from the Interpersonal Reactivity Index (Davis, 1980). To accomplish this, the study examined the relationship between these scales and both individual and composite Rorschach variables suggested in the literature. Significant results from the initial analyses were evaluated in a cross-validation study. While the first sample revealed significant results congruent with the literature beyond a degree expected by chance, there was no replication with the second sample. This investigator adopted the hypothesis that the second sample was aberrant, and proceeded to seek sources of difference. These are addressed in the first section of this discussion. Subsequent sections discuss the results of the first sample, recognizing that these are not cross-validated and therefore may be sample specific. While this curtails the validity and the clinical utility of these results, the reader may still find useful the Rorschach profiles that emerge of the subjects at different levels of emotional empathy and the increased discriminative power of the composite

the increased discriminative power of the composite variables over individual variables. The results of this study also stimulate some suggestions for future research, the last section of this Discussion.

Failure of the Cross-Validation

The nature of the sample selection, and subsequent division into two sub-samples is believed to have controlled for differences in subject demographics and examiner experience. Thus it appears most probable that differences subsequently identified between the samples are due to chance.

The first noteworthy difference was between the means of the two samples on the independent variable central to this study, Empathic Emotional Concern (EEC). Sample II had fewer subjects with high EEC scores, resulting both in decreased consistency in the distribution of subjects across the levels of that variable for the second sample, and fewer subjects in Sample II at the level which was most strongly discriminated by differences in Rorschach variables, high Empathic Emotional Concern.

The second difference to note between the samples is the change in means for several important Rorschach variables at the high level of EEC across the two samples. These values differed significantly for

egocentricity and Lambda, and there was a trend towards significance for total Color. In Sample II, these values were essentially indistinguishable from the means at the other levels. Once again, this reduced capacity to discriminate between the high level of Empathic Emotional Concern (EEC) and the other two levels may have had a major impact on the outcome of the attempted cross-validation.

Differences between the variances of the Rorschach movement variables in the two samples may also have contributed to the discrepant results of the cross-validation, though the nature of the effect is not clear.

The Independent Variables

This study adopted Davis's (1980) position that empathy is multi-dimensional and should be measured as such, with a primary distinction between the cognitive and affective features. It would follow that the pattern of relationships between the Rorschach variables and the two independent variables, Empathic Emotional Concern (EEC) and Empathic Perspective Taking (EPT), would differ. This is true, to the extent that were no significant relationships between the Rorschach variables selected here and the cognitive empathy measure, Empathic Perspective Taking. There are several

ways of understanding this lack of relationship. One possibility is that the Rorschach variables in this study, those identified as relating to empathy or its features, are not congruent with the element measured by this scale, that is, the degree to which an individual can adopt another's point of view. However, much of the literature points to just such a capacity in relationship to Human Movement and to a lesser degree, in form quality. A more likely possibility is that the impact of affect upon Rorschach responses is such that it cannot be neatly separated out. Any relationship to a scale such as Empathic Perspective Taking which eliminates all emotional components would thus be watered down or non-existent.

Empathic Emotional Concern (EEC), the scale which, according to Davis (1980), measures the tendency of the individual to have feelings of warmth, compassion and concern for others, was found to have significant relationships to many of the Rorschach variables in the first part of this study. It seems likely that this aspect of empathy is the defining feature of the construct as discussed by Rorschach theorists and researchers.

The Rorschach Variables

The assumptions of this study were, first, that

certain Rorschach variables would be significantly related to an external measure of empathy, and, second, given the complexity of the construct, that manifestations of empathic capability in the Rorschach would be maximally discriminated by a composite or combination of several variables, an empathy profile of a sort. It is in this latter configuration that the results of Sample I become most meaningful, although for clarity, I will first discuss the relevant variables separately. In point of fact, however, they are not independent, and the aspects of the construct empathy which each addresses overlap.

As defined in the literature review for this study, a measure of empathy should be able to assess the individual's ability to perceive the world, both cognitively and affectively, from another's perspective, all the while remaining secure in his/her own sense of self. The empathic individual would have available imaginal and affective resources in which a balance between control and spontaneity have been achieved. This person would have an interest in engaging with and understanding others without confusing the self/other boundaries, and have the flexibility to both approach and, when indicated, withdraw from such involvement.

This study identified Rorschach variables and

their features which could theoretically reflect different aspects of this profile (i.e., Human Movement, Color and Affectivity Ratio, Egocentricity, and several possible indicators of boundaries) and in Sample I, found a sub-set which successfully discriminated the high level of Empathic Emotional Concern (EEC) from middle and sometimes low levels of that variable. It should be noted, however, that no variable discriminated between the low and middle levels of EEC, bringing in to question their treatment as separate groups at all.

Of the Movement variables considered to be possible indicators of the imaginal aspects of empathy, the total number of Movement responses proved to be best able to discriminate individuals with high scores in Empathic Emotional Concern from those with middle or low scores. Good Human Movement was also a good discriminator, but this may be a function of low amounts of Poor Human Movement overall. Thus it may not be the better choice. The supposition that Whole Human Movement responses would be superior in this capacity was not supported. This could be an artifact of the lack of homogeneity of variance in that variable for this sample, or it may be that, in relation to empathy, the nature of the Human Content is not relevant. Some support for this latter construction can be found in the

lack of findings for any of the content based scales, to be discussed below, and the consistent pattern of the means across the three levels of all the Human Movement variables; for all these variables, the high level EEC group had significantly less Human Movement. This pattern is at first surprising, as much of the literature suggests that empathy and Human Movement would have a linear, positive relationship. However, Dana (1986) does point out that the Human Movement response reflects potential for involvement as opposed to actual behavior. It is conceivable that as this imaginal involvement increases past a certain point actual engagement becomes less likely. Further, to the extent that Human Movement, as Lerner (1975) hypothesizes, is related to the self-side of the self/other experience, movement responses, beyond a certain percent of the record, may reflect a move into self-oriented engagement. The nature of the involvement may shift towards the narcissistic side of the scale, with a concomitant decrease in empathic capability.

Addressing the more purely affective aspects of empathy, the total number of Color responses was the only color variable which discriminated between levels of Empathic Emotional Concern (EEC). While it makes sense in theory that degree of form in, or control over,

the Color response should be a factor in empathic capability, it did not prove to be so in this sample.

Here too, the pattern of the relationship is not linear. However, this is in accordance with the literature which suggests that a higher amount of Form Dominated Color (FC) reflects constriction of affective expression. A higher amount of Color Dominant responses (CF) is considered to be related to an impulsivity in expression and a lack of regard for others. None of these characteristics are congruent with our profile of the highly empathic individual. In Sample I, the high group on Empathic Emotional Concern had significantly fewer Color responses than the middle group. Though not significant, the means for the component variables, Form Dominated Color and Color Dominant responses, also showed this same pattern. While not clearly demonstrated here, it can be argued that these results support the presence of both types of Color response, in moderate quantities, in individuals with good empathic capabilities. However, there was not support for one optimal combination, as suggested by the earlier theorists.

The Egocentricity Index in Exner's version of Rorschach Interpretation (1986) most directly addresses the individual's degree of self-involvement and the

impact of this self-involvement on interpersonal relationships. In Sample I of this study, the now familiar pattern of means at each level of Empathic Emotional Concern (EEC) again emerged; that is, while there is little difference between the low and middle groups, the high level group's scores were significantly lower than individuals at the middle level of empathic emotional concern. Further, the mean of the high EEC group falls in the middle of the range identified by Exner (1986) as balanced regarding self-other orientation, while the mean for the middle group is well into the range which Exner (1986) characterizes as Narcissistic. It is fair to say, then, that in this sample, higher levels of Egocentricity, and thus narcissism, are related to decreased empathic capacities.

Interpersonal boundaries are to some degree addressed in two of the variables already discussed. The narcissistic individual will tend to blur those boundaries in a way which can, on the surface, be confused with empathy, as was discussed in the literature review for this study. Excessive domination by form in Color responses can be indicative of overly rigid boundaries which would impede an empathic connection, while undercontrol in such responses can

reflect a disregard for others. The former (Egocentricity) has indeed been found in this sample, and the latter (Color) at least inferred. However, this study also looked at other variables which might more directly reflect the presence and flexibility of interpersonal boundaries. The variable which was most successful in doing so in this sample was Lambda. While not a measure of boundaries per se, it has been related to an ability to regulate involvement with stimuli, both an ability to engage and a healthy ability to pull back, and in this way is congruent with our empathy profile. In Sample I, Lambda significantly discriminated between high EEC and the other two levels, but in a pattern different than that of Color, Movement, and Egocentricity. The mean Lambda for the high level group was significantly higher than that of the middle or low level groups, and was one standard deviation above the normative score which Exner supplies (1986). This would indicate that, while certainly not constricted, individuals who score in the high range on Empathic Emotional Concern (EEC) are better able to pull back from overstimulating situations and re-establish, when necessary, interpersonal distance. Individuals in the middle group may tend slightly towards overinvolvement driven by unmet needs, conflicts and emotions, but

overall are firmly in the average range on this variable.

Organizational Efficiency (Zd) was also considered a variable which could provide information about the flexibility of boundaries, in that it also reflects style and degree of involvement with stimuli. The actual difference between groups found in Sample I was in the now familiar pattern of a higher score for the middle group. While suggestive, this is not clearly interpretable, for two reasons. First, the difference was a non-significant trend, and second, scores for all groups fall within the average range for this variable as defined by Exner (1986). However, it is interesting to note that the middle EEC group mean leans towards the side of overincorporation, indicative of increased caution and more difficulty pulling back from stimuli, congruent with the tendency reflected by this group's means for egocentricity and Lambda. The high EEC group, in contrast, leans an equal amount towards underincorporation, a tendency towards more spontaneous behavior. There is not empirical support for a relationship between these moderated characteristics and Zd scores within the `normal' range, but there is an intuitive sense which adds consistency to our profile of the highly empathic and moderately empathic individual.

An Empathy Composite

There is an inherent frustration in speaking of the groups in this study as more of this or less of that, without being able to provide guidelines as to what this means, both in terms of ranges and interpretation. However, the sample specific-nature of these results renders any such numbers meaningless. In addition, Movement and Color variables were most effectively studied when adjusted for the number of responses per record, essentially M% and C%. However, Exner does not norm these variables in this way. Although he too acknowledges the importance of adjusting for response length in research (Exner, Viglione & Gillepse, 1984), he also points out, in clinical application, that Color and Movement responses, along with many other types, do not increase linearly with response number (Exner, 1986). Thus, while empirical work must be performed with variables adjusted for R, there remains to be identified a way to convert the results back to clinically meaningful numbers, leaving the researcher able to discuss only relative differences, even with cross-validated data. Interpretive guidelines, given these limitations, are not possible to provide.

Respecting this limitation, and once again, the sample specific nature of the data, it nonetheless seemed worthwhile to test the hypothesis that using more than one variable to evaluate empathy would increase discrimination of degree of empathic capability. As meaningful ranges for the variables could not be established at each level of Empathic Emotional Concern (EEC), various composites of z scores from the significant variables discussed above were created, to provide an unsophisticated but effective measure of the combined dependent variables.

Discrimination between the middle and high, as well as between the low and high groups did indeed improve dramatically with the composites, but unfortunately, not in a way which provided more information about the relative importance of the component parts. The only conclusion possible from this endeavor, at this point, is the obvious one; Combining several significant variables will predictably result in an increased significance level for the composite, but there is not one clear route to achieve this. No one of the variables included was indispensible in achieving as good a significance level as $p=.002$. All the composites actually reported in the Results section, which were significant at a still higher level than $p=.002$, did

include Total Color and Egocentricity, however, when dealing with significances of this high a level, the distinction loses its meaning. It did emerge that either Total or Good Human Movement, or Total Color is necessary for a significance level less than $p=.005$, but once again, the degree to which this is useful or meaningful must be questioned, as $p=.005$ is still quite high.

Corresponding to this lack of indispensability of any one Rorschach variable, it would appear that those elements of empathy, as measured by Empathic Emotional Concern and reflected in the Rorschach variables are not exclusive to any one variable. There is considerable overlap, and the Gestalt can be expressed in a variety of ways. The clearest example of this is interpersonal boundaries which is reflected to some degree by all the variables which were significant. On a more inferential level, a high score in egocentricity, reflecting narcissistic traits may of itself say something about an individual's affective ties to the environment, making Total Color not always necessary in the composite.

More puzzling is that Human Movement, which by theory should be essential, like the other variables, was not always needed for high significance. One possible explanation may be that the elements of the

Human Movement response which are tapped by the Empathic Emotional Concern scale may be more related to ability to communicate a sense of oneself to others, as is suggested by Mueller and Abeles (1964), than to the imaginal capacity to see from another's perspective, this latter being unique to Human Movement, according to Rorschach interpretation. The former ability, however, could also be reflected in egocentricity and in the color responses, as emotional expression is a communication to others about oneself.

Content Scoring Systems

Given the emphasis upon the nature of human and Human Movement responses in relation to empathic capability in the theoretical literature, it is surprising that none of the three content scoring systems investigated here demonstrated any significant relationship to the measures of empathy. Exner's Cooperative Movement (Rorschach Workshops, 1986), the newest of the three, and still defined as experimental, may essentially prove unable to measure its purported construct. However, both Urist's Mutuality of Autonomy Scale (1982) and Pruitt and Spilka's Rorschach Empathy-Object Relations Scale (1964) are more thoroughly developed and have some limited theoretical support for their relationship to empathy. Two possibilities as to

why these measures were not significant in this study can be raised. One is theoretical: As discussed in the literature review, definitions of empathy are many, and variations in emphasis of the operational definition can dramatically alter the results in a correlational study. Thus, what the designers of these scales singled out as important representations of empathic capability may be only marginally related to Davis's definition. The second possibility is pragmatic: In neither case were the authors sufficiently clear in their scoring criteria, necessitating this author to interpolate more specific scoring rules from the proffered guidelines. It is conceivable that some important clarifications which this author made were not accurate interpretations of the Pruitt and Spilka's or Urist's intentions, thus distorting the results.

Suggestions for Future Research

The first and foremost suggestion for future research would be a second attempt at cross-validation of the results in Sample I. It would seem important, in selection of this sample, to control for group size at each level of Empathic Emotional Concern, as this is a possible source of aberration in Sample II. A sample which has a wider range of age may also be more consistently fruitful, as empathic capability may be

impeded by adolescent developmental issues (although the normative population for the Interpersonal Reactivity Index was also college students). A second external measure of emotional empathy, such as that by Mehrabain and Epstein (1972) might also be added to such a study, to confirm that this indeed is the construct being measured. Should results in this new study cross-validate, then attempts could be initiated to identify actual ranges for the variables towards the creation of clinically useful signs.

Another approach might be to form a composite empathy score from the Interpersonal Reactivity Index scales, and utilize this as the independent variable in a study similar to this one. To the extent that empathy is actually teased apart by these scales, a combination may be more congruent with Rorschach variables which in this study appear to overlap considerably in their reflection of the various aspects of empathy.

Despite the disappointing results of the content scoring systems, these may also be worth further exploration in relation to emotional empathy. Clearer scoring criteria or a different external measure of empathy might make a difference. A brave soul who is willing to struggle with the intuitively based content scoring system described by Mayman (1967) may also have

more success, for despite a growing body of empirical support stimulated by the Comprehensive System, Rorschach scoring in clinical practice remains at least partially an intuitive process. Formal content scoring systems such as those used in this study may structure out that very element within which empathic capability may be found.

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APPENDIX A

APPENDIX A

CONTENT SCORING SYSTEMS

I. Mayman's Delineation of Rorschach Human Movement Responses

Responses based on empathic forms of interpersonal relatedness	Responses based upon more extensive forms of dissolution of ego boundaries
1. A wide range of images of others; a wide range of characterizations.	1. The response is reported with extreme vividness and conviction.
2. Movement perceptions take into account the many real nuances of the perception. the subject sees and describes the "others" with objectivity.	2. The perceived action is largely fabulized rather than inherent in the percept itself. In contradistinction to the reality-orientation of the empathic M, in these, the affect-content or action which the subject "sees" is not ordinarily associated with that response, and may even be projected onto the blot in quite arbitrary fashion.
3. The quality of the percept: the Subject feels a warmth, interest, pleasure, amusement in the doings of these figures, but in a way which makes it clear he is talking about someone else.	3. The response is reported with intense absorption in the behavior of the perceived figures; he infuses himself into the figure he is describing, vicariously sharing in the other's experiences.

Mayman, 1977

II. Rorschach Empathy-Object Relationship Scale

Weight	Types of Scorable Responses
18	Human movement with sex specified and in proper temporal-spatial setting.
17	Human movement with sex specified but removed in space or time.
16	Human movement in proper temporal-spatial setting but with sex unspecified.
15	Human movement with sex unspecified and removed in space and time.
14	Human content, not in movement, sex specified and in proper temporal-spatial setting.
13	Human content, not in movement, sex specified, but removed in time or space.
12	Human content, not in movement, sex unspecified, but in proper temporal-spatial setting.
11	Human content, not in movement or space.
10	Mythological persons in movement with sex specified.
9	Mythological persons in movement with sex unspecified
8	Mythological persons not in movement with sex specified.
7	Mythological persons not in movement with sex unspecified.
6	Statues, carvings, drawings of people, puppets, dolls, skeletons, silhouettes, etc., in movement, with sex specified.
5	Statues, etc., in movement, sex not specified.
4	Statues, not in movement, with sex specified.
3	Statues, etc., not in movement, sex unspecified.
2	Animal content in human type action.
1	Animated objects in human type action.

Pruitt and Spilka, 1964

III. Mutuality of Autonomy Scale

1. Reciprocity-Mutuality

Figures are engaged in some relationship or activity where they are together and involved with each other in such a way that conveys a reciprocal acknowledgement of their respective individuality. The image contains explicit or implicit reference to the fact that the figures are separate and autonomous and involved with each other in a way that recognizes or expresses a sense of mutuality in the relationship. (For example: on Card II, "Two bears toasting each other, clinking glasses.")

2. Collaboration-Cooperation

Figures are engaged together in some relationship or parallel activity. There is no stated emphasis or highlighting of mutuality, nor on the other hand is there any sense that this dimension is compromised in any way within the relationship. (Card III: Two women doing their laundry.")

3. Simple Interaction

Figures are seen as leaning on each other, or one figure is seen as leaning or hanging on another. The sense here is that objects do not "stand on their own two feet," or that in some way they require some external source of support or direction.

4. Anaclitic-Dependent

One figure is seen as the reflection, or imprint, of another. The relationship between objects here conveys a sense that the definition or stability of an object exists only insofar as it in an extension or reflection of another. Shadows, footprints, etc. would be included here.

5. Reflection-Mirroring

The nature of the relationship between figures is characterized by a theme of malevolent control of one figure by another. Themes of influencing, controlling, casting spells are present. One figure may literally or figuratively be in the clutches of another . Such themes portray a severe imbalance in the mutuality of relations between figures. On the one hand, figures may be seen as powerful and helpless, while at the same

between figures. On the one hand, figures may be seen as powerful and helpless, while at the same time others are omnipotent and controlling.

6. Magical Control-Coercion

Not only is there a severe imbalance in the mutuality of relations between figures, but here the imbalance is cast in decidedly destructive terms. Two figures simply fighting is not "destructive" in terms of the individuality of the figures, whereas a figure being tortured by another, or an object being strangled by another, are considered to reflect a serious attack on the autonomy of the object. Similarly, included here are relationships that are portrayed as parasitic, where a gain by one figure results by definition in the diminution or destruction of another.

7. Envelopment-Incorporation

Relationships here are characterized by an overpowering, enveloping force. Figures are seen as swallowed up, devoured, or generally overwhelmed by forces completely beyond their control.

Urist, 1977

APPENDIX B

APPENDIX B

DESCRIPTIVE STATISTICS FOR SAMPLES I AND II

I. Rorschach Variables at Three Levels of Empathic Emotional Concern

Rorschach Variable	Sample I Low	Sample I Mid	Sample I Hi	Sample II Low	Sample II Mid	Sample II Hi
Whole Human Mvmt						
Mean	.15	.13	.09	.13	.11	.13
SD	.14	.07	.10	.08	.06	.09
Total Human Mvmt						
Mean	.25	.25	.17	.23	.21	.23
SD	.16	.11	.10	.10	.11	.15
Total Color						
Mean	.17	.20	.13	.19	.19	.19
SD	.10	.11	.08	.12	.08	.13
Form Dominated Color						
Mean	.08	.10	.06	.10	.11	.11
SD	.05	.09	.09	.09	.08	.08
Color Dominated Form						
Mean	.08	.09	.06	.08	.08	.07
SD	.09	.09	.06	.07	.07	.07
Egocentricity						
Mean	.46	.50	.37	.46	.44	.47
SD	.17	.19	.14	.15	.10	.16
Whole Human Content						
Mean	.17	.14	.11	.15	.12	.14
SD	.16	.07	.10	.08	.07	.09
Human Detail & Fantasy						
Mean	.16	.15	.15	.13	.13	.14
SD	.09	.12	.07	.08	.07	.09
Affectivity Ratio						
Mean	.45	.47	.52	.44	.49	.45
SD	.16	.16	.24	.22	.16	.18
Isolation Index						
Mean	.22	.19	.20	.19	.18	.23
SD	.11	.12	.08	.11	.12	.14

I. continued

Rorschach Variable	Sample I Low	Mid	Hi	Sample II Low	Mid	Hi
Texture						
Mean	.04	.03	.05	.03	.04	.03
SD	.05	.04	.06	.05	.05	.04
Whole Good Human Mvmt						
Mean	.13	.12	.08	.12	.09	.10
SD	.12	.07	.08	.06	.06	.07
Total Good Human Mvmt						
Mean	.20	.20	.14	.19	.17	.18
SD	.12	.10	.08	.09	.09	.12
Whole Poor Human Mvmt						
Mean	.02	.01	.01	.02	.02	.02
SD	.03	.04	.03	.04	.02	.03
Total Poor Human Mvmt						
Mean	.05	.04	.03	.04	.04	.04
SD	.06	.06	.04	.06	.04	.05
Lambda						
Mean	.60	.49	.89	.54	.54	.56
SD	.30	.29	.52	.34	.39	.39
Organization (Zd)						
Mean	-.42	1.58	-1.54	1.18	.21	.93
SD	3.33	4.71	5.40	4.36	4.95	5.10

II. Rorschach Variables at Three Levels of Empathic Perspective Taking

Rorschach Variable	Sample I Low	Sample I Mid	Sample I Hi	Sample II Low	Sample II Mid	Sample II Hi
Whole Human Mvmt						
Mean	.14	.11	.12	.13	.10	.12
SD	.14	.09	.09	.07	.07	.11
Total Human Mvmt						
Mean	.23	.21	.22	.23	.20	.21
SD	.17	.08	.13	.12	.11	.13
Total Color						
Mean	.15	.18	.17	.19	.20	.18
SD	.09	.10	.11	.11	.09	.10
Form Dominated Color						
Mean	.08	.09	.07	.11	.08	.10
SD	.06	.08	.07	.08	.08	.07
Color Dominated Form						
Mean	.06	.08	.09	.07	.10	.07
SD	.07	.08	.09	.06	.07	.09
Egocentricity						
Mean	.48	.46	.40	.44	.47	.48
SD	.13	.20	.17	.14	.16	.10
Whole Human Content						
Mean	.16	.12	.14	.14	.13	.13
SD	.16	.07	.10	.07	.07	.11
Human Detail & Fantasy						
Mean	.14	.12	.14	.12	.06	.09
SD	.09	.09	.09	.03	.01	.02
Affectivity Ratio						
Mean	.52	.43	.50	.46	.49	.52
SD	.23	.12	.21	.21	.18	.17
Isolation Index						
Mean	.21	.22	.18	.20	.21	.18
SD	.13	.09	.08	.12	.13	.12
Texture						
Mean	.03	.04	.04	.04	.04	.04
SD	.03	.05	.04	.04	.06	.06

II. continued

Rorschach Variable	Sample I Low	Mid	Hi	Sample II Low	Mid	Hi
Whole Good Human Mvmt						
Mean	.12	.10	.10	.12	.09	.09
SD	.11	.08	.08	.06	.06	.07
Total Good Human Mvmt						
Mean	.18	.19	.17	.20	.16	.18
SD	.13	.08	.10	.10	.09	.10
Whole Poor Human Mvmt						
Mean	.02	.01	.02	.02	.01	.03
SD	.04	.02	.04	.03	.02	.05
Total Poor Human Mvmt						
Mean	.05	.02	.05	.04	.04	.04
SD	.07	.03	.06	.05	.05	.06
Lambda						
Mean	.69	.51	.79	.53	.51	.64
SD	.34	.25	.56	.30	.35	.55
Organization (Zd)						
Mean	-.69	.86	-.44	1.50	-1.53	-.46
SD	4.59	4.49	5.23	4.26	5.21	4.84

APPROVAL SHEET

The thesis submitted by Elaine D. Rado has been read and approved by the following committee:

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The final copies have been examined by the director of the thesis and the signature which appears below verifies the fact that any necessary changes have been incorporated and that the thesis is now given final approval by the Committee with reference to content and form.

The thesis is therefore accepted in partial fulfillment of the requirements for the degree of Master of Arts.

4-17-89
Date


Director's Signature