THE COLOR RESPONSE SCALE
THE THEORY AND RESEARCH RELATED TO A RORSCHACH INK BLOT METHOD FOR EVALUATING EMOTIONAL RESOURCES

BY

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Abstract

THE COLOR RESPONSE SCALE
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by

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The validity of the Color Response Scale (CRS), a newly developed Comprehensive System Rorschach method for assessing quality of emotional resources via application to the Color determined responses in the record, was tested. Analysis of variance and t-tests assessed significant differences between Good quality and Poor quality Color responses, as determined by the scoring criteria of the CRS, among 7 groups of patients and nonpatients with 50 records per group. Groups tested were Inpatient Schizophrenic, Inpatient Depressed, Outpatient Depressed, Outpatient Nondepressed, Nonpatient Ambitent, Nonpatient Introversive, and Nonpatient Extratensive. Results demonstrated that all nonpatient groups had significantly more Good quality Color responses than all patient groups, and that the Outpatient Nondepressed group had significantly fewer Poor quality Color responses than the Outpatient Nondepressed group. Furthermore, analysis of the relationship between Good and Poor Color for each group, organized according to a Good Color greater than, less than, or equal to Poor Color comparison, demonstrated systematic trends in the expected direction for all groups, ranging from Good less than Poor (G<P) for the Inpatient Schizophrenic group, to Good greater than Poor plus 3

(G>P+3) for the Nonpatient Extratensive group. More generally, it was found that differences among the groups were better accounted for by variations in Good Color and not in Poor Color, suggesting that in the clinical setting, treatment planning will want to focus on developing emotional factors associated with Good quality Color responses. A theoretical definition of the emotional resources evaluated by the Color Response Scale was advanced which stipulated that factors associated with quality of Color responses are related to aspects of ego organization, object representation, and identity formation.

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Introduction

A key aspect of all comprehensive psychological evaluations is the assessment of the emotional resources and functioning of the client. One of the most comprehensive instruments available for such an assessment is the Rorschach Ink Blot Method.

However, although the Comprehensive System (Exner, 2003), the most empirically researched Rorschach scoring system available, allows for considerable assessment of emotional functioning, there is no scale for evaluating the overall quality of a subject's emotional resources. One result is that important questions regarding the emotional functioning of clients are sometimes answered by means of clinical intuition and subjective judgment. While these skills certainly have their place in the assessment process, the potential for error and the difficulty applying an unsystematically evaluated method to a research setting may limit their value. An advantage to empirically derived scales is that they can provide a statistically valid framework for controlled research studies that can lend greater credibility to a test that is too often erroneously criticized as unsystematic and therefore invalid. A further advantage to the use of scales is that interpretive hypotheses related to affect that have been derived from the clinical case study method can accrue increased validity from positive results of controlled studies.

It is important to emphasize, however, that neither the case nor the controlled study methods are without the potential for error. Statistically derived Rorschach scales, commonly referred to as objective measures, still require interpretation and, as such, are vulnerable to the same sources of error implicit in any subjective judgement. Furthermore, erroneous interpretive conclusions derived from scaled scores can result

from too broad an application of the meaning of scores, that is, of neglecting to use scores as hypotheses, to be evaluated in light of the total body of clinical information provided by the subject.

Because the Comprehensive System is based exclusively on empirically validated scores, its use in the assessment of emotional recourses is limited primarily, although not exclusively, to questions of the modulation and control of categorical affects, an aspect of personality functioning that has been studied extensively. Consequently, many of the more subtle questions related to the complex dynamics and quality of an individual's affective world are left unanswered or are, in some cases, answered by means of clinical inference, a method that is viewed by many to be too unsystematic and subject to error to be considered valid.

A useful addition to assessment with the Comprehensive System Rorschach, therefore, would be an empirically derived technique for evaluating the quality of a wider range of emotional resources thereby lending greater empirical validity to clinical judgment. Such a technique could, furthermore, prove valuable as a research tool in large-scale studies.

The Concept of Emotional Resources

The concept of emotional resources has broad application in assessment and clinical practice. In the context of the study reported here, quality of emotional resources involves a complex set of factors that are provisionally defined as the adaptive potential of the emotional resources of an individual. This researcher construes adaptive potential as: 1) a capacity to engage in emotionally toned events, whether internal or external, 2) a

capacity to integrate emotion with other ego functions, most notably, reality testing, 3) an awareness of the emotions of self and others, that is, empathy, and 4) the presence of a core positive emotional disposition, that is, vital and enlivening affects. It is theorized that emotional resources leading to adaptive potential are a product of the mutual interaction of ego strength, identity formation, and object relations. The Rorschach Ink Blot Method is well suited for the assessment of adaptive emotional potential because of the association between Color-determined responses and emotion (Rorschach, 1942; Schachtel, 1966). However, as indicated earlier, no statistically valid procedure exists for the direct assessment of the adaptive potential indicated by the quality of the color response.

The interpretive understanding of Color responses has tended to focus primarily upon the extent to which form (F) is integrated with color, and on perceptual accuracy, referred to as Form Quality (FQ). The issues of emotional control and modulation represented by the FC response have been extensively studied and there is general agreement regarding the qualitative aspects of this type of response. Modulation and control, however, are only one aspect of emotional resources. A capacity for emotional control, while important to psychological health, does not capture the complex emotional underpinnings of successful psychological adjustment. Major theorists following Rorschach developed guidelines for evaluating the quality of various types of responses in a effort to more fully capture the personality characteristics thought to be reflected in responses, and some success has been achieved in developing empirically based codes for some qualitative aspects of responses. However, an empirically valid method for scoring the overall quality of emotional resources has yet to emerge.

This paper reports the theory, research, and development of such a procedure-hereafter referred to as the Color Response Scale (CRS). The CRS is comprised of Rorschach scoring variables and is designed to evaluate the quality of emotional resources via application to Color-determined responses on the Comprehensive System Rorschach Ink Blot Method. In its current form, it is proposed as a psychometric scale with potential research and clinical applications.

The Color Response Scale was developed in order to test specific hypotheses related to a separate investigation into the characteristics of Ambitent subjects, an understudied personality style identified by the Rorschach Ink Blot Method. The Ambitent study investigates whether quality of emotional resources, as represented by color on the Rorschach, is related to variations in Ambitent functioning. Although not reported here, the Ambitent study provides the theoretical and conceptual foundation for the Color Response Scale and will therefore be discussed in some detail.

Potential Contributions of The Study

Implications For Empirical Research and Theory

Although the relationship between Color responses and emotional resources is well established in the Rorschach literature, there has been very little research regarding quality of Color responses and its link to mental health beyond the research related to the control of categorical affects and modulation of general emotional stimulation or excitement. There is a particular gap in research related to the type of general emotional

resources variously described by Winnicott and others, as the vitality affects or lively affects.

Similarly, while the link between Color responses and responsiveness to external stimuli presumed to provide the basis for the more interactive style of the Extratensive type, has received some support in the empirical literature, the connection between emotional responsiveness and an interactive style has not been convincingly established. Further research on the Color variable is needed to advance knowledge in this area and to refine theories of emotional functioning. If successful, this research will, in addition, constitute a further advance in the empirical evidence linking Rorschach scoring variables with their presumed psychological and diagnostic correlates.

Finally, a valid scale for use in assessing emotional resources will augment the tools of researchers seeking to systematically investigate issues of emotion and affect.

Clinical Contributions

If demonstrated to be a valid instrument, a scale to evaluate the quality of Rorschach Color responses will provide more information than is currently available about subjects' emotional resources. For example, if such a method were successful at assessing core affects, that is, those associated with early infantile experiences, patients who present with severe emotional disturbance and distorted object relations, but whose preverbal object representations are largely positive, could be more easily and reliably identified, leading to improved treatment planning.

Such a scale could, furthermore, differentiate certain diagnostic groups, for example, nonpatients from affective disordered patients, and Major Affective Disordered patients from Dysthymic patients, thus augmenting and refining diagnostic tools.

Literature Review

Conceptual Foundations for The Color Response Scale

The Ambitent Study

Rorschach believed that one of his most significant findings was the Erlebnistypus, (EB) or Experience Type, as it is known in English (Exner, 2003). The Erlebnistypus is a ratio variable defined as the proportion of Human Movement (M) determined responses to the weighted sum of the Chromatic Color-determined responses (WSumC). It provides an assessment of the underlying response style of the individual (Rorschach, 1942, Exner, 1986). Hermann Rorschach identified three distinct styles within this category, which he called Introversive, Extratensive, and Ambitent.

The Introversive style.

According to Rorschach (1942), 'Kinaesthesias (M) and color (C) influences in perceiving have proved to be the representatives of essential psychic functional patterns' (p. 118). The M and C responses referred to by Rorschach were thought by him to represent two related though distinct aspects of psychological functioning. At the most general level, Rorschach demonstrated that M responses represent a capacity for 'inner' creativeness. He stated, '...M responses are characteristic of those subjects whose interests gravitate more to their own intrapsychic life than to the world around them' (Rorschach, 1942, p. 65). Some later researchers describe the M response as reflecting a

more ideational approach to experience (Exner, 1978) while still others conceptualize it as indicative of flexibility and wealth of associative processes (Rapaport, Gill & Schafer, 1968) and a high level of ego functioning (Klopfer, 1954). Based on an extensive review of studies related to the Human Movement variable, Exner (1983) concluded 'M involves elements of reasoning, imagination, and a higher form of conceptualization.' When the EB is weighted in the direction of Human Movement responses, a more ideational, or inward, approach to psychological experience predominates (Rorschach, 1942, Paulsen, 1941, Abrams, 1955, Altus, 1958, Sommer & Sommer, 1958, Schulman, 1953, Exner, 2003).

The Extratensive style.

Color responses, on the other hand, were seen by Rorschach (1942) as reflecting a capacity for emotional rapport, or a more 'outward life'. Rorschach (1942) described subjects who responded most to color stimuli as, '...masters at affective adaptation' (p. 77). Various subsequent researchers have noted the relationship between Color responses and affect (Rapaport, Gill, and Schafer, 1968, Exner, 2002), and have characterized this style as more interactive (Klopfer, 1954, Exner, 2002). When the EB is weighted in the direction of Color responses, this more emotional, interactive style predominates.

The Ambitent style.

Although Rorschach's research on the experience types focused on the Introversive and Extratensive styles, and he therefore reported less about the Ambitent

style, he stated that the Ambitent, defined by an equal or nearly equal balance of Movement to Color responses, represented the '...capacity for simultaneous existence of both extensive and intensive rapport...'(Rorschach, 1942, p. 78), (i.e., a balance of the capacities inherent in the Introversive and Extratensive styles.) It was Rorschach's (1942) belief that, 'the normal ambiequal type represents the ideal result of the development of the experience type' (p. 119). Of the normal Ambitent, Rorschach (1942) went so far as to say:

> We come now to the group of normals...the group with many talents. These are the individuals in whom are combined marked Introversive features including creativeness, subjectivity, and intensive rapport, with marked extratensivity, as shown by extensive rapport, ability to make sympathetic reproductions, excellent emotional approach, and motor adroitness. These subjects could be no better grouped than under the name 'highly talented'. The genius would be found near this group in the tables. (p. 85)

Some later practitioners implicitly endorsed this view with their belief that an imbalanced EB ratio, (i.e., the Introversive and the Extratensive) is particularly typical of clinical subjects (Rapaport, Gill, and Schafer, 1968). Others explicitly endorsed it by expressing agreement with the theory that the ideal personality is achieved through a balance of introversion and extratension (Klopfer, 1954). Current research, however, suggests that this may not be the case.

Theoretical discourse and empirical research have established distinct differences among the three styles related to the use and effectiveness of psychological resources

during decision making and problem solving. While subsequent research has supported many of Rorschach's original claims regarding the Introversive and Extratensive styles, the view that the Ambitent style represents the ideal personality type has not been empirically supported (Exner, 1978). In fact, empirical evidence appears to suggest the opposite.

Empirical Findings Contradicting Rorschach's View of the Ambitent

In a study of logical analysis problem solving strategies employed by the three response styles, Exner (1978) demonstrated that generally, Introversives tended to be more reflective, employed a more systematic approach, and used fewer operations to reach their goal. Extratensives tended to be less systematic, relied more on trial and error methods, and used more operations to solve the problem. These findings are consistent with, and therefore support the theoretical conception of the Introversive and Extratensive types.

Ambitents, on the other hand, required significantly more time than either Extratensives or Introversives to reach a solution, made significantly more errors in the operations, and seemed not to employ any consistent problem solving strategy. The empirical data suggest that while Extratensives and Introversives are equally efficient in problem solving, despite using different approaches, Ambitents are inefficient problem solvers.

Furthermore, contrary to Rapaport, Gill, and Schafer's view that Introversives and Extratensives are particularly typical of clinical populations, studies by Exner (2003) have established that Extratensives and Introversives make up approximately 80% of the non-

patient population, while the evenly balanced Ambitent makes up only 20% of the non-clinical population. Ambitents, however, make up a greater proportion of patient groups than would be predicted by an examination of base rates alone. Exner (2003) reports that among the Schizophrenic reference group, 19% are Ambitent; among Depressives, 54% are Ambitent, and among Character Disorders 41% are Ambitent (Exner, 1978). In a group of outpatients identified as having hysteroid features, 35% were Ambitent.

Further evidence in support of the vulnerability of the Ambitent personality type is provided by a study by Exner and Murillo (1975) designed to identify the potential for relapse in a group of posthospitalized patients. It was found that Ambitent types were more likely to relapse (49%) than either Introversives (22%), or Extratensives (18%). It was hypothesized that the lack of a decisive response style, that is, lack of a firm preference for either Color or Movement responses on the Rorschach, may cause a vulnerability to stress due to more 'vacillating in coping situations' (Exner, 1978, p. 97) Of the Ambitent style Exner (1978) writes:

> . . .the Ambitents are pliable, less consistent under stress, more subject to change, and more unsure in problem solving situations. The Ambitent is probably a vacillator - that is, one who tends to fluctuate between alternatives rather than manifest a firm style, regardless of whether that style is ineffective or effective. They are probably more vulnerable to disruption under stress conditions (p. 101).

Test-retest studies of multiple Rorschach variables demonstrate that Ambitents show lower retest correlations for most variables than do the other response styles (Exner,

2003). Exner interprets this finding as evidence that Ambitents have more inconsistent coping behaviors than either Introversives or Extratensives.

Several studies evaluating shifts in response style relative to length of treatment suggest that with long term treatment, Ambitent patients tend to adopt either an Introversive or an Extratensive style (Weiner & Exner, 1991, Exner & Sanglade, 1992). This is consistent with Rorschach's view that mental illness may drive the Experience Type toward the Ambitent style (Rorschach, 1942).

The foregoing appears to challenge the previous view of the Ambitent personality as the ideal type. The data, however, offers no full explanation of the Ambitent's vulnerability, beyond the inconsistent response style hypothesis offered by Exner. Although the empirical evidence indicates that Ambitents may be at greater risk for developing psychological disorders, it is not intuitively obvious why having an evenly balanced EB would constitute a pathogenic factor. On the contrary, the psychoanalytic belief in the advantage of a balanced response style has great intuitive appeal. It is not unreasonable to assume that evenly apportioned psychological resources would lead to well balanced abilities to effectively draw upon those resources as needed. This seems not to be the case, however, for the Ambitent type, at least in laboratory studies of problem solving skills.

Current Conceptualization of the Ambitent Type

Following Exner, many current practitioners of the Comprehensive System explain the empirical findings regarding the Ambitent style in terms of inconsistent response style, that is to say, that Ambitent subjects inconsistently apply the methods of

trial and error and thoughtful deliberation to problem solving tasks. Put in more theoretical terms, the lack of a decisive response style, that is, a firm preference for either Color or Movement responses on the Rorschach may indicate an inability to effectively mobilize the Introversive and Extratensive features of their personality, thereby resulting in less effective coping skills.

Reconceptualization of Ambitent Functioning

Although Exner's conceptualization of the Ambitent is a logical extrapolation of his laboratory findings, there are several reasons to question the completeness of this explanation of Ambitent dysfunction. First, while an inefficient problem solving style can clearly be a detriment to effective functioning, it does not fully explain the Ambitent's vulnerability to psychiatric disturbances, particularly the finding that 54% of the depressed reference group are Ambitent. There is still the need to explain why an inconsistent response style makes one more vulnerable to depression than to other psychiatric disorders.[1] The proportion of Depressed patients who are Ambitent raises the possibility that disturbances in affective functioning are a key component of the Ambitent's difficulties.

Second, the inconsistent response style hypothesis makes it difficult to account for Ambitents who do well, that is, who do not become mentally ill. The explanation implied by Exner's hypothesis is that nonpatient Ambitents have either found a way to develop a consistent style despite not manifesting a preference for M or C; or they have found other,

[1] The obvious problem with this formulation is that psychiatric disturbance may drive an established response style to toward the Ambitent style. The need to explain why there would be a disproportionate shift toward depression.

as yet unidentified, ways of coping with the difficulties inherent in an inconsistent style. The implied explanation nevertheless requires further investigation.

Finally, research in the years following the introduction of the Rorschach demonstrated the accuracy of many of Rorschach's interpretive hypotheses as well as the impressive scope of his initial studies by revealing the uncanny skill with which he forecasted many future developments and findings. Rorschach was correct about so many of his hypotheses that data, which appears to refute him, warrants the closest scrutiny. The foundational research question of the Ambitent study then, is; is it possible that, as described by Rorschach, there exists a 'normal' Ambitent with adaptive capacities unrecognized by current theorists?

Theoretical Speculations

The conceptualization of the 'normal' Ambitent presented here emerged from clinical experience with patient and nonpatient Ambitents. Informal observations by this author, as well as anecdotal reports by others, of nonpatient Ambitents suggested that they rely on coping strategies that required the capacity to use external sources of support, both social and institutional. If one is to understand the psychological processes underlying the capacity to access external support, several possibilities emerge. First, it is likely that people who can make a real connection with others will be more successful using a strategy that relies on social support than will those people who are isolated or whose interactions with others are based on delusions or projections. Second, people's whose coping strategies include feedback from external sources and whose basic response tendencies are more interactive in nature will have an advantage because their

psychological tendencies are compatible with using external sources of support as an adaptive strategy. *Interactive* in this context means to behave with external reality in a reciprocal fashion, to use external sources of information to make adaptive modifications to one's psychological processes and behavior, and is contrasted with those who rely more consistently on internal sources of information and feedback. (It should be noted that all people regularly engage in both of these psychological processes. However, as Rorschach claimed, people manifest stylistic preferences.) In other words, the underlying capacities assumed to facilitate this type of strategy are the ability to interact with others in a basically non-defensive, non-delusional manner, and an ability to make good use of the external object world. Such abilities are assumed to be related to the fact that healthy development of the whole person depends upon and is driven by interactions with the external world. While this is an obvious statement, its connection to a psychometrically defined response style that confers resiliency later in life has not been established. The implication of this line of thinking relative to the Ambitent style is that nonpatient Ambitents may have developed an interactive response style that has resulted in greater emotional resources, and therefore, increased adaptive functioning. Because the Extratensive style is characterized as reflecting interactive tendencies, one may speculate that Color responses, the key component of the style, and their emotional correlates, play an important role in the Ambitent personality. Therefore, an explication of the broad implications of an interactive response style may suggest the foundation for a better understanding of the Ambitent type, and more generally, of the complicated concept of emotional functioning.

The possible connection between an interactive response style and mental health, both developmentally and in relationship to resistance to mental illness, may be illuminated by an examination of the phenomenology of interaction and its relationship to emotion and identity formation. The infant takes himself in and creates himself from the world he finds around him. This is what Winnicott (1986) means when he talks about the infant creating what is found. The importance of the emotional context within which this happens cannot be underestimated. The emotional tone or the emotional experiences that the infant has during this process provide the sense of vitality and realness that form the basis for living within one's whole self.

This diffuse sense of liveliness provides the affective foundation for identity out of which myriad psychological functions emerge. The fact that this process occurs only in a relational context links the development of the affective core, personal identity, interpersonal rapport (skill), and ultimately ones' propensity for engaging in and ability to effectively use the external world. These psychological processes have been described by attachment theorists in terms of the adaptive function of the infant's tie to the mother. Attachment, the primary motivation, is viewed as the organizing force behind emotional experience and a central feature of personality development (Mitchell and Black, 1995). The conclusion that follows is that good quality Color responses, because of their demonstrated association with emotional resources, reflect adaptive capacities due to their connection with the aforementioned psychological processes.

The interpretive hypotheses linking Color responses with adaptive emotional resources are based on the assumption that feelings and emotion are the basis for the development of psychological health because of their on-going reciprocal relationship

with personal identity and ego strength (or potential for ego strength) and furthermore, that one's emotional world reflects one's object representations.[2] The object world has meaning only to the extent that it has an emotional valence. Meaning, and its emotional context, is first communicated through early mother-infant interaction. For instance, notice that this process has gone astray when observing the impact of the depressed mother on the development of her infant. This is the problem of the mother who has withdrawn cathexis to the point where there is not a sufficient emotional matrix within which the infant can discover the true meaning of itself in relation to the object world. At the theoretical level, Color responses are thought to reflect the quality of the process of internalization leading to object representation and consequent related psychological functions.

In relation to the informal observations of Ambitent types previously mentioned, it appeared that those who functioned effectively in the world were able first, to rely on external sources of support and guidance and second, to tolerate their emotional reactions when their inconsistent style created confusion or difficulty in their lives. These capacities were assumed to be related to a more interactive style[3] as well as the presence of the aforementioned related adaptive emotional resources.

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[2] Object representations emerge out of emotionally toned reciprocal subject- object interactions. What is important to note for the present purpose is the possibility that an individual's current quality of emotional resources reflects the quality of object relations because they are a function of the history of reciprocal interaction.

[3] All people are interactive to a certain extent, but some, by nature, or deliberate cultivation of the trait, rely on external sources of feedback, support, and assistance more than others do.

Theoretical Reconceptualization of the Ambitent Type

The fundamental question regarding the reconceptualization of the Ambitent type is how nonpatient Ambitents cope with the demands of life despite the factors that appear to put them at risk. Put another way, how do they avoid mental illness? The foundational hypothesis underlying the reconceptualization of the Ambitent is that in spite of an inconsistent problem solving style, some Ambitents are able to successfully mobilize the Extratensive features of their personality, thereby manifesting adaptive coping skills that lessen their risk of psychiatric disorders.[4]

There are several lines of thinking that support the development of this hypothesis: 1) an examination of the data related to within group differences among Introversives and Extratensives; 2) a hypothesis regarding the meaning of the normative and clinical data; 3) clinical observation of Ambitents; and 4) analysis of psychological factors involved in these clinical observations and their psychometric correlates.

The reconceptualization of the Ambitent type rests on the assumption that there are within group differences among Ambitents that contribute to variations in functioning. In other words, rather than the Ambitent category representing a homogeneous population characterized by uniformly ineffective problem solving and decision making skills, it was hypothesized that this is a heterogeneous group characterized by variability in adaptive functioning and vulnerability to illness. Although heterogeneity within most designated groups might appear to be the obvious assumption,

[4] The issue of quantity of emotional resources will not be addressed by this study, but it should be noted that there is theoretical and empirical support for the view that adaptive functioning is an interaction between quantity and quality of psychological recourses.

it has not typically been assumed of the various EB groups. On this topic Exner (1991) states:

> . . . the issue of homogeneity within each style has received little empirical scrutiny. As a result most interpretations of the EB tend to assume that the overall approach to problem solving is similar and relatively consistent within each style and that variations within a style are produced by other psychological features. (pp. 6-7)

Not only did Rorschach stipulate variability within the Ambitent group, but this assumption is supported by a series of studies conducted by Exner that have established that a certain degree of heterogeneity exists within the other two response styles. Within group differences among Introversives and Extratensives are related to the quantity[5] of M and C responses that make up the EB ratio. These studies have demonstrated that too great an imbalance in the EB ratio leads to a rigid response style that puts these subjects at greater risk for psychological disturbance. Subjects within this distinctive subset of Introversives and Extratensives are referred to as EB pervasive.

It seemed reasonable to assume that if within group differences leading to variations in functioning exist among Introversives and Extratensives, they will exist for Ambitents as well. By definition, however, the Ambitent ratio cannot assume substantial quantitative differences (The ratio is comprised of an equal or nearly equal balance of M and C responses). The question arises, what factor might account for the assumed variation?

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[5] Qualitative differences in M and C responses have been demonstrated and such differences would effect the total personality reflected in the EB ratio. To my knowledge, however, there are no studies that examine the overall quality of the EB ratio.

Justification For Evaluation of Quality of Color responses

With quantitative differences ruled out as a source of variability, the remaining psychometric dimension available for analysis is the qualitative dimension. The EB ratio, comprised of Human Movement responses and Color responses, offers the possibility of a qualitative analysis of either or both scoring variables. It was decided to pursue a qualitative analysis of the Color score and the associated emotional correlates for the following reasons: 1. Fifty four percent of Exner's depressed reference group (Exner, 2003), a higher proportion than for any other psychiatric reference group, were Ambitent. This suggests that affect[6] may be a key component of Ambitent dysfunction. Since resources are assessed on the Rorschach via the Color responses, an evaluation of the quality of Color responses might be helpful in understanding the Ambitent personality. 2. Moreover, clinical observation of Ambitent subjects reveals that some Ambitents appear to cope with indecisiveness by accessing various types of external support that relieve them of the need to make decisions and/or minimize coping demands posed by ordinary life problems (B. Ritzler, personal communication, 1999). They may do this, for example, by forming a primary relationship with a domineering person who takes charge of problem solving and decision-making in the relationship.

A similar strategy Ambitents have been observed to use is to associate with rule bound institutions that provide detailed guidelines for conduct, such as religious or military organizations. In this way, decisions related to many of life's challenges are

[6] It is recognized that all human experience incorporates an affective component. The current conceptualization of Ambitent dysfunction as an affective disorder is narrowly construed in much the same way that depression is defined primarily as an affective disorder. A complete understanding of the Ambitent type will, of course, involve assessment of all factors contributing to personality functioning.

minimized by virtue of the necessity of referring to external guidelines for behavior. Regardless of the particular method for obtaining external guidance, the general strategy draws upon a basic interactive capacity; that is, an ability to respond to and make use of elements of the external environment. Empirical evidence has demonstrated that the Extratensive style, defined by a preponderance of Color responses, is associated with a more interactive mode of problem solving and may reflect greater responsiveness to the external environment. It was hypothesized, therefore, that the interactive coping style of some Ambitents might be reflected in Color responses.

A Theory of the Normal Ambitent and The Implications for Personality Theory

Although empirical evidence appears to contradict Rorschach's view of the Ambitent, the assumption of heterogeneity within the Ambitent population suggests that there may be a 'normal' Ambitent, as there is a 'normal' Introversive and a 'normal' Extratensive. If, as hypothesized by this author, the normal Ambitent is one with more robust emotional resources and a more interactive style, can the assumed link between these two psychological variables be further developed, first, theoretically, and ultimately empirically? Of greater importance, can a more detailed understanding of emotional resources be achieved, in theory, and in relation to a scale designed to measure such a complex construct?

While the connection between emotional responsiveness and an interactive style, typified by the Extratensive type, has been empirically researched (Exner, 2003) the supporting conclusions are indirect and therefore the theory is accepted largely on logical grounds. There is not, however, a convincing explication of the logic. What follows is a

possible account for the development of and connection between emotional resources and an interactive style.

It is axiomatic in the health care professions that those people who can make a reality based, empathic connection with others will have an advantage in life compared to people who are isolated and whose interactions with others are defensively based. This has been demonstrated through a large body of empirical research investigating correlates of mental and physical health.

The importance of emotional resources for the Ambitent can be extended to Intoversives and Extratensives. That is, people whose coping strategies include feedback from external sources and whose basic response tendencies are more interactive in nature, garner opportunities to engage in reality testing, to gain social support, constructive guidance, human affection, and other types of feedback and support, all of which can be assumed or have been demonstrated to promote mental health.

The foundation for this line of observations is the previously stated axiom that healthy development depends upon interactions with the external world. Two questions might lead to an understanding of the connection between response style and resiliency; what factors contribute to the development of the response style, and what role does emotion play in that development?

Rorschach (1942) believed, as have other researchers, (Exner, 2003, Singer & Brown, 1977) that the response style of an individual might be constitutionally predetermined. Singer and Brown (1977), however, have suggested that the developmental course of the EB could be a function of the interaction between experience and constitutional endowment. If one were to imagine a course of development and the

corresponding experiences that could lead to a more interactive, emotional style, one might assume that the process begins at birth.

Putting aside, for the moment, the question of constitutional predisposition, all infants are, by nature, Extratensive. They are capable of experiencing and expressing a variety of affects, they depend upon interaction with the environment to thrive and to develop, and they are equipped with a trial and error strategy for gaining information about themselves and their world. The infant is, in fact, incapable of an Introversive orientation, as this would require mental capacities far beyond its reach. The developmental literature has established that the Extratensive style is the norm for young children and too early development of the Introversive style is considered pathological and detrimental to a young child's ongoing development (Exner, 2003).

It is logical to assume, therefore, that the Extratensive style is the natural state of infants and young children and that it is so because it provides what is necessary for adaptation and development. It is to be assumed, (without minimizing basic perceptual skills and adaptive reflexes), that the infant's primary psychological capacity and source of information about themselves and their world is their emotions. It is not difficult to imagine that the emotional context within which the infant begins to express himself and interact with the world will have an impact on both his emotional development and whether he continues to exhibit a preference for a predominately interactive style.

The connection between emotional health and mental health is, of course, not a new idea. It is generally accepted that healthy emotional development is a cornerstone of psychological adjustment. To live well, meaning with vitality and without mental illness, one must, (among other things), learn how to think clearly and manage emotional stimuli.

Undoubtedly, managing so called categorical affects is a critical aspect of development and psychological adjustment; yet there is another aspect to emotional functioning that, while elusive, is just as vital to health and well being. It can be likened to the musical score of a screenplay and is the general quality or tone of one's affective world. In an essay entitled *The Concept of the Healthy Individual,* Winnicott (1986) describes this vital feeling base that provides a foundation for health:

> Health here includes the idea of tingling life and the magic of intimacy. All these things go together and add up to a sense of feeling real and of being, and of the experiences feeding back into the personal psychical reality, enriching it, and giving it scope. The consequence is that the healthy person's inner world is related to the outer or actual world and yet is personal and capable of an aliveness of its own. (p.31)

In this view of health, feeling, experiencing, and connecting with others and with the world are all aspects of a lively, authentic self. Winnicott captures the vital connection between the inner and the outer world and the feeling base of this interplay that leads to personhood. It is important to note that the feelings Winnicott is describing are not categorical affects, but a rather more diffuse sense of liveliness and a subjective sense of feeling real. In the interactive, emotional context of ongoing development, therefore, is found the emotional foundation for identity and relatedness essential for adaptive functioning. It is to be assumed that the emotional tone in which development unfolds will influence both the emotional quality of the internal world, as well as the

course of the preferred style later in life, that is, whether one continues to maintain a primarily interactive rather than a primarily ideational approach to experience.

The relationship between affective experience and identity formation has been explored extensively by numerous authors. Winnicott (1945), for example, maintains that one of the primary tasks of emotional development in infancy is personalization. One component of personalization, that of feeling oneself in one's body is, according to him, brought about through 'instinctual experience and repeated quiet experiences of body-care' (p. 151).

Stern (1985) describes the same process somewhat differently when he claims that a core feature of the infant's emergent sense of self is the continuous experience of vitality affects. He goes on to say that experiencing self-affectivity, 'the patterned inner qualities of feeling (affects) that belong with other experiences of self' (p.71) is one of the developmental processes that is essential for adult psychological health.

From a slightly different perspective, neurologist Antonio Damasio describes the critical relationship between affect and a sense of self as he pursues the roots of consciousness in his book The Feeling of What Happens (1999). In it, he says, 'In a curious way, consciousness begins as the feeling of what happens when we see or hear or touch' (p. 26), and, 'The apparent self emerges as the feeling of a feeling' (p. 31).

The sense of self, however, and the emotional base that accompanies its development, cannot be reasonably separated from the sense of the other, or object world. As emotional development progresses so does knowledge of the self and object world. Mental representations are formed and internal object relations take shape. The connection that needs to be highlighted between emotions and object relations is the fact

that the foundation of all object relations is feelings. Object relations develop in a matrix of feelings and become organized around feelings. This view is articulated by Joseph and Anne-Marie Sandler (1986) who wrote:

> The subjective experiences which register in the infant's sensorium are, in the first instance predominantly feeling-states, although these are mixed with other sensations as well...During the course of his early development he will create representations of his own self and of his objects, and later will develop symbolic representations for use in thought and fantasy. In the development of object relationships...the part played by affective experience is central. An experience only has or retains meaning for the child if it is linked with feeling. (p.284)

The foregoing makes clear that out of early emotional experiences and interactions with the world develop the sense of self and other. Additionally, it seems reasonable to infer that the tone of early emotional experience influences the quality of vitality affects as well as one's tendencies to view interaction with the world as a positive, productive experience. Furthermore, the early experiences provide the foundation for the representational world out of which inner resources such as ego strength develop. The link, therefore, between emotional resources and an interactive style as measured by Color-determined responses on the Rorschach Ink Blot Method is assumed to be found in these early experiences and may reflect the psychological development of identity and object relations.

Indirect evidence for the role of personal identity in Ambitent functioning may be provided by Exner's (2003) study that demonstrated low test-retest correlations for

Rorschach variables among Ambitents. Although Exner interprets this finding as evidence of inconsistent coping behaviors, a variant of the inconsistent response style hypothesis, it is possible that the instability in the Rorschach records of Ambitents is due to, or influenced by unstable or incomplete identity formation. Speaking informally, a person who does not know who he is will face many more difficulties in life than a person with a solid sense of self. A person with an unstable identity may, for example, find it difficult to develop effective coping strategies, or consistent problem solving skills. This in turn could increase stress and lead to a vulnerability to mental illness and psychological disorders.

Furthermore, it is not unreasonable to imagine simple base rate variation in identity formation among Ambitents, with some having a stronger sense of self and others a weaker sense of self. While the Ambitent genius referred to by Rorschach may never be discovered, it is possible that such variation could account, in part, for the better-adjusted, that is, non-patient Ambitent, and therefore confirm Rorschach's notion of a 'normal' Ambitent.

The conceptualization of the Ambitent presented here includes the proposition that people who have developed a stronger sense of self have done so via their sustained, on-going interactions with the external world. Such interactions lead to ego strength, improved reality testing, social skills, and emotional strength. A strong sense of personal identity is a protective factor because of the skills that are developed in the process of identity formation. One of these skills or traits is emotional resources. It follows that an evaluation of the emotional resources of subjects via analysis of the quality of their Color

responses will provide indirect evidence of the quality of interaction that influence identity formation.

Traditionally, Rorschach assessment of object representation has focused on the Human Movement variable. Blatt and Lerner (1983), for example, believe that human content 'is an ideal data base for assessing an individual's representational world' (p. 8). Various methods have emerged that allow for systematic evaluation of human representational content (Blatt, Brenneis, & Schimek, 1976, Urist 1977, Maymen 1967, Burns &Viglione, 1996) however, none incorporate explicit assessment of the affective component of object relations. It is this author's belief that analysis of subjects' use of color on the Rorschach will provide additional, useful information about their representational world.

Rorschach Variables Associated With Emotional Resources

Overview of Rorschach Variables Related to Affect

Early in his research, Rorschach (1942) recognized the value of the Ink Blot method for assessing affect. On this topic he stated:

> The test gives orientation as to the affective status of the subject. It gives information as to the stability or instability, strength or weakness of the feelings, the intensivity or extensivity of the affective reactions, the control or lack of control over the reactions, the suppression, or freedom of the reactions. The specific tone of the affect, whether pleasurable or unpleasant can be read only incompletely. (pp. 97-98)

This information is provided primarily by the Color-determined response (C), which, since the inception of the method, has been associated with the emotional responsiveness of the subject. Of the general relationship between the Color response and emotional functioning, Rorschach (1942) said:

> . . . the C responses represent the Extratensive features of the personality, the ability to get into rapport, the capacity for emotional adaptations, both personal and situational....It has been found empirically that the influence of colors in perceiving the figures may be taken to represent the extent of emotional excitability and actual excitement. . . .(p. 98)

Later theorists largely agreed with Rorschach's formulations regarding color and its behavioral correlates. Rapaport, Gill, and Schafer, (1968) for example, state, '...the subject's use of color appears to reflect his handling of affects, impulses, and actions' (p. 363). And according to Exner (2000), in a statement describing groups of scores related to emotion, said, 'All of the variables involving chromatic color...are included in the cluster pertaining to affect' (p. 74).

The Form (F) determinant in combination with the C determinant provides additional and more specific interpretive information regarding a subject's emotional functioning. Form responses are those in which the shape of the blot determine the response. Rorschach (1942) maintained that 'sharpness of form visualization' (p. 23) was related to intelligence and that clarity of form visualization was improved when subjects were 'conscious of the assimilative effort in interpreting' (p. 23). His findings suggested that 'depression improves the sharpness of form visualization, while elation dulls it'

(Rorschach, 1942, p. 23). This is one of Rorschach's earliest reported findings linking emotional factors to the response process in general and to the quality of responses in particular, and was a precursor to later research that demonstrated the powerful effect emotions can have on cognitive processes in general. An important property of the percentage of Form responses in a record is that it includes only those responses that are clearly visualized, in other words, those in which the percept bears a reasonable resemblance to the actual object. This percentage, Rorschach designated the F+ percent. Form responses that are not a good fit are considered to be poorly visualized and indicative of various deficits. While the distinction between clear and poorly visualized Form responses is useful in its own right, for example, as a measure of reality testing, it has important implications beyond its interpretive value. Rorschach's work demonstrated empirically, first, that the qualitative dimensions of a score could convey important information about psychological functioning, and second that a qualitative dimension could be reliably expressed through a score. In the case of good quality Form responses, Rorschach (1942) stated that they 'are the work of consciousness; the purer the form, the more certain that the response is determined by conscious thinking' (p. 213). Furthermore, poor form visualization was evidence that unconscious material is disrupting the rational faculties of the subject. The F determinant, therefore, gives an estimate of ego functions such as reality orientation and the capacity for making conventional interpretations.

Explaining the role the Form determinant plays in combination with the Color response, Rorschach (1942) states:

> Several spheres of psychic function must combine in the form-color answers which take up the form first and then the color. In the interpretation of form, associative factors come into play; in the interpretation of color, emotional factors are influential. The form-color answer is, therefor, an associative as well as an emotional response; it is an assimilation of external stimuli. It also proves to be an expression of the capacity for getting into rapport, of the ability to adapt. . . . (p. 33)

The extent to which a subject combines Form and Color is the basis for a fundamental level of interpretive analysis related to the capacity for emotional control and modulation of affective expression. Of the various possible combinations, Rorschach (1942) stated:

> It has become apparent in the test that the FC responses...represent affective adaptability. CF responses represent affectivity which is no longer capable of adaptation, though there remains a desire for adaptation. The C responses represent impulsiveness; here the desire for adaptability has been extinguished. (p. 99)

By 'affective adaptability', Rorschach meant, in part, the ability to integrate ego functions with affect in such a way as to facilitate emotional rapport with the external environment. This is one of the skills that the CRS is presumed to evaluate.

As mentioned, Rorschach (1942) viewed the Form response as the work of conscious thinking, that is, as the work of the rational mind. Many years later Rapaport, Gill, and Schafer (1968) described the social demands leading to the development of Form responses and the balance that must be achieved between too much and too little rational responsiveness to reality. Capturing some of Rorschach's conception of adaptability, they say:

> The cultural pressure for formal logical thinking as the basis of action is two-edged: too much yielding to it leads to undue inhibition, while gross rejection of it leads to impulsive, ill-considered behavior. The smoothly functioning person must strike a balance between too much and too little delay of impulse inhibition; thus, on the one hand his thinking and acting will be essentially in conformity with the demands of reality, and on the other he will not sacrifice too much spontaneity. In the Rorschach test, the F% indicates the degree to which the subject yields to this strong, cultural pressure. (Rapaport, Gill, and Schafer, p. 343)

The Rapaport-Schafer System, while maintaining substantial agreement with Rorschach regarding the meaning of Color responses, emphasizes the delay implicit in the Form-Color response. The delay required to form well integrated responses to color stimuli is thought to reflect ego processes which develop in the course of learning socially appropriate means of instinctual discharge. Their approach to the Rorschach articulates in some detail their view of the meaning of Rorschach's original terms, *affective rapport* and *emotional adaptation*.

They state:

> The FC response represents a successful integration of the form and color impressions, and requires sufficient delay to allow for the emergence in the course of the associative process of that content possibility which could successfully integrate the two. We interpret these responses as indicators of the capacity for affective rapport, for emotional adaptation. In these responses the strict regard for forms, with an appropriately integrated affective response, means that the course of the subject's associative process in everyday life is guided by a factual assessment of reality, yet includes an appropriate expression of affect...Furthermore, this affective expression occurs to the subjective satisfaction of the subject, carrying both empathy for the feeling of others and that quality which arouses the empathy of others for oneself. (Rapaport, Gill, & Schafer, p. 379)

One of the most interesting elements of the Rapaport-Schafer conceptualization of the well-formed C response is the extension of ego functions to include the reciprocal potential of empathy. That is, as a process whereby one can both feel for another and inspire others to feel for ones' self. Their conceptualization, though theoretical, offers the possibility of measuring reciprocal interpersonal aspects of ego strength.

The FC response, then, in the Rapaport-Schafer system, indicates the delay necessary to achieve appropriate control of the instinctual impulses that lead to a moderated expression of emotion. CF and pure C responses are indicative of various difficulties in the control and expression of instinctual impulses. They viewed the FC

response as including affect but expressing it under 'ego concerns for reality and with consideration for others' (Exner, 1969) thereby establishing the conditions for emotional rapport.

Elaborating on Rorschach's conceptualization of the meaning of emotional rapport, (a less empirically supported aspect of the theory) Klopfer (1954) articulates a more explicit link between external reality and intrapsychic processes.
He states:

> . . . the general hypothesis has been formed that the way in which the subject handles color gives an indication of his mode of reacting to an emotional challenge from his environment which taxes his skill in integrating an outside influence with his activity-in-progress. (p. 276)

Klopfer (1954) emphasized that the primary emotional challenges facing the individual (from the environment) are those related to interpersonal relationships. The subject's use of color, therefore, is '...to be interpreted to show how the person reacts to the emotional impact of relationships with other people' (p. 276). Klopfer's more interpersonal focus expanded the interpretive value of the C response beyond basic issues of emotional control and modulation to a more phenomenological interpretation of the form such emotional control takes in the social world. Klopfer, (1954) states, for example:

> The appearance of FC responses in any considerable number suggests that the person is able to make a pleasant, gracious, and charming response to social situations and to get along smoothly with other people. There is an implication of

> dependence on other people when FC responses are emphasized. It must be important to maintain good relationships with other people for the subject to place so much stress on meeting emotional demands in a graceful manner. (p. 279)

And furthermore;

> Since FC responses indicate a socialized responsiveness towards the emotional impact of the social environment, they suggest an interest in relationships with other people, as well as social skills which help in forming and maintaining good relations. (p. 370)

Klopfer's conceptualization of social skill parallels Rorschach's (1942) who stated:

> Unstable affectivity, when disciplined and restrained, results in emotional adaptability and rapport. Unstable motility when controlled and restrained results in motor adaptability, skill. Optimum control of both affectivity and motility results in 'social skill'. (p. 80)

The value of Klopfer's conceptualization rests in its elaboration of the social skills and interpersonal responsiveness suggested by the C response. Rorschach's notion of unstable affectivity is probably similar to later theorists' concept of vitality affects and provides the necessary affective link between the subjective, internal world and the external, social world.

These interpretive hypotheses regarding social skill, interpersonal responsiveness, and vitality affects are hypothesized as contributing to the non-patient's strategies of adjustment and provide a theoretical precedent for understanding personality factors in

terms of adaptive processes related to accessing external sources of support, for example, social support.

While Rorschach certainly made mention of interactive tendencies suggested by various types of C responses Klopfer's emphasis enlarged Rorschach's original conception of emotional rapport and adaptability by postulating associated interpersonal dynamics. (Later research, however, has determined that 'interest in relationships with other people' is more effectively evaluated by the presence of human content in the record. (Exner, 2003) To my knowledge, there is, however, yet to be an investigation examining a possible relationship between color and interpersonal interest.)

Klopfer (1956) further maintained that analysis of the chromatic color variables enabled one to infer aspects of ego organization such as whether emotionally charged situations were experienced as ego-syntonic, ego-alien, or ego-dissociated. Ego-syntonic affective reactions to the chromatic features of the blots, for example, are indicative of 'subjectively felt comfort, even pleasure, in the use of affectively charged stimuli' (p. 291) and are reflected in good Form Quality.

More generally, Klopfer (1954) believed that reactions to color stimuli reflect the level of emotional integration achieved by the ego. According to him '...color reactions indicate what the individual is actually doing with his integrative capacity in various life situations' (p. 583). Furthermore, one's reaction to color stimuli show, 'how the capacity for emotional integration is deployed in interpersonal relations, revealing their depth and intensity' (p. 583). Regarding depth of interpersonal relations, Klopfer (1954) stated:

> The subject who easily finds natural objects that carry the color of the blot material suffers least from the effects of intellectualization and therefore is able to

> enjoy the full benefit of his capacity for feeling, while such mechanisms interfere with the free emotional exchange between a person and his environment and with the development of deep emotional object relations. (p. 583)

Klopfer's (1954) conception of depth of feeling suggest his view that it is a mature ego capacity indicative of being 'always in contact with the objective reality of the emotional situation because it includes some emotional reality testing...' (p. 585). He contrasted this with intensity of feeling which, influenced by temperament, could suggest a weakness of integration. This is particularly likely when intensity of feeling is not balanced by depth of feeling (Klopfer, 1954). Intense, poorly integrated affect is suggested by deterioration in the Form Quality of Color responses.

Of particular relevance to the development of the Color Response Scale is Klopfer's explicit claim that analysis of Rorschach variables can provide reliable information about an individual's adaptive potential. His empirically derived Rorschach Prognostic Rating Scale (RPRS) was developed to predict a patient's response to psychotherapy by way of assessing available ego-strength (current adjustment) as well as 'unused ego-strength' (Klopfer, 1954, P. 689). Unused ego-strength, or potential, Klopfer referred to as 'promise' and he recognized the not infrequent clinical scenario in which a patient's undeveloped promise enables him to profit from psychotherapy despite an objectively poor prognostic picture.

The RPRS assigns numerical weights to Shading, Color, and Movement responses to yield a total score presumed to have predictive value. The predictive value of the scale is based on the assessment, via the aforementioned scores, of associated constructive ego

functions which Klopfer defined as, passive mastery and reality testing, active mastery, ego defenses, emotional integration, and self realization.

As with all approaches to the Rorschach, Klopfer's scale requires interpretation to proceed organically, with evaluation of variables made by reference to the entire psychogram. So, for example, although the subject's use of Color is the primary vehicle for assessing emotional integration, this construct cannot be sensibly separated from the related construct, self-realization, which is assessed primary through the Human Movement variable. Nevertheless, for the purpose of elaborating the rational for the CRS, the primary focus will be on Klopfer's interpretation of subjects' use of Color and the implications for their emotional integration.

As presented by Klopfer (1954), emotional integration is a complicated construct that cannot be fully addressed here, however, he maintained that its major development is the fusion of reality testing with the need for affection. Other important aspects of the construct include the capacity to deal with anxiety and with drive impulses in such a way that they find appropriate expression in rich emotional relations with others (1954).

The connection between emotional integration and self-realization is conditional; that is, self-realization cannot emerge to any great degree without a significant degree of emotional integration. Importantly, other ego-strengths, for example, active mastery and reality testing, can develop in the absence of a high degree of emotional integration. When this happens it is most likely in the context of the 'imposter' or 'as-if' personality, those who have a high degree of adaptive skill but who lack an integrated emotional core (Klopfer, 1954).

According to Klopfer, self-realization, the essence of which is self-acceptance and self-awareness, is founded on emotional integration. He has therefore, identified the contingent relationship between emotional development and a sense of self and maintains that important information regarding these constructs can be gained though analysis of the quality of Color responses.

These elaborations of the interpretation of the C and FC response, (and corresponding character formation) expand the understanding of the meaning of control and adaptability relative to C responses by providing a theoretical picture of the aspects of the total personality that are subject to control or, in the case of pathology, to the breakdown of adaptive emotional functioning.

General Affective Responsiveness and Stability of Affect

Sum C and FC:CF+C

In addition to issues of control, modulation, and rapport, according to Rorschach, Color responses can provide an assessment of overall affective responsiveness and affective lability of subjects. Most recent research into Color responses has focused on the FC:CF+C ratio and the CF+C combination because of the greater temporal consistency of the combined variables (Exner, 2003). Although the FC:CF+C ratio is not part of the Color Response Scale, research related to it and its component parts, (which are included in the scale) illuminate psychological constructs such as emotional responsiveness, and stability and modulation of affect that can be assessed via the C variable thereby strengthening the theoretical base of the CRS.

The absolute number of Color responses (SumC), in any variation, is an indication of the overall affective responsiveness of the subject, the greater the sum of the C responses, the greater the affective responsiveness (Rorschach, 1942). Whereas emotional responsiveness is suggested by the presence of Color responses in the record, 'emotional timidity' is indicated by avoidance of color in the blots. The suppression of emotional reactions is suggested by 'color shock', '...the sudden lack of ideas and the long pauses which occur when the subject encounters the colored plates' (Rorschach, 1942, p. 193). This is said by Rorschach (1942) to indicate 'neurotic repression of affect' (p. 193).

The stability (or conversely, lability) of affect is further judged by the ratio of FC to CF plus C (FC:CF+C) responses. Empirical research (Exner, 1993) has demonstrated that the ratio of FC to CF and C responses 'provides an index of the extent to which emotional discharges are modulated.' Of the processes involved in the formation of the various C responses, Exner (1993) states:

> Less cognitive effort is required to identify colors than forms. Thus Color responses can involve a more passive process, but when specific form demands are injected into the translation of color stimuli, it suggests that more cognitive control has been inserted into the process. For this reason, FC responses equate more with affective experiences that have been controlled and/or directed by cognitive elements. On the other hand, CF and C responses illustrate instances in which the subject has been more prone to give way to the affective stimulus, and inject less cognitive modulation into the translation of the stimulus field. (p. 491)

Research on the FC:CF+C ratio has demonstrated that the directionality of the ratio is quite stable (Exner, 1993). In a test-retest study evaluating the ratio in 100 nonpatient adults, the directionality remained the same after a 3-year interval when the value for one side of the ratio exceeded the value of the other side by at least one point (Exner, Armbruster, & Viglione, 1978). Stability in the directionality of the ratio has been demonstrated among Inpatient Schizophrenics and Depressed patients one year after the first test (Exner, 1983).

Indirect empirical evidence of the adaptability expressed by the FC response is provided by treatment outcome studies. Exner (1978) found, that among outpatients rated as improved by significant others, a significant number had a pre-to posttreatment shift in the FC:CF+C ratio in the direction of a higher left side value. It has also been demonstrated that schizophrenics with higher FC values pre-treatment have better treatment outcomes than those with more CF+C (Stotsky, 1952).

According to Exner (2003), adult nonpatients typically give at least as many FC responses as CF+C, and usually a few more FC. Patients, on the other hand tend to give a substantially greater number of CF+C responses.

Evidence that C and CF responses suggest less emotional modulation, (or from a Rapaport-Schafer perspective, ego weakness), is provided by a problem solving study in which delay in forming responses was correlated with higher FC values. Conversely, subjects who did not exhibit delay in the response process gave significantly more CF+C responses in their Rorschachs (Gill, 1966).

Furthermore, Rorschach protocols of couples with a history of domestic violence contained significantly more pure C responses and fewer FC responses than of couples without a history of violence (Miller, 1999).

This evidence suggests, as stipulated by major Rorschach theorists, that C responses, depending on their occurrence with the F determinant, are associated with various ego functions and therefore provide important information regarding the adaptive potential of emotional functioning.

It is important to note that the presumed relationship between Color responses on the Rorschach and emotion, while well established in clinical practice, has received limited direct support in the empirical literature. Because validation of the Color Response Scale will provide additional evidence of what has historically been called the color-affect hypothesis, the theoretical and empirical status of the relationship between Color responses and emotion, will be reviewed, followed by a description of additional scoring variables associated with emotional resources.

The Color-Affect Hypothesis

The relationship between responsiveness to color stimuli on the Rorschach and affective responsiveness is primarily theoretical. Hermann Rorschach speculated that there might be a common biological substrate for the perception of color and the experience of affect (1942). He, among others, (Schachtel 1966, Rapaport, Gill, and Schafer, 1968) have pointed out that color and affect are often linked in common discourse, for example, 'black is the color of mourning' (Rorschach, 1942, P. 99). Schachtel (1966) elaborates this point by claiming that colors often have an actual

feeling-tone or mood quality, that is, '...they are felt to be exciting or soothing, dissonant or harmonious, clamorous and shrill or tranquil...' (P. 161).

Rapaport, Gill, and Schafer (1968) note a possible phylogenetic function, a connection analogous to the role played by color in the mating process. While they acknowledge that there may be an intrinsic relationship between color and affect, they believe that all that can be said with confidence regarding the relationship is that, 'people have associative processes that allow for dealing with the color impressions in a specific manner characteristic of their affective life' (p. 376).

In a theoretical paper elaborating the issues advanced by Rorschach on Form and Color responses and their relationship to emotional functioning, Schachtel (1966) discusses the experience of color perception as an essentially passive, autocentric function. He says: 'Color seizes the eye, but the eye grasps form' (p. 160). He relates this passive perceptual process to the meaning of the term emotion; *to be moved*, thus making a phenomenological connection between the perceptual experience of color and the psychological experience of emotion. Schachtel discusses the passive nature of color perception in contra distinction to the active, structuring nature of form perception, which he conceptualizes as the basis for our reality orientation. He extends these observations to the realm of emotions describing affect and emotion as essentially passive functions or experiences. According to Schachtel, the person who can integrate form and color stimuli is one who is receptive to the emotional underpinnings (cues) of experience and who can modulate the corresponding affect by integrating the active processes of form perception with color (or emotion) perception. This is the ideal case and one in which he views color perception as receptive, rather than exclusively passive.

The following quote by Schachtel (1966) illustrates the concordance of his conceptualization of the relationship between color perception and affect with Rorschach's view of the well adjusted (i.e., FC dominated) Extratensive personality.

He states:

> It is indeed a prerequisite of emotional rapport that one immediately senses these emotional cues; and the capacity for rapport presupposes that one's reaction to their impact will be not explosive or egocentric but appropriate-that is, modulated in accordance with the total situation. It is the sensitivity to the cues emanating from the other person physiognomically, in gesture, intonation, etc., that corresponds to the 'passive', in this case the more appropriately called, receptive attitude toward the impact of color, while the form element in the FC response may be said to correspond to modulation of the affective response in accordance with the understanding and the requirements of reality. (p. 168)

Much of the early evidence offered in support of the color-affect hypothesis focused on the phenomenon of 'color-shock', a strong reaction to the chromatic features of the blot, first observed by Rorschach (1942) and presumed to be a disturbed emotional reaction to color. Signs of color shock included delayed reaction times, reduced responses to chromatic cards, 'associative stupor' or difficulty interpreting the cards, and 'astonishment or vexation' (Rorschach, 1942, p. 35). Rorschach maintained that color shock 'reaffirms the internal relationship which must exist between color perception and the dynamics of affectivity' (p. 35). When present, Rorschach interpreted color shock as

a sign of emotional repression, emotional control, or 'neurotic suppression of emotion' (p. 193).

The phenomenon of color shock became the focus of further theoretical elaboration and empirical investigation, which yielded various conceptualizations and contradictory empirical findings. Klopfer (1954), for example, avoided the term color shock because he felt that most empirical studies of the phenomenon had not systematically evaluated the contribution of other important factors such as Shading, response sequence, form demands, etc. and that this had led to a mechanical analysis of the use of color. He, nevertheless, advanced an interpretive schema based on observed reactions to color that resulted in a more detailed analysis than that proposed by Rorschach while preserving its essential features.

Generally, Klopfer hypothesized that there are at least two types of color disturbance (i.e., color shock), 'subjective disturbance characterized by unpleasant affect and manifested by exclamations, behavior or content reflecting unpleasantness; and objective disturbance, which many or may not be associated with unpleasant affect and which is manifested chiefly by disturbances in form level' (1954) According to Klopfer (1954), the presence of subjective disturbance indicated, 'a conscious appreciation of disturbance in situations with emotional impact' (p. 341). He further maintained that this type of response implied no loss of effective functioning. Objective disturbance, on the other hand, suggested a 'lowering of efficiency in emotional situations' (p. 342).

Although Beck (1944) originally conceptualized color shock as a 'startle' reaction and echoed Klopfer's sentiments regarding the confusion generated by studies of color

shock, he, nevertheless, believed in the diagnostic utility of evaluating how the subject coped with the excitement and impulses presumably stimulated by color. He stated:

> . . . Rorschach test records that are differentiated by their color shock yield diagnostic pictures that are differentiable from those without shock. This holds not only for (a) the fact of finding shock at all, but also (b) the degree of shock. The doubts that the experiments on the problem raise are as to what it is conceptually that produces the differentiating reactions. But whatever the underlying process is, the phenomenon has clinical validity. It reliably separates out personality patterns that are unlike one another. (Beck, 1952, p. 43)

Many of the early empirical investigations regarding the color-affect hypothesis did, in fact, yield confused results and scant support for the color-affect hypothesis (Keehn, 1954, Klopfer, 1954, Exner, 2002). Better designed studies, however, for example, those that did not rely on group administration (Klopfer, 1954), and those that attempted to investigate more directly the link between color and affect (Exner, 2003) have provided some support for the theory.

It has been shown, for example, that Color responses and Color combined with the Texture determinant stimulate more aggressive response content and are indicative of stress reactions (Crumpton, 1956, Klatskin, 1952). Color responses have, furthermore, been shown to be associated with measures of anxiety (Forsyth, 1959). Exner (1959) has demonstrated that the number and the content of responses vary significantly when card I is presented in various chromatic color versions as opposed to the standard achromatic version.

Other, more indirect evidence of the color affect hypothesis is offered by Exner (1986), who reports that in a matched group design using the standard Rorschach cards and an achromatic version, color cards stimulated greater productivity of responses and faster reaction times (1986).

Stronger, though still inferential, evidence comes from the developmental Rorschach literature. The pure C response, associated with unmodulated displays of affect, is typical in the records of young children. With development, Pure C responses appear less frequently, being replaced by CF and FC responses, combination responses that suggest the presence of a capacity to modulate affective reactions (Exner, 1993), a finding that is consistent with the expectation that maturity brings greater emotional control.

The empirical findings indicate that the presence of color stimulates and influences the response process in predictable ways (Exner, 2003). Response patterns, furthermore, appear to change systematically with development. Direct confirmation, however, that variations in response patterns are a product of emotional functioning remains elusive.

Another type of investigation that sheds light on the color-affect hypothesis involves a Rorschach measure called the Affective Ratio (Afr). Although it has been calculated slightly differently by different theorists, it is a comparison of the number of answers given to the last three full color cards with the number given to the first seven, primarily achromatic cards, and is presumed to provide information about an individual's emotional responsiveness. Individuals with a higher ratio are thought to be more

responsive to affectively charged situations than those with a lower ratio. Beck (1952) describes the Afr as follows:

> Psychologically I look on the affective ratio as a measure of the readiness to quicken life's pleasurable experiences. Or, when low, to remain inert. When the ratio approaches .80, the person is volatile, liable to excitement. When it is .40 or lower, he is under responsive to emotion-toned stimuli. (p. 46)

While research has established that emotional volatility is best predicted by the presence of the pure C response, there is empirical support, albeit some of it quite indirect, for the notion that the Afr reflects responsiveness to emotional situations. (Interestingly, a study by Exner (1978) has demonstrated that the Afr's of patient populations tend to cluster in a bimodal distribution of .40 or less and .80 or above.)

For example, the fact that color cards seem to stimulate responsiveness has been demonstrated by studies that compare response rates of subject groups presented with chromatic cards to those presented with achromatic cards. In these studies chromatic cards invariable yielded higher response rates (Exner, 1962, Baughman, 1959, Silva, 2001). While these studies appear to verify the link between response output and color, developmental studies suggest that the link may be associated with emotional factors.

The developmental research on the Afr is similar to that reported for the Color variables; as children get older their Afr drops and by the age of approximately 8, remains stable at levels considered normal for adult non-patients (Exner, 2003).

Exner (2003) states:

> These data seem to coincide well with what is known about the easy excitability of younger children, and how that feature gradually becomes more subdued or modulated with age. (p.322)

Further evidence from the developmental literature suggests a link between behavior and the Afr's of children. Exner (1978) followed a group of 'behavior problem' children and a group of 'withdrawn' children from the age of five through sixteen. He compared their mean Afr's each year with the non-patient baseline sample. According to Exner (1978), 'At each year, from 5 through 16, the behavior problem samples show a higher mean Afr, while the withdrawn samples show a lower mean Afr' (p. 127). Furthermore, the withdrawn sample showed more FC answers than CF+C answers (Exner, 1978). This finding suggests that there is an interaction between general responsiveness and capacities for control or modulation indicated by the presence of FC and that too great a proportion of FC might not be a positive finding.

Additional evidence suggesting a link between emotional functioning and responsiveness to color is provided by studies showing that low Affective Ratios have been associated with Major Affective Disorders (Exner, 2003), with neglect and depression in children (Elisens, 1998), and with the avoidant personality style (Exner, 2003).

Studies on the temporal consistency of the ratio in non-patient children and adults have demonstrated a very high test-retest (mid.80's to low .90's) correlation after brief intervals. The correlations remain the same for adults retested at one and three year

intervals (Exner, 2003). Exner interprets this finding to mean that the Afr reflects a stable, stylistic feature of personality.

In patient populations, however, the temporal consistency and distribution of the ratio are strikingly different, suggesting that deviations in the Afr are related to psychopathology. Exner has demonstrated that the Afr of patient groups assumes a bimodal distribution with patients' ratios clustering outside the normal range at the upper and lower extremes of the distribution. At retest, those patients rated improved showed Afr's in the normal range, while those rated unimproved, remained in the upper or lower extremes (Exner, 2003). One possible implication of this finding is that, in response to psychological disturbance, patients become either over or under responsive to emotional aspects of their environment.

In an effort to experimentally evaluate the link between color and emotional responsiveness, Exner presented artist's sketches, one set done in black and white, and one in color to normal groups of adults with high and low Afr's, asking them to rate their preferences for the sketches. Those with high Afr's overwhelmingly preferred the color sketches, those with low Afr's preferred the black and white sketches. Exner conducted a similar study using affective disordered subjects and obtained the same pattern of results (Exner, 2003).

Support for Rorschach's claim that the Extratensive personality (i.e., the color dominated style) is more emotionally responsive is provided by another study conducted by Exner (1978) in which he evaluated Afr by Experience Type. He found that, on average, Extratensives have Afr's that are significantly higher than either Introversives or Ambitents. Of this finding Exner (1978) says, 'This is an intriguing result because it

coincides so well with what is known about Extratensives as people who tend to 'discharge' affect when in coping situations...' (p. 125).

Because the Extratensive style is particularly representative of emotional responsiveness as well as of other aspects of emotional functioning, it will be worthwhile to review the general characteristics of the Color dominated Extratensive style.

The Extratensive Experience Balance (EB) and its Relationship to Emotional Rapport

According to Rorschach, the Experience Type of the individual represents a very basic aspect of psychological functioning. The ratio of Color to Movement responses provides information regarding the typical ways a person experiences reality. Rorschach (1942) described the Extratensive type as characterized by: '1.the urge to live in the world outside oneself, 2.restless motility, and 3.unstable affective reactions' (p. 83). Additionally, he describes Extratensives as more adaptive to reality[7] (p. 78).

Rorschach (1942) further delineated the aforementioned characteristics as indicative of the capacity for empathy and suggestibility, which were judged according to the balance and type of Color responses present in the record. Subjects with no Color responses, for example are, 'incapable of achieving more than intellectual empathy' (p. 100), while those with CF and C responses have a desire for empathic responsiveness but are prevented from achieving it by the 'non-adaptable emotional components' (p. 100) inherent in this response pattern (i.e., egocentric affectivity). Subjects with FC

[7] Interestingly, he maintained that the M types, those with less color, were characterized by, 'insufficient adaptability to reality and insufficient extensive rapport.' (1942) Rorschach stressed that the Introversive type is not without feeling and can 'achieve adaptability in high degree', but 'through conscious, logical function and by his consciously acquired ways of thinking.' (Rorschach, 1942)

responses in their record have the greatest capacities for empathy. Rorschach (1942) states, 'It is probably impossible to draw any sharp line between the ability to get into empathic relation and the capacity for adaptation' (p. 100), adaptation being represented by the FC determinant.

Empirical evidence that Extratensives are more responsive to their environment comes from a study by Chu and Exner which demonstrated that Extratensives were more distractible while solving math problems than were Introversives (Exner, 1986). Although this result provides no direct evidence of the presence of empathy it does provide a way to begin to think about the psychological mechanisms leading to a capacity for empathic responsiveness.

Regarding emotional suggestibility, Rorschach (1942) stated, '...the greater the capacity for conscious reasoning, the less suggestible is the subject, and conversely, the greater the affective liability, the greater the suggestibility of the subject' (p. 100). Too much affective lability, however, as with the Pure Color response, would, according to Rorschach, render emotional suggestion ineffective. The CF response therefore, is the representative of a capacity for emotional suggestibility, due to the presence of affect that is only somewhat modified by rational processes. The presence of FC responses, however, suggests resistance to emotional suggestion due to increased capacities for conscious reasoning (Rorschach 1942).

Experimental evidence in support of Rorschach's contention that Color responses are related to suggestibility is provided by studies in which subjects with high WSumC (defined as the weighted sum of the Color responses) were more likely to change their judgments in accord with a confederate examiner (Steisel, 1952, Linton, 1954).

Weighted Sum C has also been associated with the ease of being hypnotized; subjects with high WSumC are more easily hypnotized than those with low WSumC (Brennen & Richard, 1943).

Rorschach's concept of motility is one of the more intriguing aspects of his theory. Framed in ordinary language, Rorschach (1942) maintains that Introversives are more active internally, while Extratensives are more active externally. Because motor behavior is a way of interacting with the external environment, findings that support Rorschach's claim would strengthen the empirical base for the relationship between Color responses and interactive tendencies. Just such positive support was provided by a study in which subjects were rated for motor behavior during a taped interview. The Extratensives demonstrated significantly more motor activity such as leaning forward, chair turning, arm movements, and hand gestures, than did Introversives (Exner & Thomas, 1982). Other studies have demonstrated a difference between the Experience Types in the quantity of motor behavior during a waiting period (Singer & Spohn, 1954; Singer & Hermann, 1954).

The more interactive style of the Extratensive also appears to be a feature of their approach to problem solving. They are more likely to use a trial and error approach, which can be understood as a way of gaining feedback from the environment. According to Exner (1993), reporting the results of a laboratory problem solving study, relative to Introversives, Extratensives ' ... were more 'doer' oriented in problem solving, more willing to make mistakes but they apparently profited from those mistakes so that their solutions times were generally a bit shorter than the more reflective Introversives' (p. 425). Exner's results are similar to Rosenthal's (1954) who found that, in a problem

solving task, Extratensives manipulated their materials more, and finished more quickly than did the more thoughtful Introversives.

In summary, the empirical evidence appears to support a relationship between responsiveness and color. The developmental literature suggests that the link is mediated by emotion. It is not unreasonable to assume that responsiveness to arresting aspects of the external environment is mediated by emotion and that those who are more responsive are more emotional. Conversely, withdrawal from the external world and the corresponding deadening of emotion as can occur with depression, could reasonably lead to diminished responsiveness to emotional cues and therefore to color stimuli. Regardless of the specific mechanisms, however, the emotional rapport and adaptability characteristic of the Extratensive style is dependent upon responsiveness to the external environment.

It seems reasonable to assume that an important link between an interactive style and successful psychological adjustment is the quality of emotional resources that drive interaction with the external world. Based on the forgoing, whether one is considering the adjustment of the Ambitent or of other personality types, it can be inferred that good quality emotional resources contribute to successful use of the external environment. It follows that good quality Color responses may indicate the presence of the traits inherent in the Extratensive type even in the absence of a definitive style (i.e., the Ambitent).

Although the Color-determined responses on the Rorschach are those most strongly associated with emotion, there are other non-Color-determined responses that are related to subjects' emotional functioning. Because these variables are included in the

Color Response Scale when they occur with a Color variable, they will be reviewed below.

Additional Rorschach Variables Related to Affect

MORBID (MOR)

Morbid responses (MOR) are one of a number of Special Scores in the Comprehensive System designed to identify unusual characteristics of a response (Exner, 2003). They are defined as any response in which an object is identified as:

1. dead, destroyed, ruined, spoiled, damaged, injured, or broken.
2. any object to which is attributed dysphoric feeling, for example, gloomy, sad, unhappy, crying, depression.

Although not a part of the Comprehensive System interpretive routine pertaining to affect, (except for its role in a sub-scale related to assessing depression), research has demonstrated that Morbid content is associated with a variety of emotions and affective disorders. For example, normative data for this variable reveals that while a majority of nonpatient adults give one Morbid response, only 4% give more than two. Among children, only three to eight percent give more than two Morbid responses (Exner, 2003). Among a group of Inpatient children, those with primary symptoms of depression gave an average of approximately 3 Morbid responses, compared with the nondepressed group, which averaged one Morbid response. Among the depressed children, the number of Morbid responses decreased to 1.01 following successful treatment (Exner & Weiner, 1982).

Analysis of the Rorschach protocols of 101 effected suicides obtained within 60 days prior to the suicide revealed increases in the Morbid response-greater than three in 71% of the records (Exner, Martin, & Mason, 1984). Additional studies by Exner have determined that the Morbid score is one of several variables that effectively distinguishes a suicide group from a control group (Exner, 2003).

Therapists' ratings of outpatients with three or more Morbid responses found that patients who had more than two MOR were rated as being pessimistic about their future (Exner, 2003).

Studies by Malone (1996) and Epstein (1998) suggest that elevated numbers of MOR are associated with experiences of trauma. Malone, for example, found that outpatient women with a history of incest gave significantly more MOR than did outpatient woman without such a history. Epstein (date) demonstrated that patients with traumatic brain injury have elevated MOR. Of the Morbid response, Exner (2003) states:

> The composite of findings concerning MOR suggests these answers signal an orientation toward the self, and probably the environment, that is marked by pessimism and the self-image is conceptualized by the person to include more negative, and possibly damaged features than is commonplace. (p. 482)

The total body of evidence related Morbid responses suggests its occurrence indicates the presence of a negative emotional state that can influence the quality of thought processes and judgments of the self and of the world. It appears furthermore, to provide information about the quality of self and other representations.

SPACE (S)

Rorschach (1942) defined Space responses as those in which, 'the white spaces are interpreted rather than the black or colored parts of the figure which surround them' (p. 39).

On the interpretive meaning of the Space response, Rorschach (1942) stated:

> If there occurs more than one S in a protocol gives reason for suspicion. S are most common in stubborn, eccentric normals and in negativistic, scattered schizophrenics. . . S answers always indicate some sort of tendency to opposition. (p. 39)

He further delineated the S response according to Experience Type (The ratio of M to C):

> When the experience type is Extratensive, this takes the form of some 'outward' opposition, defiance, a tendency to indulge in polemics, to make contradictions and to be aggressively stubborn. In the ambiequal experience type, this oppositional tendency is directed against the subject's own consciousness and gives rise to skepticism, doubt, hesitancy, vacillation, and indecision as well as emotional ambivalence, and ambi-tendencies. . . . When the experience type is Introversive, the space interpretations appear to indicate opposition to the subject's own 'inner' life, resulting in constant self-distrust, feelings of insufficiency of every sort, self-criticism. . . (pp. 199-200)

Later theorists incorporated the S response, with varying degrees of agreement with Rorschach's original interpretation of its meaning. Beck, Piotrowski, and Hertz

maintain that, depending on the entire record, S may indicate positive strivings for independence, healthy questioning of authority, or simple stubbornness (Exner, 1969).

Klopfer's (1954) conception of S incorporates the distinctions Rorschach made regarding the Extratensive and Introversive types, but goes further by stipulating that the strength of the oppositional tendencies can be evaluating by assessing 'how daringly the white space is used' (p. 309). According to Klopfer, a daring use of White Space entails a complete reversal of figure and ground. An S response is considered less daring when it is integrated with surrounding achromatic or chromatic features of the blot.

In the Klopfer system, White Space responses are interpreted in relation to various other factors and can be seen as an indication of positive self-assertion, a trait Klopfer viewed as an ego strength (Klopfer, 1954). At their most daring (i.e., pathological), however, the S response indicates, 'that the subject's emphasis on doing things differently and asserting himself competitively or stubbornly occurs at too high a cost to his own balanced perception of reality' (Klopfer, 1954). He nevertheless maintained that ego strength was a component of all S responses, even the most 'daring'.

Rapaport, Gill, and Schafer (1968) add the observation that 'the highest relative incidents of space responses occurs in paranoid conditions...' (p. 333). In Psychoanalytic Interpretation in Rorschach Testing, Schafer (1954) elaborates this observation by saying:

> Suspiciousness also implies a tendency to miss the obvious and even to reverse the obvious. The mistrustful person who becomes more wary than ever in the face of kindness and affection is a case in point. Accordingly, frequent figure-ground reversals, expressed in interpretations of the white spaces (S), may occur on the

basis of suspicious orientation. More than a few S in a record should be sufficient to alert the tester to a paranoid orientation. (p. 282)

Empirical research regarding the S response has generally supported the views of Rorschach and later theorists, particularly the view that S has no fixed interpretive meaning but rather must be evaluated in light of overall frequencies and patterns of occurrence in the record. A study by Exner (1993), for example, demonstrated that when S occurs in low frequencies on Cards I and II, the test-retest correlations are quite low (.32) However, when S occurs in higher frequencies, and on cards after I and II, the test-retest correlations are much higher (.86). These findings suggest that for some subjects S may be a temporary reaction to the test situation while for others it may indicate a more enduring personality trait. Nevertheless, the precise meaning remains elusive. Normative studies indicate that, generally, elevations in S (i.e., above 2) are associated with a wide variety of diagnostic categories (Exner, 1993) with the highest number occurring in the records of paranoid schizophrenics. (Rapaport, 1946) Increases in S have been reported after hypnotically induced conflict (Counts and Mensh, 1950) and there is a demonstrated association between the frequency of S and high Pd scores on the MMPI (Rosen, 1952).

The inclusion of the Space response in the CRS is based on the assumption that the tendencies toward opposition, suspicion, and/or stubbornness that may be indicated by its presence are antithetical to the social skill needed to access external sources of support and to develop emotional rapport. In Exner's view, the presence of S in a record suggests an unusual psychological set toward the external environment. The research indicates there is an affective and interpersonal component to this set. Furthermore, Rorschach's

(1942) description of the impact of the form the S tendencies take in the Ambitent, that is, as opposition turned against the self, mirrors the current conception of the Ambitent as an inefficient, vacillator. As such, the Space response was included in the Color Response Scale as a negative indicator.

Summary

The present study is founded on a critique of the current conceptualization of the Ambitent personality type, which includes the claim that it is too limited to adequately explain the full range of Ambitent functioning. This author's dissatisfaction with the current research and theory related to Ambitents led to the development of an expanded theory of the Ambitent Type that has potentially broad applications in the field of personality assessment by focusing attention on a qualitative analysis of emotional resources. The present work includes the following general claims:

1. Variability in adaptive functioning is related in part to quality of emotional resources.
2. Quality of emotional resources is a complex construct, which includes interactive tendencies, and positive vitality affects.
3. Good quality emotional resources are indicative of adaptive potential.
4. Adaptive potential is related to the development of personal identity, ego-strength, and object-relations.
5. Emotional resources as stipulated can be evaluated via Color responses on the Rorschach Ink Blot Method.

Because the CRS was originally derived on theoretical grounds with subsequent modifications based on the empirical results of a pilot test, several theoretical postulates will remain untested but will derive indirect support from positive results of hypothesis testing. The relationship between good quality emotional resources, for example, and identity, ego strength, and object relations will not be directly tested. The primary goal of the empirical study reported here is to conduct an initial test the Color Response Scale. Specific hypotheses and predictions follow.

Method

The Development of the Color Response Scale

Pilot Test

The development of the Color Response Scale consisted of three steps. The first version of the scale was developed using existing empirical knowledge of the Rorschach Comprehensive System as well as theoretical and clinical knowledge of distinguished Rorschach practitioners. It was based on the assumption that emotional resources reflected in Color responses are complex phenomena that interact with cognitive and interpersonal resources and are therefore reflective of general psychological strength.

The initial step in the development of the scale was twofold. The first was to imagine an ideal Rorschach Color response profile that would be indicative of well integrated, well modulated, lively emotional functioning that embodied a capacity for interpersonal relationships and sound reality testing. The selection criteria for this hypothetically ideal profile was based on empirical and clinical knowledge related to the aforementioned capacities. For example, the score Ma.FCo, H, COP, is a well perceived response containing active Human Movement, Form dominated Color, Human Content, and Cooperative Movement. Although in practice, inferring capacities from one response is disallowed, for the sake of illustration it will be noted that this response suggests a capacity for sound reality testing, associative and affective processing, inhibition

sufficient to form appropriate, well integrated perceptions, an interest in people, and a view of the social world as interactive in nature. As such, it formed the basis of the so-called Good Color response in the Color Response Scale. This ideal profile was translated into a coding system that constitutes the first version of the Color Response Scale. (See Appendix A)

The next step was to evaluate the scale by conducting a linear trend analysis for each of the variables in the scale, testing for trends across groups. Six diagnostic groups of 20 participants each were analyzed: 1) Nonpatients with an Introversive style; 2) Nonpatients with an Extratensive style; 3) Nonpatients with an Ambitent style; 4) Nonpsychotic Inpatients; 5) Schizophrenic Inpatients; and 6) Major Affective Disorder Inpatients.

Patient and nonpatient groups were selected for comparison because it was assumed that nonpatient Color responses would reflect adaptive emotional resources while patient Color responses would demonstrate a deterioration of adaptive resources leading to measurable differences among the groups for the variables tested. A multi-group comparison was made due to the fact that a simple comparison of patient and nonpatients is likely to yield significant differences for any variable related to affect that may simply be indicative of well established differences between patients and nonpatients in the general level of emotional disturbance. On the other hand, the existence of predictable trends among a variety of distinct patient groups and normal personality styles would suggest qualitative differences in emotional functioning. It was predicted that for the variables in the Color Response Scale that receive the score Good Color Response (GCR), that is, those indicative of adaptive emotional resources, there would be a trend

across the groups from highest to lowest, ranging from the Normal Introversive group to the Affective Disorder group. For variables ostensibly identifying affective problems, (scored Poor Color Response, PCR), it was predicted that there would be trends from lowest to highest, ranging from the Normal Introversive group to the Affective Disorder group. The goal of the pilot test was to establish the capacity of the Color Response Scale to differentiate affective functioning among various groups in order to justify its use for hypothesis testing.

Participants

The original scale was tested on a sample of Rorschach protocols obtained from a study at the University of Rochester School of Medicine in the 1970s and from a sample of Rorschach protocols obtained from the training clinic at Long Island University during the years 1990 to 2001.

All Rochester patient participants were from a large group of psychiatric inpatients consecutively admitted over a period of 20 months to a university teaching hospital in Rochester, New York in 1977-78. The hospital served the entire metropolitan area, but primarily treated patients from two geographically heterogeneous catchment areas. The admission notes for newly hospitalized patients were read within 3 days of admissions. Patients between the ages of 18 and 55 years with possible functional disorders were designated as prospective participants. Exclusions from the study were made on the basis of clear evidence of organic disorder, alcohol or drug abuse, or mental retardation. After permission was obtained from the attending physician, the patient was informed that the purpose of the study was to analyze personality styles of psychiatric

patients. Standard psychological tests were used and the patient was free to withdraw at any time. Participants signed written consent forms. One hundred thirty four patients were asked to take part in the study: 20 refused and 9 withdrew after initially giving consent; 5 consenting patients were dropped because they were too disturbed to participate in the test procedures. Ten participants were eliminated because the two diagnosticians could not agree upon an unequivocal diagnosis. Five of the remaining 70 participants did not meet the intelligence test criteria and were eliminated from the study. For the current study, five participant records were randomly excluded in order to provide an equal number of participants in each diagnostic group

The nonpatient participants in the original sample were recruited from the hospital secretarial and maintenance staffs with attempts to match for age, gender, and education level. Participants signed written consent forms.

An additional 40 participant records were obtained from a volunteer sample of nonpatients tested by advanced graduate students from Long Island University in New York City during the period 1990 to 2001. The students were graded for the adequacy of the administration of the procedure and the nonpatient protocols were selected only from those that were adequately administered. Administration was considered adequate if a grade of A was awarded. The protocols were initially scored by the students but were reviewed and corrected by Dr. Barry Ritzler before they were included in the study. Enough protocols were added to the original Rochester nonpatient groups to make a total of 20 protocols in each of the nonpatient groups. Participants signed written consent forms and were informed that their records may be used in the future for anonymous archival research.

Procedures

The Rochester participants were administered a structured, reliable diagnostic interview and the Vocabulary and Block Design subtest of the Wechsler Adult Intelligence Scale. The diagnostic interview was the Psychiatric Assessment Interview, an adaptation of the Present State Examination used in the World Health Organization International Pilot Study of Schizophrenia. The PAI assessed symptomatology exhibited in the month prior to admission and at the time of the interview session. Diagnostic decisions were made independently by two clinical psychologists employed at the hospital on the basis of the interview and all available case record information. Diagnoses were made according to the specific criteria of the Diagnostic and Statistical Manual III. Diagnostic categories used were (a) Schizophrenia, (b) Affective Disorder; and (c) Non-psychotic Disorders. Agreement was obtained for 78 of 100 cases. (Figures are reported for diagnoses made prior to participants withdrawing or refusing to participate.) Twelve of the disagreements were resolved through discussion and 10 cases were eliminated because the two diagnosticians could not agree upon an unequivocal diagnosis. The WAIS subtests were used as minimum intelligence criteria for inclusion in the study. Scaled scores of a least 6 on each subtest and a scaled score of at least 15 for the two subtests combined provided the criteria. Five of the remaining 70 participants did not meet the intelligence test criteria and were eliminated from the study.

All participants were given a standardly administered Rorschach. Verbatim notes provided the material for coding. For the Rochester participants, a research assistant thoroughly trained in the Rorschach method administered the testing. Although the

protocols were initially coded for the Beck system, Barry Ritzler, Ph.D recoded them for the Rorschach Comprehensive System. Advanced graduate student research assistants also coded all Rochester protocols in 1997-98. Reliability revealed at least 80% agreement between Dr. Ritzler and the research assistants for all coding categories with a low of 81% for Special Scores and a high of 98% for Location and Pairs. Most of the other categories showed inter-rater agreements of over 90%. These reliability calculations are consistent with those reported by Exner (2003).

Each of the variables in the initial scale was subjected to a linear trend analysis comparing six diagnostic groups; Nonpatient Introversives, Nonpatient Extratensives, Nonpatient Ambitents; Inpatient Nonpsychotics, Inpatient Schizophrenics, Inpatient Affective Disorders. Analyses were conducted for Color responses only. The statistical procedure used for assessing significant linear trends was the use of orthogonal components for trends described in Winer (1962). It was predicted that there would be a trend in the characteristics of Color responses from most to least pathological in the following order of diagnostic groups: the affective group, the schizophrenic group, the non-psychotic group, the nonpatient-Ambitent group, the nonpatient-Extratensive group, and the nonpatient-Introversive group. The opposite trend in characteristics of Color responses from least to most pathological was predicted in the following order: nonpatient Introversives, nonpatient Extratensives, nonpatient Ambitents, inpatient psychotics, inpatient schizophrenics, inpatient affective disorders. The criteria used to establish the existence of a trend was a significant F.

Applying the following coefficients to the ordered diagnostic groups tested trends: -5, -3, -1, +1, +3, and +5. After the group means were weighted by these coefficients, an

analysis of variance was performed to determine the effect of the linear trend. The obtained F statistic was used to judge the degree of trend for the variables that showed significance (Winer, 1962).

Results

Nine of the twenty variables in the initial scale showed significant trends in the predicted direction; two variables showed significant trends in the opposite direction predicted. (See Appendix C) Because of the disappointing results, most of the remaining variables in the Comprehensive System were analyzed for the predicted trends. The only variables not analyzed were those with very low frequencies across all groups, those that showed distributions that varied widely from the normal curve so that analysis of variance would not be appropriate, and those variables from the scale that yielded non-significant F ratios in the first analysis. Variables that achieved significance in the first analysis were included for re-analysis.

The second, broader analysis yielded results that identified several additional Comprehensive System variables that showed the predicted trends. (See Appendix C) These variables, in conjunction with those variables that showed the predicted trends in the first analysis, were selected for inclusion in a revised scale.[8] All the variables were entered in progressive steps in the new scale according to the magnitude of the linear trend as indicated by the F statistic. (See Appendix B)

[8] There are some exceptions. The final version of the scale was streamlined and some significant but infrequently occurring variables were omitted, due to the belief that they would not increase the power of the scale.

Discussion

While the original Quality of Color Response Scale was developed on theoretical grounds, the final version is empirically derived. Although several variables theorized to differentiate adaptive from maladaptive emotional functioning proved to be significant, statistical analysis demonstrated that others appeared not to conform to the expected trends. Additionally, two variables included in the original Scale were significant, but not in the hypothesized direction. Finally, several variables not included in the original scale appear to have discriminatory value.

Non-significant findings resulted in the elimination of the following variables from the original scale, Human Movement Active (Ma), Cooperative Movement (COP), Achromatic Color (C'), Vista (V), Diffuse Shading (Y), Sex (Sx), X-ray (Xy), and Blood (Bl).

Human Content (H) and Space (S) were preserved but receive the opposite assignment than originally hypothesized, that is, they showed significant trends in the opposite direction than predicted. Human Content is associated with emotional disturbance rather than health, and Space is associated with health rather than emotional disturbance.

Four additional variables identified in the second analysis were added, Botany (Bt), which is associated with emotional health, (i.e., Good Color), the Special Score Abstract (AB), which earns a Color response a Poor rating, and the scores Developmental Quality Vague (DQv) and Vague/plus (DQv/+), both of which are designated Poor.

One of the most surprising findings of the pilot test was that the records of emotionally disturbed subjects contain more Human Content than the records of nonpatients. One possible explanation for this finding is that many, if not most people suffering emotional disturbance are distressed by human relationships. Stimuli that trigger perceptions of Human Content may, therefore, arouse emotional distress, thus yielding a poor response. Additionally, these emotionally disturbed subjects may have difficulty limiting their responsiveness to distressing stimuli, thereby increasing the rate of occurrence of H.

An examination of the Comprehensive System Hypervigilance Index may shed further light on the question of Human content. The HVI is an empirically derived scale that provides information about the degree of hypervigilance and suspiciousness of subjects. When H, in combination with other variables, is elevated above the mean it is a positive indicator for the presence of these character traits (Exner, 1993). According to Exner, in some cases elevations in H suggest a condition of guardedness and mistrust toward others. In light of this evidence, the finding that increases in H were associated with psychopathology may be reflecting this previously established trend.

This author knows of no studies that examine the Space response in relationship to Color responses. An explanation of the very interesting contrary trends for Space responses is, therefor, quite speculative. Historically, the meaning of the S response has included the idea that its occurrence in a record may signal the presence of oppositional traits ranging from positive self-assertion to paranoia. While several studies previously mentioned have documented evidence of S associated with psychopathology, there do not appear to be any studies that support the theory of S as a positive indicator. Nevertheless,

this theory remains a strong and compelling trend in the clinical literature. The findings of the present study provide statistical support for the notion of S as a positive variable. One clue to the interpretive meaning of the findings may be found in Klopfer's (1954) conceptualization of Space response. Klopfer maintains that whether S is reflecting constructive self-assertion or reality distorting stubbornness, it is a sign of ego-strength. Most importantly, he believes that the ego-strength indicated by the use of white space suggests that the 'personality has resources to resist inundation by environmental forces or motivational confusion' (p. 310).

What is most interesting about Klopfer's view in light of the current study, is the possible implication that S, in combination with Color, which is a measure of responsiveness to the environment, is an indication that a person has the ability to interact with the external world without becoming overwhelmed by it.

Further insight into the finding relating White Space to emotional health may be provided by Piotrowski's (1957) view that when S occurs with the FC response it is suggestive of appropriate unconventionality. When S occurs, however, with the CF response it may indicate the presence of delinquent acting out.

Another surprising finding is the appearance of a significant quantity of Botany responses in healthier subjects. It may be that when a subject gives a Botany response to a colored card the content is flowers. The positive associations to such content might be reflective of emotional health. Regardless of whether the specific content is flowers or some other type of living plant, this author conceives of Botany responses as the conceptual opposite of the Morbid response, in which objects are seen as dead, decaying, or destroyed. Morbid responses are associated with depression and pessimism. It is

possible that future research will establish that Botany responses are not simply the conceptual opposite of Morbid responses but that they indicate opposite kinds of psychological processes.

The variables C', V, Y, were included in the original scale as an indicator of poor emotional functioning because they have been empirically linked to effected suicide (Exner, 1993). It was assumed that the well-researched Color-Shading blend, indicative of painful affect, would reliably differentiate patients from non-patients. It appears, however, that extrapolating from the very specific group (effected suicides) associated with the color-shading blend to the more general and therefore variable emotionally disturbed group was unjustified.

Generally, the interpretive value of the Special Score Abstract (AB) is its role in suggesting the presence of the defense of intellectualization. The significance of this score, associated with the patient groups, could be indicative of maladaptive emotional distancing or an emotional cut-off.

The Active Human Movement variable (Ma) and the Special Score Cooperative Movement (COP) are generally viewed as positive indicators. For that reason they were included in the original scale as components of a Good Color response. These variables, however, did not show significant trends across the groups. Because Ma and COP are typically assigned in conjunction with the Human (H) content variable, it is possible that their association with a negative indicator eliminates or weakens potential positive associations. Furthermore, statistical significance for the Ma and COP variable may be precluded due to their relatively low frequencies.

Previous Comprehensive System research has established that the variables Sex, X-ray, and Blood are elevated in patient populations. Generally infrequently occurring, these variables may have occurred with such low frequencies as to preclude reaching statistical significance with the type of analysis used.

Proposed Study

The final study will consist of an analysis of data provided by John Exner, Jr. Ph.D. to test hypotheses related to the validity of the quality of Color Response Scale.

Test of the Quality of Color Response Scale

Hypotheses

1. Nonpatients will have significantly more GCR than will patients.
2. Nonpatients will have significantly less PCR than will patients.
3. Depressed Outpatients will have significantly more GCR than will Depressed Inpatients.
4. Depressed Outpatients will have significantly less PCR than will Depressed Inpatients.
5. Nondepressed Outpatients will have significantly more GCR than will Depressed Outpatients
6. Nondepressed Outpatients will have significantly less PCR than will Depressed Outpatients.

Participants

The revised scale will be tested with protocols from the archives of Rorschach Workshops, Incorporated, directed by John Exner, Jr., Ph.D. The protocols were submitted to Rorschach Workshops by contributing psychologists for use in the

normative and patient comparative samples that form the comparison bases for the Rorschach Comprehensive System. The contributing psychologists obtained informed consents and identifying demographic information was changed in each case to protect the identity of the participants. Patient diagnoses were made by the contributing psychologists and were based on American Psychiatric Association's Diagnostic and Statistical Manual. Ages ranged from 18 to 65 and each participant had at least a high school education.

The nonpatients in this second sample also were recruited by contributing psychologists and were eligible for the sample if they had no treatment for serious psychological problems. Most of the nonpatient participants were members of service organizations such as Lion's clubs, Parent-Teacher Associations, and church groups. Rorschach Workshops contributed $25 to the participant's organization when the testing was completed.

Groups

A total of 7 groups of 50 participants each will be used for hypothesis testing. The groups were configured based on diagnostic category, which, for each participant was determined according to the aforementioned criteria. The groups are:

1. Inpatient Schizophrenic
2. Inpatient Depressed
3. Outpatient Depressed
4. Outpatient Nondepressed
5. Nonpatient Ambitent

6. Nonpatient Introversive

7. Nonpatient Extratensive

In keeping with current trends in Comprehensive System Rorschach research, analyses of nonpatients will be performed according to Experience Type. In other words, the nonpatient group will be divided into 3 groups, the Ambitents, Introversives, and Extratensives. In this way, information that may vary according to Experience Type will not be lost.

Materials

Each participant was given a standardly administered Rorschach. The protocols were coded for the Comprehensive System developed by John Exner, Jr., Ph.D. Exner (1993) has demonstrated that the Comprehensive System has interrater agreement of over 80% for every variable and for most variables the agreement is above 80%. Meyer (2000) has demonstrated that these reliabilities compare favorably to other methods in psychology and other professions.

Procedures

Each Rorschach protocol will be scored using the Quality of Color Response Scale. The CRS will be applied to all Color responses, which according to the decision criteria will yield a score of Good Color Response (GCR) or Poor Color Response (PCR). Frequencies of GCR and PCR will be calculated and Analysis of Variance and t-tests will evaluate significant differences between the group means.

Results

Results of Analysis of Variance (Table 1) among the seven groups were highly significant for both Good Color and Poor Color. With means ranging from .94 to 6.06 for Good Color, and from 1.04 to 2.58 for Poor Color, there are clearly significant differences between the groups. (Table 2)

Table 1

Analysis of Variance for Good and Poor Color

Source	df	MS	F	p
Good	6	149.51	58.15	<.001
Poor	6	19.47	6.63	<.001

Table 2

Mean Rates for Good and Poor Color

	Mean GC	Mean PC
Group		
IP Schiz	.94	2.45
IP Dep	2.06	2.28
OP Dep	2.00	2.58
OP Ndep	2.10	1.18
NP Amb	4.06	1.92
NP Int	3.72	1.04
NP Ext	6.06	2.20

Hypothesis One

Nonpatients will have significantly more Good Color than will patients.

Following the significant overall ANOVA results, individual t-test comparisons between 4 patient groups and 3 nonpatient groups were highly significant. (See Table 3) All nonpatient groups have significantly more Good Color in their records than do all patient groups. These results are consistent with the expectation that higher functioning individuals, that is, nonpatients, have better quality emotional resources than do lower functioning individuals, that is, patients.

An examination of the means for Good Color for each group shows that the nonpatient groups have from 2 to 6 times more Good Color than the patient groups, with trends for Good Color occurring in the expected direction. Inpatient Schizophrenics (mean = .94), for example, the most disturbed patient group, average less than 1 Good Color response per record, while Nonpatient Extratensives (mean = 6.06.), those most likely to make good use of color, average 6 Good Color responses per record.

Nonpatient Ambitents (mean = 4.06), considered an at risk population, have less Good Color than the Extratensive group, however, they nevertheless have four times as much Good Color as the Schizophrenic group (mean = .94). Furthermore, they have twice as much Good Color as the Inpatient Depressed (mean = 2.06), Outpatient-Depressed (mean = 2.00), and the Outpatient-Nondepressed groups (mean = 2.10).

Even the Nonpatient-Introversive group (mean = 3.72), which has the lowest mean Good Color score of the nonpatient groups, has nearly twice as much Good Color

as the Outpatient-Nondepressed group (mean = 2.10), the patient group with the highest mean Good Color score.

These results demonstrate that not only are nonpatients likely to have more Good Color in their records than patients, but also that quality of Color response appears to vary systematically with severity of pathology. Hypothesis One is therefore, strongly supported.

Table 3

T-Tests for Hypothesis One- Comparisons of Good Color Among Patients and Nonpatients

	N	Mean	Standard Dev.	t Value	df	2-tail Prob.
NP Amb	50	4.06	1.65			
IP Schizo	50	.94	1.09	-11.09	98	<.001
IP Dep	50	2.06	1.62	-6.09	98	<.001
OP Dep	50	2.00	1.49	-6.51	98	<.001
OP Ndep	50	2.10	1.55	-6.09	98	<.001
NP Int	50	3.72	1.85			
IP Schizo	50	.94	1.09	-9.13	98	<.001
IP Dep	50	2.06	1.62	-4.76	98	<.001
OP Dep	50	2.00	1.49	-5.10	98	<.001
OP Ndep	50	2.10	1.55	-4.73	98	<.001
NP Ext	50	6.06	1.82			
IP Schizo	50	.94	1.09	-17.02	98	<.001
IP Dep	50	2.06	1.62	-11.59	98	<.001
OP Dep	50	2.00	1.49	-12.16	98	<.001
OP Ndep	50	2.10	1.55	-11.68	98	<.001

Hypothesis Two

Nonpatients will have significantly less Poor Color than will patients.

The same individual t-test comparisons used to test Hypothesis One were made for Hypothesis Two. Two of the three nonpatient groups, the Ambitents and Extratensives, did not have significantly less Poor Color than any of the 4 patient groups. For example, the mean Poor Color score for the Nonpatient-Ambitent group was 1.92, compared with 2.54 for the Schizophrenic group, 2.28 for the Inpatient-Depressed group, 2.58 for the Outpatient-Depressed group, and 1.18 for the Outpatient-Nondepressed group. The mean Poor Color score for the Nonpatient-Extratensive group was very similar at 2.20. (See Table 4)

Nonpatient Introversives, however, with a Poor Color mean score of 1.04, had significantly less Poor Color than Inpatient Schizophrenics did (M = 2.54), Inpatient Depressed (M = 2.28), and Outpatient-depressed (M = 2.58). Thus, it seems that whereas the Ambitents and Extratensives do not differ from the patient groups for Poor Color, the Introversives differ on Poor Color from 3 of the 4 patient groups. There were no differences between NP Introversives and the OP Nondepressed patients for Poor Color. (See Table 4) With the exception of the non-patient Introversives, Hypothesis Two is not supported.

The means for Poor Color (See table 4) show that variability for Poor Color is much smaller than for Good Color, ranging from approximately 1 to just 2.5 compared to from .94 to 6.06 for Good Color. The smaller range makes finding differences among the

groups less likely. Where significant differences were found, it was between the nonpatient group with the lowest Mean Poor Color score and the three patient groups with the highest Mean Poor Color scores. The finding that the Introversive group has the lowest Mean Poor Color score is consistent with what is known about the Introversive type's conservative use of Color, and therefore supports the construct validity of the Color Response Scale. Overall however, simple comparisons of Poor Color scores do not discriminate between patients and nonpatients except for individuals at the upper and lower ends of the range for this variable.

Table 4

T-Tests for Hypothesis Two- Comparisons of Poor Color Among Patients and Nonpatients

	N	Mean	Standard Dev.	t Value	df	2-tail Prob.
NP Amb	50	1.92	1.55			
IP Schizo	50	2.54	2.26	1.60	98	.113
IP Dep	50	2.28	1.53	1.16	98	.247
OP Dep	50	2.58	1.94	1.87	98	.064
OP Ndep	50	1.18	1.56	-2.37	98	.019
NP Int	50	1.04	1.06			
IP Schizo	50	2.54	2.26	4.24	98	<.001
IP Dep	50	2.28	1.53	4.68	98	<.001
OP Dep	50	2.58	1.94	4.98	98	<.001
OP Ndep	50	1.18	1.56	-.52	98	.602
NP Ext	50	2.20	1.81			
IP Schizo	50	2.54	2.26	.82	98	.409
IP Dep	50	2.28	1.53	.23	98	.813
OP Dep	50	2.58	1.94	1.00	98	.316
OP Ndep	50	1.18	1.56	-3.01	98	.003

Hypotheses Three and Four

Depressed Outpatients will have significantly more Good Color and less Poor Color than will Depressed Inpatients.

T-test results for Hypotheses Three and Four were not significant, ($t = .192$, $df = 98$, $p = .848$, and $t = -.854$, $df = 98$, $p = .395$ respectively.) There were no differences for Good Color or for Poor Color between the Inpatient- and the Outpatient-Depressed groups. In other words, Depressed patients, whether Inpatients or Outpatients have essentially equal numbers of Good and Poor Color responses. These results suggest that the factors that determine Inpatient versus Outpatient status among Depressed patients may not be related to the quality of affective experience, but to other aspects of psychological functioning, for example, thought disorder or impulse control.

The equal balance of Good Color to Poor Color in the Depressed groups, and the implication that such a balance is associated with depression presents an interesting parallel to the Experience Balance, which is derived, in part, by the Color responses. In that ratio an equal balance of its components, (i.e., the Ambitent type) is considered a negative indictor because of the vulnerability the Ambitent type has toward mental illness and other psychological difficulties. Although it is unclear if this similarity has any meaning or prognostic value beyond its association with depression, it is worth noting.

Hypothesis Five

Nondepressed Outpatients will have significantly more Good Color than will Depressed Outpatients.

Hypothesis Five was not supported. ($t = -.327$, $df = 98$, $p = .744$) Although both groups have substantially fewer Good Color responses than Nonpatients, when compared to each other, Nondepressed and Depressed Outpatients have essentially equal amounts of Good Color. (means = 2.10 and 2.00, respectively.) Despite the intuitive appeal of the prediction that Nondepressed patients will have more Good Color than Depressed patients, the lower frequencies of Good Color among both patient groups, and the small range (1.06 compared to 2.34 for nonpatients) may preclude meaningful comparisons of this type.

Although not specifically predicted, it should be noted that all patient groups have significantly more Good Color than the Inpatient-Schizophrenic group. This finding is consistent with the expectation that the most gravely disturbed patients, will, by virtue of the severity of their pathology, have fewer Good Color responses in their records than will less gravely disturbed patients.

Hypothesis Six

Nondepressed Outpatients will have significantly less Poor Color than will Depressed Outpatients.

Hypothesis Six is strongly supported. As predicted, Nondepressed Outpatients have significantly less Poor Color than Depressed Outpatients do, ($t = 3.96$, $df = 98$, $p < .001$). The mean number of Poor Color responses for the Nondepressed Outpatients is 1.18 compared to 2.58 for the Depressed Outpatients.

Taken together, the results of Hypothesis Five, which demonstrated that the rates of Good Color were the same for these groups, and Hypothesis Six, suggest that when making comparisons between Depressed and Nondepressed Outpatients, the absolute value of Good Color responses is less relevant than the relative proportions of Good Color to Poor Color. These findings, as well as the overall pattern of results, prompted a post-hoc analysis of the descriptive data that examines the proportions of Good to Poor Color among the groups.

Post-Hoc Analysis of Descriptive Data

The overall pattern of results suggests that the relationship between quality of Color response and diagnostic category is complicated. Whereas Good Color clearly differentiates the nonpatient groups from the patient groups, it does not differentiate the Inpatient- from the Outpatient-Depressed group. Poor Color, on the other hand, with the exception of the Introversive group, does not differ between non-patients and patients. It does, however, differentiate the Inpatient- from the Outpatient-Depressed group.

A comparison of rates for Good and Poor Color between the groups reveals some interesting patterns. The Nonpatient-Extratensive group, for example, (Table 2) has almost exactly the same amount of Poor Color in their records as the IP Depressed group. (M = 2.20 and 2.28, respectively.) The Extratensive group, however, has three times as much Good Color as the IP Depressed group.

When the groups are ranked according to the presumed quality of emotional resources, from worst to best, an examination of the means for Good and Poor Color for all groups reveals further unexpected findings. (See Table 5)

Table 5

Means for Good and Poor Color for Ranked Groups

	GCOL	PCOL
IP SCHIZO	.94	2.54
IP DEP	2.06	2.28
OP DEP	2.00	2.58
OP NDEP	2.10	1.18
NP AMB	4.06	1.92
NP INT	3.72	1.04
NP EXT	6.06	2.20

First, it can be noticed that the Inpatient-Depressed group has slightly more Good Color and less Poor Color than the Outpatient-Depressed group. Although these figures are not statistically significant, they are, nevertheless, contrary to the expected trend. Furthermore, the Outpatient-Nondepressed group has less Poor Color than 2 of the 3 nonpatient groups, exceeding the Nonpatient Introversives by only .16.

Among the nonpatients, the trend for Good Color for the Ambitent group occurs in the unexpected direction when compared to the Introversive group; they have more

Good Color than the presumably healthier Introversives. They do, however, as reported previously, have significantly more Poor Color than the Introversive group. Finally, the nonpatient Extratensives do not have significantly less Poor Color than any group except the nonpatient Introversives, although they do have significantly more Good Color than all other groups.

Analysis One: Good Color Minus Poor Color

The simple difference between Good and Poor Color (i.e., Good Color minus Poor Color) for each group was calculated in order to determine if this method of analyzing the relationship between Good and Poor Color yields a more descriptive picture of the role of Poor Color among the groups. As can be seen in Table 6, the results of this difference score distinguishes the patient from nonpatient groups such that, Patients = Mean Good – Mean Poor < 1; and Nonpatients = Mean Good – Mean Poor > 1.

While this approach effectively differentiates the patients from the nonpatients, among the patient groups, it preserves the contrary trend between the Inpatient- and Outpatient-depressed groups. It does, however, cause the nonpatient groups to fall in the expected order, with Ambitents having the lowest Mean Good – Mean Poor score, followed by the Introversives, and then the Extratensives with the highest score.

Table 6

The Difference Between Mean Good Color and Mean Poor Color

Group	Mean Good minus Mean Poor Score
IP Schizo	-1.60
IP Dep	-0.22
OP Dep	-0.58
OP Ndep	0.92
NP Amb	2.14
NP Int	2.68
NP Ext	3.96

Analysis Two: Ratio of Good Color to Poor Color

Another approach to analyzing the data, and one that is quite consistent with previous Rorschach research and scoring conventions, is a calculation of the ratio values of scoring variables. An evaluation of the ratios of Good Color to Poor Color was, therefore conducted. Table 7 organizes the means for Good and Poor Color for all groups according to their respective ratios.

Table 7

Means and Ratios of Good and Poor Color

Group	Mean GC	Mean PC	Ratio
IP Schiz	.94	2.45	1: 2.5
IP Dep	2.06	2.28	2: 2.3
OP Dep	2.00	2.58	2: 2.5
OP Ndep	2.10	1.18	2: 1
NP Amb	4.06	1.92	4: 2
NP Int	3.72	1.04	3.75: 1
NP Ext	6.06	2.20	6: 2

An examination of the ratios of Good to Poor Color for the 7 groups reveals a pattern of results that is fairly consistent with what would be predicted based on levels of pathology. Numerical ratios, however, continue to reflect the irregularity mentioned previously between the Inpatient- and Outpatient-Depressed groups and the Ambitent and Introversive groups. A third approach consistent with Comprehensive System Rorschach research and scoring is to transform numerical ratios to their narrative equivalent, in this case, Good Color less than, equal to, or greater than Poor Color.

Analysis Three: Good Less Than, Equal to, or Greater Than Poor

When the numerical ratios are reduced to a Good greater than Poor comparison a trend emerges that is consistent with the clinical and theoretical understanding of the groups. As would be expected, at the extremes, the IP Schizophrenics have Good Color less than Poor Color (G<P), while Extratensives, the 'masters of affective adaptation' have Good Color greater than Poor plus 3 (G>P+3). (See Table 8)

Both the Inpatient- and Outpatient-Depressed groups have Good Color equal to Poor Color, (G=P) while the Nondepressed-Outpatient group has Good Color greater than Poor (G>P). Among the nonpatient group, the trend continues, advancing to Good greater than Poor plus 1 (G>P+1) for the Ambitents with a steady progression to plus 3 (G>P+3) for the Extratensives.

Evaluating the balance of Good Color to Poor Color leads to several observations. It would appear, for example, that having a similar amount of Poor Color as a Schizophrenic is not necessarily a pathognomic indicator as long as there is also sufficient Good Color.

The ratio pattern further suggests that, if the CRS is measuring nuances in affective functioning, then depression is depression. In other words, the quality of emotional resources for depressed groups, whether Inpatient or Outpatient, is very similar.

The ratio for the Outpatient-Nondepressed group suggests that just one more Good Color response than Poor Color response is not sufficient to prevent patient status, but may indicate a milder level of disturbance.

Table 8

Means and Ratios of Good to Poor Color Transformed to Good Greater Than, Less Than, or Equal to Poor Color

Group	Mean GC	Mean PC	Ratio	
IP Schiz	.94	2.45	1: 2.5	G < P
IP Dep	2.06	2.28	2: 2.3	G = P
OP Dep	2.00	2.58	2: 2.5	G = P
OP Ndep	2.10	1.18	2: 1	G > P
NP Amb	4.06	1.92	4: 2	G > P+1
NP Int	3.72	1.04	3.75: 1	G > P+2
NP Ext	6.06	2.20	6: 2	G > P+3

The overall pattern of results for the Color Response Scale suggests that it is a promising instrument for assessing the emotional resources of clients. As with other Comprehensive System variables, it appears that future research may confirm that the most useful calculation is of the ratio of Good to Poor Color responses in a record.

Discussion

Summary of Findings

The present study evaluated the effectiveness of a newly developed psychometric scale for evaluating the quality of Comprehensive System Rorschach Color responses by testing its effectiveness at differentiating various patient and nonpatient groups based on frequencies of Good and Poor quality Color responses. In this chapter, I will briefly review the results of hypotheses testing as well as the post-hoc analysis of descriptive data, consider the psychometric and clinical implications of the findings, develop an initial theoretical understanding of the complete set of empirical findings, examine limitation of the study, and finally, suggest avenues for future research.

Discussion of Results of Hypothesis Testing

Four general classes of predictions were made. First, it was predicted that nonpatients would have more Good quality Color responses and fewer Poor quality Color responses in their Rorschach records than patients.

Good Color

Results of t-test comparisons yielded strong support for significant differences between nonpatients and patients for Good Quality Color responses. All nonpatient groups had significantly more Good quality Color than did all patient groups. These

results are consistent with the underlying assumption that higher functioning individuals, in this study operationally defined as nonpatients, have better quality emotional resources than do lower functioning individuals, that is, patients.

Furthermore, because nonpatients are expected to have better emotional resources than patients, confirmation of this hypothesis satisfies the minimum criteria for the validity of an instrument designed to assess quality of emotional resources. This finding therefore provides empirical support for the construct validity of the Color Response Scale.

Without reference, however, to the descriptive information regarding rates for Total Color and the ranges for Good Color for patients and nonpatients, this finding, is of little direct value to the Rorschach clinician. Always keeping in mind that careful assessment of the whole person can never be based on the uncritical, exclusive use of statistical methods, it can, nevertheless, be said, that the results of Hypothesis One, in combination with the aforementioned descriptive data, can be of use in the assessment process. When one is assessing records with Total Color in the range of approximately 4 to 8, and Good Color in the range of 4 to 6, it can be concluded that, statistically, these scores are associated with non-patient groups. Clinically, the implication is that an individual with such scores has a quality of emotional resources consistent with non-patient status, and therefore, everything else being equal, has sufficient emotional resources to make an adequate adjustment.

Poor Color

While nonpatients have significantly more Good Color than patients, hypothesis testing demonstrated that, except for the Nonpatient-Introversive group, differences for Poor Color were not significant. In other words, overall, nonpatients do not have significantly less Poor Color than patients have.

The fact that Poor Color frequencies generally did not differentiate patients from non-patients was an interesting and counterintuitive finding. The prediction that Poor Color frequencies would be higher for patients than for non-patients was based on the assumption that as emotional disturbance increases, quality of Color response would deteriorate, resulting in an increase in Poor Color responses. With the exception of the Nonpatient-Introversive group, which has lower rates of Color overall, the rates for Poor Color were remarkably similar across all the groups. The meaning of this finding remains an open question that future research might fruitfully explore, however, a few comments are in order.

As previously mentioned, the partial support of Hypothesis Two provided by the significant difference between the Nonpatient-Introversive group and three of the four patient groups is quite consistent with knowledge of the Introversive type. It is known, by definition and through the results of previous research that Introversives give fewer Color responses than Extratensives and they tend to exercise more control and delay when confronted with emotional stimuli. That is, they are more likely to engage in psychological processes that increase the probability of a Color response receiving a score

of Good. For this reason, that is, because the CRS yields the expected scores, the construct validity of the scale gains further support.

That there were no differences between the Extratensive and the Ambitent groups and the patient groups might be related to several factors. First, it is known that Extratensives make extensive use of color on the Rorschach and often exercise fewer cognitive controls when formulating Color responses. They are more likely, therefore to formulate Color responses that qualify for a Poor score. From the perspective of this information, it can be seen that when Introversives are compared to Extratensive, the respective scores on the CRS are in line with expectations, that is, that Extratensives will be likely to have higher rates of Poor Color. In can be said, further, that a more refined prediction, one that takes into account the variations in Experience Type, will lead to more consistent results.

The meaning of the results relative to the Ambitent group is more difficult to interpret because very little is known about the emotional functioning , and use of color stimuli of this group. The underlying assumption informing the prediction that Nonpatient Ambitents would have less Poor Color than patients was derived from the sensible, but crude reasoning that as nonpatients, Ambitents will have lower rates of Poor Color reflective of better emotional functioning than the patients. Clearly, this line of reasoning proved to be flawed when applied to the Ambitent (and Extratensive) group.

Based on the forgoing, it can be said that although the finding that Poor Color frequencies are essentially equal for all groups offers no support for the construct validity of the CRS, neither does it clearly constitute counter evidence. As no inference can be made from these results it should be regarded as a purely descriptive finding, one which

future research will replicate or not as ongoing investigation seeks to expand knowledge of emotional resources and a scale designed to measure them.

As with the results of Hypothesis One, the clinical value of the current finding is manifest only in conjunction with an examination of the means and ranges for this variable, (for the Nonpatient-Introversive type), and a within group comparison of Good to Poor Color for the other nonpatients. When assessing an Introversive type, for example, the current research suggests that one would expect to see very low frequencies of Poor Color and elevations above one might indicate the presence of some form of emotional disturbance.

Making clinical use of the Poor Color variable in assessing the Nonpatient-Extratensive and Ambitent groups entails evaluating the proportion of Good to Poor Color in the record. The descriptive data demonstrate that the nonpatient groups have less Poor Color in their records than Good Color. When, therefore, one is evaluating the nonpatient groups one will expect to find a ratio of Good Color greater than Poor Color. Assessment of the Extratensive and Ambitent types will incorporate the knowledge that rates for Poor Color will generally be higher by one than rates for the Introversive type and deviation from this finding is cause for investigation regarding use of color that is associated with a different Experience Type. More will be said about the topic of Good to Poor ratios in the section discussing descriptive results.

Depressed Outpatients versus Depressed Inpatients

The third and fourth hypotheses predicted that Depressed Inpatients would have fewer Good quality and more Poor quality Color responses than would Depressed

Outpatients. These predictions were based on the assumption that Inpatient status is associated with an increase in severity of emotional disturbance that would translate into fewer Good and more Poor quality Color responses on the Rorschach. The assumption was not supported by results of t-test analyses. Depressed patients, whether Inpatient or Outpatient, have essentially equivalent numbers of Good and Poor Color responses.

The findings raise several questions. First, there is the question as to whether these two groups, Inpatients and Outpatients, are in fact one group when evaluated for quality of emotional resources. The fact that there are no differences between the groups on a measure designed to evaluate quality of emotional resources might suggest that in terms of emotional experience, these two groups are in fact equivalent. This leads to the obvious question of which factors differentiate the groups and determine Inpatient versus Outpatient status. And while this is an empirical question, one can speculate that various other psychological factors, such as thought disorder or impulse control, or even practical issues such as insurance coverage, might contribute to the distinction.

It is somewhat difficult to interpret the meaning of this finding relative to the construct validity of the CRS. On the one hand, if it is measuring a real commonality between the groups, that is, quality of emotional resources consistent with depression, the construct validity of the scale is supported. This conclusion would lead to the simple, but important understanding that whether one is an Inpatient or an Outpatient, the emotional phenomena associated with depression might be very similar.

On the other hand, it is possible that the Color Response Scale is too crude an instrument to detect subtle differences in affective functioning and, if so, this would clearly limit the value of the scale. Furthermore, a conceptualization of depression as a

uniform phenomenon runs counter to clinical experience that recognizes levels of severity, and therefore presumably, levels of emotional functioning, among Depressed patients. The status of the construct validity relative to Depressed patients, therefore, awaits clarification through further research.

The clinical use of the findings regarding Depressed patients is apparent, despite the lack of support for the hypotheses. Equal frequencies of Good and Poor Color between groups dictates equal frequencies within the groups, and the descriptive data confirms this logic. It follows, therefore, that when a record contains Good Color equal to Poor Color, the evaluator will be alerted to the possibility of the presence of an emotional state consistent with a diagnosis of Depression. It is important to note in this context that the Depressed groups in this study were the only groups among both patients and nonpatients that had equal proportions of Good to Poor color, making them distinct and therefore increasing the usefulness of this finding.

Nondepressed versus Depressed Outpatients

A further expectation of a scale designed to assess emotional resources is that it differentiates Depressed from Nondepressed patients. The underlying assumption is that the presence of Depression will result in greater difficulties processing emotional stimuli and therefore is the basis of the prediction that Depressed Outpatients would have fewer Good quality and more Poor quality Color responses than Nondepressed Outpatients would. Results of hypothesis testing demonstrated that while Nondepressed Outpatients have significantly fewer Poor Color responses than Depressed Outpatients, there were no significant differences between the groups for Good Color.

The fact that Poor Color responses differentiate the Depressed from the Nondepressed Outpatients is interesting in light of the previously reported finding that generally, Poor Color does not differentiate patients from nonpatients. It would appear from this combination of findings that the Poor Color variable has greater discriminative value among patients than among nonpatients. It has already been demonstrated that the assumption that Good and Poor quality responses will vary together was ill founded, and the present finding further undermines that assumption.

The finding that Nondepressed Outpatients have significantly fewer Poor Color responses than Depressed Outpatients is consistent with the clinical understanding of these groups as well as with the previously stated assumptions. It therefore, adds to the construct validity of the CRS. In other words, one would expect a Nondepressed group to have lower rates of Poor Color than a Depressed group because of presumed differences in the affective states of the groups. Additional support for the validity of the scale is provided by the combined results demonstrating that the Depressed-Outpatient group's Color response scores are the same as the Depressed-Inpatient group and different from the Nondepressed-Outpatient group. This outcome provides criterion-related validity based on the method of contrasted groups.

That there are no significant differences between the groups for Good Color could have several meanings. In order to develop the possible implications of this finding, however, it must be pointed out that the Total Color rates for both groups are substantially lower than for the non-patient groups. With this is mind, one can speculate that because these are two patient groups, the operative process is a reduction in Total Color that is accounted for by reduced rates of Good Color for both groups and an

increase in rates of Poor Color for the Depressed group that is reflective of their more disturbed affective state. More will be said about the possible phenomenology of the shift from nonpatient to patient status and the differences between various patient groups in the section that elaborates theoretical implications of the findings. For now, it will be noted that a fuller understanding awaits future research.

In the clinical assessment process, these findings suggest that when Good Color is equal to Poor Color the evaluator will want to consider the possibility that there is an affective condition present that is consistent with a diagnosis of Depression. Conversely, as with previous results, the finding of Poor Color less than Good Color in a record cannot be evaluated without reference to other information, in this case the data regarding the magnitude of the difference between Good and Poor Color. The descriptive data indicates that for the Nondepressed-Outpatient group Poor Color was less than Good Color by an average of just one response. There are two important clinical implications to this finding. First, although intuitively one might reasonably assume that Good Color greater than Poor Color by a magnitude of one would suggest sufficiently good emotional resources to avoid patient status, the data suggests otherwise. This score is associated with an outpatient group, and therefore suggests that healthy adjustment, as indicated by nonpatient status, requires a larger magnitude than one of Good over Poor Color. In fact, the descriptive data for nonpatients supports this implication; all nonpatient groups have means for Good Color greater than Poor Color by at least two.

The further implication for the clinical assessor, is of course, to consider a Good greater than Poor by one score on the CRS a possible indicator of some sort of affective disturbance, though not necessarily of the type associated with depression.

Descriptive Results and Post Hoc Analyses

Because the results of hypothesis testing yielded a complex pattern of results, it was decided to conduct a number of post-hoc analyses based upon the descriptive data for the various groups. Before proceeding with a summary and discussion of those analyses it is important to emphasize that the post-hoc predictions and conclusions detailed in the following section are derived from descriptive data and therefore do not provide information regarding statistical significance. They are, nevertheless, an additional source of information regarding the CRS, as well as an effective means of generating further hypotheses related to the scale and its related psychological constructs.

General Descriptive Results

Nonpatients versus Patients; Total Color

Reviewing the descriptive data between Nonpatient and Patient groups, it was found that Nonpatients have higher mean rates of total Color than do patients. This finding is consistent with previous Comprehensive System research that has demonstrated that generally, nonpatients have higher EAs (Experience Actual) than do patients. The EA is calculated by adding the sum of Human Movement responses and the weighted sum of the Chromatic Color responses and provides an indication of the psychological resources available to the subject. Because the current study addresses only Color responses, this finding demonstrates that some of the variation in magnitude of the EA between patients and nonpatients is due to reduced rates of Color responses. The clinical

implication is that, relative to nonpatients, patients are dealing with diminished and/or undeveloped emotional resources. Knowledge of rates of Total Color and the differences in these rates between patient and nonpatient groups can provide the clinician with a foundation from which to assess the availability of emotional resources based on their similarity or dissimilarity to a reference group.

This finding is unrelated to the validity of the CRS as rates of Total Color are not a component of its function. It does, nevertheless, provide support for the theoretical basis of the scale via its consistency with previous related research and with the concept of variability in available emotional resources.

Good Color

Nonpatients have more Good Color than do Patients. This finding has been discussed at length in relationship to Hypothesis One and therefore will not be elaborated here. An examination of the range and trends for Good Color, however, will provide important additional information.

The range for Good Color was greater than for Poor Color with trends occurring in the expected direction, that is, the Inpatient-Schizophrenic group has the lowest frequency of Good Color, and the Outpatient-Extratensive group has the highest frequency. Without commenting yet on the differences in the range for Good and Poor Color, it appears that Good Color, because of the greater variability associated with it, will provide more information in any between group analyses of emotional resources than will the Poor Color variable.

The clinical importance of this finding derives from the implication that impairment in emotional functioning is associated with reduced rates of Good Color (and not necessarily elevations in Poor Color), and treatment, consequently will need to focus, in part, on developing the adaptive emotional resources associated with Good Color responses.

An analysis of the trends for rates of Good Color across the groups reveals consistency with the trends reported in the pilot study of the CRS. When the seven groups are ranked, as they were for the pilot study, according to severity of psychopathology (patients) and previously demonstrated use of color stimuli and its associated emotional and behavioral correlates (non-patients), the general pattern of results is what would be expected based on the pilot study data. That is, they are generally linear, with the lowest frequencies associated with the most severely disturbed group (Schizophrenics), and the highest frequencies associated with the group most likely to have high rates of Good Color (Nonpatient Extratensives). This finding provides cross-validation support for the scale and therefore its validity.

As previously mentioned, these trends, in conjunction with knowledge of the mean rates of Good Color associated with each group, are of use to the clinician as a diagnostic guide. It is important to emphasize, however, that the use of these findings in the making of diagnoses or for any purpose other than as a rough guide to the emotional resources available to a subject is limited by certain anomalies in the data as well as by the limitations inherent in any statistical method.

The anomalies mentioned have been reported previously, for example, the finding that the Inpatient- and the Outpatient-Depressed groups have the same rate of Good

Color. Such irregularities led to an analysis of the relationship between Good and Poor Color within each group, and a search for a method of understanding the data that was most consistent with the clinical knowledge of these groups. Before discussing the relationship between Good and Poor Color it will be useful to first review the descriptive findings regarding Poor Color.

Poor Color

Mean rates of Poor Color were found to be very similar across all groups. Variability among the groups for Poor Color was more restricted than for Good Color and frequencies did not manifest straightforward or systematic trends. For example, there were no significant differences between Inpatient Schizophrenics and Nonpatient Extratensives for Poor Color. Furthermore, the Inpatient-Schizophrenic group and the Outpatient-Depressed group had virtually identical rates of Poor Color. On the other hand, the least disturbed of the patient groups, the Nondepressed Outpatients, had significantly less Poor Color than all other patient groups, a finding that is consistent with expectations based on the clinical understanding of these groups. This group, however, had less Poor Color than two of the three nonpatient groups, further evidence that Good and Poor Color function independently; that is, variations in psychological functioning that result in differences in rates of Good Color, do not appear to entail variation or changes in rates of Poor Color.

The apparent independence of Good and Poor Color lead to the supposition that an important factor in differentiating levels of adaptive emotional functioning-might be the relationship between Good and Poor Color in a record. For instance, Nonpatient

Extratensives have the same number of Poor Color responses as the Inpatient schizophrenics, but six times the number of Good Color responses. It would seem, based on these figures that the critical factor differentiating these 2 groups is that the normal Extratensives have a preponderance of Good over Poor Color.

The Relationship between Good Color and Poor Color

Reference has been made to various irregularities in the pattern of results such as that Nonpatient Ambitents have higher mean rates of Good Color than the Nonpatient Introversives. These 'irregularities' are so called because the pattern of results did not conform precisely to the expected, that is, predicted pattern of results. However, especially because the CRS is performing as predicted under some circumstances, it is difficult to know if unconfirmed predictions are the result of flaws in the scale or flaws in the reasoning behind the expectations. Additional analyses therefore appeared justified.

Three methods of evaluating proportions of Good to Poor Color were developed. First, deriving the score of the mean frequency of Good Color minus the mean frequency of Poor Color. Second, calculating the numerical ratio of Good to Poor Color, and third, transforming the numerical ratio to a comparison of Good Color greater than, less than, or equal to Poor Color.

The result of the first method effectively differentiates the patient from the nonpatient groups and yields scores that conform to the expected trends for the nonpatient groups. It, however, does not solve the irregularities present in the patient data, for example, the Inpatient-Depressed group continues to have a lower (i.e., better) score than the Outpatient-Depressed group.

Numerical ratios of Good to Poor Color do not differentiate the groups in a straightforward way, and preserve the contrary trends for both the Patient and Nonpatient groups. If, however, the numerical ratios are transformed as previously described, a coherent descriptive picture emerges, that is, one that is the most clinically sensible.

The most disturbed group, Inpatient Schizophrenics, have Good Color less than Poor Color (G<P) and the least disturbed group, Nonpatient Extratensives, have Good Color greater than Poor Color plus 3 (G>P+3). In other words, among the groups, proportions of Good Color increase systematically as severity of pathology decreases.

In this way of analyzing the data, the Depressed groups, both with Good Color equal to Poor Color (G=P) appear to represent one group, that is, a Depressed group, rather than two groups, Inpatients and Outpatients. Furthermore, this approach appears to more accurately represent the clinical differences between Nonpatient Ambitents and Introversives, than does an independent analysis of Good and Poor Color responses. The former, theoretically more vulnerable group, has slightly more Good Color than the latter, more stable Introversives. Comparisons of the proportions of Good to Poor Color, however, show that Ambitents have Good Color greater than Poor Color plus one, (G>P+1), while Introversives have Good Color greater than Poor Color plus 2, (G>P+2). This characterization of the data, therefore, eliminates the various irregularities previously reported and creates a trend consistent with expectations and with clinical experience.

On the other hand, this method does not establish a clear-cut boundary between the patient groups and the nonpatient groups that has obvious conceptual clarity. For example, using the Good minus Poor technique, all patient groups have scores less than one, and all nonpatient groups have scores greater than one. Within the method currently

under consideration, the least disturbed patient group has Good greater than Poor (G>P), while all other patient groups have Good equal to or less than Poor. All nonpatient groups have at least Good greater than Poor plus one (G>P+1). On empirical grounds, the division between patients and nonpatients is Good Color greater than Poor Color by two.

One possible way to understand this finding is to consider that the distinction between patients and nonpatients (and between distinct diagnoses) is, in practice, based on categorical groupings that often do not reflect the complicated interplay of practical factors and overlapping emotional and behavioral states present in any subject pool under consideration. The pattern of results comparing ratios of Good to Poor color may, therefore, be reflecting this more complex distribution of emotional resources among the various groups.

Theoretical Discussion

The final goal of this study is to try to build a conceptual framework that will link a complex set of Rorschach response data to their related psychological constructs. What follows is a preliminary attempt to explain the current results in more theoretical terms. It is a speculative account of the dynamics of quality of Color responses, and of several underlying questions raised by the findings.

Good and Poor Quality of Color and Their Possible Origins and Relations to Psychic Phenomena

The relationship between Good and Poor Color is complicated and not easily understood. Furthermore, what is meant by quality of emotional resources, either psychometrically as in relation to the CRS or phenomenologically, as from the subjective perspective of a real person, is only partly and imprecisely known. This is a question regarding which psychological constructs, experiences, and processes the CRS is measuring and how they come to take their final form in individuals.

An underlying assumption of all the hypotheses tested in the current study, and one that was born out by the results, is that everyone has some Good and some Poor quality Color responses in their record. It nevertheless, remains a basic question why this would be so. This is not simply a philosophical question but ultimately will inform our understanding of the course of development of the quality of people's inner emotion world, as well as the development of psychopathology. Exploring this question, furthermore, provides a foundation for this author's belief that quality of emotional resources is linked to and thereby gives information about ego resources, identity, and object representation.

Recognizing that a complete discussion of this topic is too vast to be fully addressed here, a few remarks can, nevertheless be made. It is understood that through the normal processes of internalization and introjection, the infant takes in the external world and thus develops necessary psychic structures. The objects of internalization inevitably contain an emotional component, the quality of which varies in tone and

particularly, as development proceeds, in complexity. The internalization of emotional experiences has been discussed at length relative to the development of object relations and it is accepted within object relations theory that the quality of emotional experiences influences the quality of object representation. What is being proposed here is that the process of internalizing emotional experiences is pervasive and influences all aspects of psychological development.

A clinical example that supports the role of emotion in the development of psychic structures and representations is provided by the condition known as a harsh or punitive super-ego. Although there are clearly cognitive elements in the make up of the harsh super-ego in the form of values, judgments etc., these cannot be divorced from the related emotional components. The important point is that the development of the harsh super-ego is dependent in part on the emotional tone present during the resolution of the oedipal phase and is therefore an internalized representation of emotion that has influenced the quality of a psychic structure.

If one accepts the broad role of emotion in the development of the psyche, and its importance for personality development, assessing the role of emotional resources in human functioning would have to go beyond the narrow evaluation of impulse control and emotional modulation, to an extensive assessment (theoretical and clinical) of the role of emotion in a larger sphere of human behavior and psychic structure. This type of broad evaluation of the quality of emotional resources is implicit in the assessment strategies of the skilled clinician. What is being suggested is the development of a formal theory and assessment technique that makes this process explicit, verifiable and teachable.

One example that will illuminate the type of implicit evaluation of affect that is done by the skilled evaluator, but for which there exists no formal link between theory and established scoring variables or assessment procedures, is the evaluation of non-categorical affect states, or background emotions as they are sometimes referred to.

Consider, for example, the person who does not qualify for a diagnosis of depression, but who, nevertheless, experiences a constant and longstanding sense of melancholy. It is not difficult to imagine the impact such an emotional state might have on their functioning. And while it is unlikely that an instrument such as the CRS could reliably identify specific affect states, such as melancholy or joy, it can give an estimate of quality along the positive-negative spectrum and thereby make an important aspect of assessment more systematic and amenable to research.

With the foregoing in mind, it can now be considered why Good and Poor quality Color responses appear in all records. This author proposes that this finding is, in part, a reflection of the fact that life is made up of good and bad experiences. Processes of internalization cannot avoid the dictum, *Take the good with the bad,* and the result is an internal world infinitely more complex than it would be otherwise. From this one is led to the important clinical consideration regarding the meaning and dynamics of the balance of Good and Poor Color responses in a record.

The Balance of Good to Poor

Because a systematic qualitative analysis of Color responses has not been conducted prior to the present study, many of the predictions in the current study were based on reasonable assumptions. For example, as mentioned, it was assumed that

everyone would have Good and Poor Color responses. It was further assumed that Good and Poor Color would vary together, that is, it was thought that the more Good Color a group had, the less Poor Color they would have. Therein lies the foundation, for example, for the joint hypotheses that Nonpatients would have more Good Color **and** less Poor Color than Patients would. And while the first assumption was supported, the second was not. Based on the fact that emotional disturbance is an enduring facet of psychopathology, one would expect nonpatients to have more good quality Color responses than patients, but it would be expected that they have less poor quality color as well. Why don't they, generally? At the descriptive level, it has been pointed out that frequencies for Poor Color are lower for all groups than for Good Color. Furthermore, the small range for Poor Color restricts variability, and therefore limits differences between groups. But how can this simple description be understood phenomenologically?

Following the previous theoretical discussion, emotional resources are conceived of as a complex construct that includes a variety of factors encompassing ego strength, identity, and object relations. The perimeters of the Poor Color response therefore, are bound by related psychological phenomena. In other words, psychometrically, the Poor quality Color response can be conceptualized as a product of deficits in and/or deterioration of these processes. The most well understood of these is ego-weakness which can lead to the production of the Pure Color response, poor Form Quality, Special Scores reflective of thought distortion or disorder, and poorly organized perception, that is, the Vague Developmental Quality score. It should be noted that any of these processes and therefore scores could be associated with Movement responses, as well. And

although for the purpose of systematic research the Color Response is isolated, one must be aware that the emotional phenomena under consideration unfold in concert with the imaginative and conceptual psychic phenomena. When understanding a whole person, factors are never considered in isolation. When, however these processes occur in conjunction with a Color response, it can be assumed that they are particularly related to the affective world of the person and greater insight into the factors that lead to disruption and disturbance can be gained.

In the normal Rorschach profile of the young child, where ego-weakness is still a prominent feature, there are parallels with the Rorschach profiles of various adult at risk and patient groups. Pure C is elevated, Form Quality is lower, and the Experience Type commonly falls in the Ambitent range. With development, Form dominated responses increase, and all other factors indicate increased ego strength, including a shift in the Experience Type.

Rorschach (1942) recognized the important role of ego functions in the normative development of response patterns. He considered formal education, particularly learning to read, an important influence on the response process because it taught form perception. He maintained that 'disciplined thinking,' that is, ego strength, was the socially necessary balance to Introversive and Extratensive features in the personality, and was that which leads to adaptive thinking.

Based on the foregoing, it is not unreasonable to assume that the reverse process can occur, that is, that disruptions in ego function will lead to deterioration in the quality of Color responses. First, imagine the person with a good pre-morbid adjustment who has frequencies for Total Color and Good Color in the normal range. During the transition

from health to illness, overall deterioration occurs that may be reflected in deterioration of Color responses changing from Good Color to Poor Color. For instance, deterioration from a nondepressed to a depressed state is likely to be accompanied by an increase in Morbid responses on the Rorschach record. Accordingly, the Morbid score qualifies a Color response for a Poor score in the current Color Rating System. Similarly, as a Schizophrenic deteriorates into a psychotic state, Form Quality deteriorates dramatically and thought disorder scores increase, both resulting in a Poor Color score in the CRS. Consequently, it can tentatively be concluded that, in some cases, Poor Color scores are the result of deterioration in response quality and are the product of disruptions in ego functioning.

As the data indicate, however, differences in Poor Color are quite small between the nonpatient and patient groups. Poor Color scores appear to be more stable, while differences among patient and nonpatient groups are better accounted for by changes in rates of Good Color scores. The point being made is that the logic of a process of deterioration would imply that as Good Color responses deteriorate the frequency of Poor Color responses would increase. The data, however, do not support this conceptualization. What account can be given for the relatively low frequencies and the apparent stability of Poor Color response that is consistent with the concept of deterioration?

Proposed Account for Low Rates of Poor Color

An answer to the question regarding low frequencies of Poor Color responses must address not only the empirical findings, but also the philosophical rational for the

development of emotional resources. If the development and quality of emotional resources depends on processes of internalization of good and bad experiences, more variability in the Poor Color score would be expected. However, human nature is an active process. Experiences are not simply digested, but are acted upon by existing psychic structures or schemas. This suggests the possibility of transformation in which individuals have the capacity to take the bad and make it into something good.

For example, consider individuals who have undergone a tragic event such as a life threatening illness or natural disaster who come to view it as a positive, life changing experience. And while one may recognize defense mechanisms in operation, such defenses are not incompatible with a true (as opposed to a neurotic) adaptive adjustment.

Examples such as this highlight transformative processes in which there are considerable psychological resources already in place. But what can be said of early stages of development when ego functions are not fully organized? In one sense, the entire process of healthy development can be conceived of as a series of transformations as the infant, and then the child, achieves psychological separation and independence from the mother. Winnicott, however, in various ways throughout his work, addresses specific processes that drive development and enable the infant to manage good and bad experiences. For example, in his article *The Theory of the Parent-Infant Relationship* (1960), he states:

> In infancy...good and bad things happen to the infant that are quite outside the infant's range. In fact infancy is the period in which the capacity for gathering external factors into the area of the infant's omnipotence is in process of formation. (p. 37)

Here Winnicott is referring to the process whereby, first with the ego-support of the mother, but later, by reliance on personal ego strength, the infant brings environmental experiences under the realm of omnipotent control, thereby transforming external factors into a subjectively experienced psychic reality via the mechanism of projection. In the ideal case, one aspect of healthy development is the infant's growing capacity to tolerate environmental failures by its ability to actively signal its needs and thereby elicit the appropriate response from the environment. This is one of the mechanisms driving the projective process, which gives the infant its sense of omnipotent control. That this process depends upon the mother's ability to shift from care based on empathic identification to that based on responsiveness to the infant's cues does not detract from the central importance of the intrapsychic element of transforming a negatively toned emotional experience (i.e., having to wait for a feeding) to a positive sense of personal power. This aspect of development forms the basis of the 'creative gesture' without which the infant cannot achieve true independence.

It can be seen therefore that the process of transforming negative experiences to positive adaptations is a fundamental aspect of normal development, as well as an ongoing element of adaptive functioning. It may also provide a tentative and partial theoretical explanation for the finding of relatively low rates of Poor Color responses among the seven groups in this study. Many 'bad' or negatively toned emotional experiences are not represented as such because of the transformations described.

Proposed Explanation for Low Rates of Poor Color Among Patient Groups

A related question raised by the results for Poor Color, and one that requires further elaboration, is why the rates for Poor Color are not substantially higher for the Patient groups than for the Nonpatient groups? The importance of this question can be seen most vividly in reference to the Schizophrenic group. Why for example, when deterioration is such a prominent feature of Schizophrenia are there not increases in rates of Poor Color?

The preliminary explanation for the unexpectedly low rates of Poor Color responses among the patient groups is based on an examination of the rates of Total Color for the groups. Although generally the Patient groups do not have fewer Poor Color responses than the Nonpatient groups, they do have lower rates of total Color. This finding suggests that patients might be engaging in a defensive withdrawal from emotional stimuli thereby reducing their responsiveness to color stimuli on the Rorschach. If so, this would result in lower rates of total Color. The logical inference is that if patients engaged with the Color to the extent that nonpatients do, they might very well have substantially higher rates of Poor Color.

There is some existing empirical support for this speculative explanation. Beginning with Rorschach, there has been a recognized interaction between total number of Color responses, mood, and mental illness. Although Rorschach and later researchers discuss this relationship in the context of the Experience Type, the balance of Movement to Color responses, rather than by reference to Color responses alone, one can,

nevertheless, extrapolate from research based on the Experience Type. For example, on the topic of shifts in the Experience Type, Rorschach (1942) states:

> It has been shown...that the experience type is dependent upon the mood. A test made while the subject is elated gives different results from those of a test made in a depressed period...The absolute number of M and C responses changes, but the proportion between them changes little or not at all...It appears to be a fact that the capacity for narrowing and broadening the experience type varies widely among individuals. (p. 94)

Rorschach's observation that the relationship between Movement and Color responses changes little is born out by later research (Exner, 2003), and clinical experience confirms that expansion and dilation of the total number of responses as well as the total number of Color responses, is related to the diagnostic picture.

It is well known, for example, that certain pathological conditions, such as depression, lead to lower response rates, and particularly to lower rates of Color. Rorschach' (1942) preliminary research documented this phenomenon which he referred to as coarctation.

More recent research (Exner, 2003) has demonstrated wide variation between patient and nonpatient groups in the Affective Ratio, the proportion of responses given to the last three full color cards, compared with that given to the first seven cards. Consequently, the Affective Ratio gives indication of the emotional responsiveness of the subject. Affective Ratios among patient groups tend to have a bimodal distribution, suggesting under or over responsiveness to emotional stimuli. Therefore, it is possible

that as an individual moves from health to illness, there is a general reduction in responsiveness leading to lower response frequencies and therefore lower rates of Color responses.

Furthermore, frequencies of Color responses can be directly affected by a patient's clinical condition, such as depression, that can lead to the coarctation described by Rorschach. Coarctation may be a strategic defense, that is, an adaptive reaction to overwhelming emotional stimuli. From this perspective, the increased responsiveness of the manic can be seen as a breakdown of defensive processes suggestive of an inability to pull back from emotional turmoil. In other words, lower response rates can be conceptualized as the result of both decreased responsiveness and defensive withdrawal.

The obvious research project to evaluate this proposed explanation is to test patient groups with high Affective Ratios, that is, those that do not withdraw, but rather deal with mental illness by over responsiveness. The predication in this case would be a significant elevation in Poor responses in comparison to normals and to patients with low Affective Ratios.

The Dynamics of the Shift in Rates of Color From Non-Patients to Patients

As previously suggested, in some cases, in reference to the pattern of rates of total Color, Good Color, and Poor Color, the data are likely describing a transition from health to illness that involves a process of diminished responsiveness and/or defensive withdrawal from emotionally toned stimuli, combined with deterioration in response quality as a result of disruptions in ego-functions and cognitive processes.

The point now being made is that the apparent shift in frequencies and quality of Color responses is, at this stage, merely descriptive. It is an empirical question whether there is a process that patients undergo as they move from nonpatient to patient status that begins with normal frequencies for total Color and Good Color and ends with a deterioration and or reduction of these factors. The question, of course, is whether patients' Color responses go through a change or if they had distorted Color responses and frequencies to begin with. When considering a range of psychopathologies and their underlying dynamics, it is likely that the clinical picture includes both scenarios, the individual with a good pre-morbid adjustment and endowment, whose frequency and quality of responses changes as illness develops, and those whose pre-morbid adjustment and endowment are inadequate. In the latter case, one would expect fewer changes in response quality as the transition from nonpatient to patient status is made. The answer to this question awaits further research.

Contributions and Limitations of the Study

Contributions

The Rorschach Ink Blot test is one of the most widely used and extensively researched assessment methods in the world. Despite that, the Color response variables are not as well understood as many other Rorschach variables, in particular, the Human Movement variable. Although Rorschach was well aware of the relationship between responsiveness to color and emotional responsiveness, and articulated it in some detail, later researchers tended to focus on the Human Movement variable with its mental and

conceptual correlates. And while assessment of the Human Movement variable, both clinically and in the research setting, acknowledges an emotional component associated with this score, research related to the more visceral aspects of emotional functioning, reflected in the Color scores, has lagged behind.

One can speculate that this was, in part, due to the more opaque nature of the material, that is, emotions are essentially wordless phenomena and any attempt to study them is made more complicated by the transformations needed to represent them in verbal form.

In the life span of the Rorschach test, there may also have been a bias in psychology toward studying mental (as opposed to emotional) constructs due to the field's early roots in philosophy. It is, furthermore, possible that the greater interest in the M response was related to a general trend in psychology in the United States in the years following the introduction of the Rorschach toward the study of learning theory, behaviorism, and cognitive processes.

Regardless of the historical roots underlying trends in the field of personality assessment, there is an important contribution to be made by research that focuses on the Color variable. Two will be mentioned here.

Given recent developments in the fields of neurology and neuropsychology that have led to a more integrated view of emotion and the so called higher mental functions, it might now be possible to achieve a deeper and more detailed understanding of the interconnection between mental representations, that is, M content, and the related emotional phenomena, that is, Color. For example, based on his extensive research, neurologist Antonio Damasio (1994) theorizes that emotion and its mental representative,

feeling are the foundation for human consciousness, personal identity, and even effective problem solving and decision making. Formulated in very basic terms, Damasio has advanced the claim that people can perform abstract logical operations, such as mathematics, without access to their emotions, but they can do little else if they have deficits in emotional functioning.

Among the far reaching implications of Damasio's view for the field of personality assessment is the expanded role of emotion in the execution of operations such as decision making and problem solving that have historically been more narrowly conceived of as cognitive operations.

Investigating such claims from the perspective of personality assessment might provide, to name just one example, a better understanding of the integrated function of abstract and emotional representations in the human psyche. An empirically based tool for systematically evaluating emotional resources, such as the CRS, will provide a method for advancing such research projects.

An additional potential contribution of the CRS relates to Rorschach research in the field of object relations theory. Although it is widely accepted among object relations theorists that the emotional quality of object relationships is a key factor in the quality of subsequent object representations, none of the Rorschach scales designed to evaluate object representation incorporate direct assessment of the emotional quality of those representations. That is to say that Rorschach evaluation of object representation focuses on the Human Movement variable, with no explicit reference to Color. Pending further research to support its use in this context, the CRS has the potential to provide a more comprehensive assessment of object relations.

Additionally, the current study has provided sufficient support for the CRS to justify its application in the clinical setting. For example, by calculating the proportions of Good Color to Poor Color in a record, the assessor can gain more information than has previously been available regarding the quality of the emotional resources of an individual.

Limitations

Because the CRS has clinical applications, it is particularly important to discuss the limitations of the research that support its use.

Initial studies investigating the construct validity of an instrument are, by definition, limited. Construct validation accrues over time as the weight of evidence provided by multiple studies increases. Initial support for the construct validity of the CRS provided by this study, must therefore, be viewed as preliminary and subject to ongoing investigation.

It can further be said that the construct validation provided by a study is only as good as the operational definition of the construct. In the current study, the key construct of emotional resources was crudely defined in terms of diagnostic categories. For example, Inpatient Schizophrenics were viewed as the group representative of those with the most disturbed and disorganized emotional resources, and the Nonpatient Extratensives, the group with the most adaptive emotional resources. And while this approach makes practical sense in the early stages of the development of a psychometric instrument, it clearly provides only the most rudimentary view of the construct under study.

Relatedly, the Depressed groups in this study were conceptualized as having particular problems with affective functioning and therefore, were expected to look markedly different on their CRS scores than the Nondepressed groups. And while this expectation was born out by the results of the study, a precise understanding of the variations in affective functioning between these groups remains unknown.

It must also be said that, although the CRS is applied only to Color responses and is therefore presumed to be assessing aspects of affective functioning, most of the variables comprising the scale provide information about psychological operations related to cognitive functioning such as perceptual organization and thought disorder. Although the results suggest that the CRS is measuring differences related to affect, future studies must confirm that the scale is evaluating primarily emotional and not cognitive functions.

Limitations of the Scale

The current study is a preliminary investigation of the potential of the Color Response Scale for evaluating the quality of subject's emotional resources. As such, the primary value of the reported results is the conclusion that the scale warrants further study. At this stage of its development, the CRS is best conceived of as a research tool, one with limited clinical value.

Of utmost importance is the recognition that the current findings do not support the use of the CRS in making clinical diagnoses, or assigning subjects to any category based on their score on the CRS. Conservative use of the scale in clinical practice dictates that CRS scores be viewed as a rough guide to the emotional resources of the subject, and as an additional source of clinical hypotheses about affective functioning.

From this perspective, clinical information derived from CRS scores must be viewed as purely descriptive, non-definitive and subject to confirmation by reference to the total pattern of responses provided by the subject.

It is, furthermore, essential to point out that for the purpose of clarity and empirical investigation that the construct of emotional resources has been separated artificially from the whole constellation of psychic phenomena to which it is inextricably moored, and discussed as if it was a discreet and autonomous construct. As previously mentioned, when considering the whole person, distinct boundaries between emotional and other aspects of psychological functioning do not exist and assessment, therefore, must always proceed organically in consideration of the interconnectedness of psychic phenomena.

This principle is particularly important in relation to assessment of the Color responses on the Rorschach due to the theoretical and empirical connection between Color and Human Movement responses on the test. In practice, Color responses are not evaluated in isolation, but always in reference to the Human Movement variable, allowing the assessor to achieve a more complete understanding of the whole person. The CRS has been designed and developed with the intention that its use in clinical practice adheres to the practice of integrated assessment by reference to the entire psychogram. Its value, therefore, rests in its potential to provide additional information regarding emotional resources in conjunction with other test variables.

Finally, it will be noted that neither test-retest, nor inter-rater reliability studies have been conducted on the CRS and therefore issues related to consistency and precision of scoring remain unanswered.

Suggestions For Future Research

Implicit in the limitations of any study is avenues for future research. By nature, validation of a scale requires on-going investigation, and additional validity studies of the CRS are necessary before it is applied in clinical assessment. Studies with a more precise definition of emotional resources are called for, specifically definitions that go beyond the simple patient/non-patient dichotomy. Ultimately, criterion referenced studies will be necessary in order to confirm that the constructs being measured are reliably linked to a variety of real life behaviors and range of psychological functioning.

Reliability studies are required. Inter-rater reliability must be established to confirm consistency and accuracy of scoring. Test-retest studies need to address two questions. First, can the CRS measure enduring, stable aspects of emotional functioning? And, will it detect fluctuations in emotional functioning that are the result of emotional trauma, illness, etc.?

Speculative claims that the CRS is measuring aspects of ego-strength, object representation, and personal identity could be evaluated by conducting correlational studies between the CRS and existing measures designed to assess the stipulated constructs, for example, any of the Rorschach object relations scales, or the Comprehensive System Ego Impairment Index.

A number of questions were raised by the CRS Pilot Study, for example, the unexpected finding that Human Movement Scores were associated with illness rather than health. Given that previous research has demonstrated that M responses can be

associated with suspiciousness and guardedness, it might be useful to examine the influence of Color responses on the Comprehensive System Hypervigilance Scale.

Similarly, the Pilot Study demonstrated that Botany content and Space responses were associated with emotional health. It would be useful to conduct a content analysis study to evaluate the contribution of response content in representing aspects of emotional functioning.

The post-hoc analyses established three possible methods for organizing CRS response data. It was proposed that the method of reducing numerical ratios to a simple Good greater than, less than, or equal to Poor descriptor appeared to provide scores that are most consistent with clinical and theoretical expectations. Future research, however, must evaluate the merits of this method by establishing its predictive value.

Appendix A

The Color Response Scale

Original version developed on logical and theoretical grounds.

For Use With All Responses Containing the Chromatic Color Determinants (FC, CF, C, or Cn)

A. Assign Good to all chromatic Color responses which have a Form Quality code of plus, ordinary, or unusual (+, o, u) and which have any of the following three:

1. Ma
2. H (pure H)
3. COP

AND do not have any of the following:

1. Cognitive Special Score (DR, INCOM, FABCOM, ALOG, CONTAM) wither Level 1or Level 2
2. MOR
3. Any variation of the C', V, or Y determinants
4. Contents of Sex (Sx) or X-ray (Xy)
5. White Space (S) except on Card I or II
6. Content of Explosion (Ex) except on Card IX
7. Content of Blood (Bl) except on Card II

B. Of the remaining chromatic Color responses assign Poor to those with any of the following:

1. Form Quality minus (FQ-), or Form Quality none (FQ none)
2. Cognitive Special Scores of DR, INCOM, FABCOM, ALOG, CONTAM, Level 1 or Level 2
3. MOR
4. Any variation of the determinants C', Y, or V
5. Content of Sex (Sx), or X-ray (Xy)
6. Content Explosion (Ex) except on card IX for Whole (W) responses
7. Content of Blood (Bl) except when included with a Popular response on card II
8. Space (S) except in response to Card II

C. Assign Good to all other chromatic Color responses

Rational For The Components Of The Scale

For use with all responses containing chromatic color determinants (FC, CF, C, or Cn.

The criteria for selecting a scoreable response is such that any response containing a chromatic color determinant, alone or in combination with other determinants e.g., Form or the F response) qualifies as scoreable.

A. Assign Good to all responses which have Form Quality code of plus, ordinary, or unusual (+, o, u)

Form quality (FQ) is related to perceptual accuracy and is indicative of a subject's reality testing capacities. The importance of form quality in relation to Color responses rests in the assumption that affect can distort reality testing when it is not well integrated or well modulated. The person who misperceives a social interaction when angry is one example of this phenomenon. All three codes, *plus, ordinary* and *unusual* reflect a good fit between the contours of the blot and the content of the perception. The *plus* score is given when the subject, in unusually rich detail, elaborates a response. The *ordinary* code reflects common responses reported without unusual detail. The *unusual* code is given to uncommon responses that maintain goodness of fit.

And which have any of the following three:

1. Ma

The M or human movement response relates to cognitive resources such as capacity for delay of impulses, native endowment, wealth of associative resources (Rapaport, Gill, and Schafer, 1968), and clarity of conceptual thinking (Exner, 1993). In relationship to the scale the combination of Human Movement with a Color determinant is thought to reflect an ideal blend of intellectual and emotional resources. The active (a) subscript to the M response is in contradistinction to the passive (p) subscript and indicates whether the perceived movement is active, for example, a man running, or passive, for example, a man sleeping. Above a certain level, passive human movement responses are associated with excessive use of fantasy. Additionally, when passive movement responses are significantly greater than active movement responses it reflects a passive interpersonal

style (Exner, 1993). The active subscript was therefore given positive value in the Color Response Scale.

2. H (pure H)

The pure H response is a content variable reflecting the perception of a whole (real as opposed to fictionalized) human figure. This variable, in combination with others, has been associated with subjects whose self-image is based primarily on identifications with real people. Additionally, patients and those with adjustment difficulties give fewer pure H responses (Exner, 1993). Rapaport, Gill, and Schafer (1968) suggest that H responses reflect an interest in other people. It was hypothesized that pure H with a Color determinant would be reflective of emotional resources combined with reality based identifications and interpersonal interest and that this would be indicative of adaptive emotional capacities.

3. COP

The Cooperative response (COP) has been associated with expectations for positive human interaction. Empirical research suggests that when there are more than two COP responses in a record it indicates a tendency to be outgoing and optimistic about relationships (Exner, 1993). This variable, therefore, was included in the scale because of its possible association with positive internal object representations.

AND do not have any of the following:

1. Cognitive Special Scores (DR, INCOM, FABCOM, ALOG, CONTAM) Level 1 or

Cognitive special scores are associated with various types and degrees of thought disorder or thought disturbance (Exner, 1978). It was thought that, in association with Color

determinants, they may indicate poor integration of affect and therefore, responses including any of these scores are assigned a Poor.

2. MOR

Research has shown that the morbid response is associated with effected suicide, depression, (Exner, 1978) and negative self-image (Exner, 1991). It was hypothesized that in combination with a Color determinant it could signal a maladaptive internalization of dysphoric affect.

3. Any variation of the determinants C', Y, or V

Shading variables in combination with Color determinants have been associated with effected suicide and thought to reflect the presence of extremely painful affect. (Exner, 1978) Their presence in a record may be a serious pathognomic indicator.

4. Content of Sex (Sx) or X-ray (Xy)

Perceptions of sexual content are low frequency responses because most subjects manage to inhibit them. It is speculated that sexual content with a Color determinant may suggest poor modulation of affect. X-ray, another low frequency response among non-patients, has been associated with unusual bodily preoccupation (Exner, 1993). Furthermore, the perception of an x-ray on a color card, or in conjunction with color is suggestive of cognitive distortion and/or confusion.

5. White Space (S) except on Card II

Responses that integrate white space of the blot, or are comprised solely of white space, are, in low numbers, associated with individuality (Exner, 1993). In higher numbers, however they tend to be reflective of anger, oppositionality and/or a negative set toward the environment (Exner, 1993).

It was speculated that white space integrated with color might be an indicator of poor emotional functioning relative to so called negative affect. Furthermore, it may be indicative of immature ego development (if oppositionality is prominent). White space responses occur on card II with a high enough frequency among nonpatients as to warrant their exclusion from the coding process.

6. Content of Explosion (Ex) except on Card IX

7. Content of Blood (Bl) except on Card II

The contents explosion and blood preclude the assignment of a Good score because of their subjective interpretive impact. It was speculated that their presence in a response might signal poor affective modulation (Ex), and poor affective integration (Bl). The criterion does not apply when the response occurs on Card IX or Card II respectively. The colors and contours of the blots on these cards pull for such responses and in fact are given by subjects in the normal population.

B. Of the remaining chromatic Color responses assign Poor to those with any of the following:

1. Form Quality minus (FQ-) or Form Quality none (FQ none)

As mentioned, the form quality score provides information about the perceptual accuracy of the subject's response and is an indicator of reality testing capabilities. The FQ minus response is one in which the percept seriously violates the contours of the blot. In the presence of a Color determinant it can indicate difficulties integrating affect. The FQ none response is one in which no form has been specified. These responses may be indicative of difficulty modulating affect (Exner, 1991).

Steps 2 through 8

Steps 2 through 8 involve variables previously described and the rational for their inclusion in the scale is as previously stated.

C. Assign Good to all other chromatic Color responses

All Color-determined responses that have negative indicators will have been coded Poor by the preceding steps, therefore, any remaining Color responses qualify for a Good Score.

Appendix B

Modified Scale for Evaluating Quality of Color Responses

Final version based upon empirical results

1. Score Good Color Response (GCR), if FQo, and no thought disorder except DV, and no C, or MOR
2. Score Poor Color Response (PCR), if C with: DQv or DQv/+, or Level 2 Thought Disorder, or FQ-, or MOR
3. Score GCR if Space (S) or Botany (Bt)
4. Score PCR if DQv or AB or Level I thought disorder, or H, or (H), or C
5. Score GCR to any remaining Color responses

Appendix C

Results Of Linear Trend Analysis For Each Variable In The Color Response Scale

Score	SS	df	MS	F
M[NS]				
B	6.37	5	1.27	1.18
L	.8	1	.8	.74
E	123.5	114	1.08	
T	129.87	119		
active[NS]				
B	7.47	5	1.49	1.43
L	2.00	1	2.00	1.92
E	118.40	114	1.04	
T	225.87	119		
H+(H) [-]				
B	9.54	5	1.91	2.98*
L	6.72	1	6.72	-10.50**
E	73.05	114	.64	
T	82.59	119		
COP[NS]				
B	2.54	5	.51	1.16
L	.20	1	.20	.45
E	50.05	114	.44	
T	52.59	119		
LVL1[NS]				
B	7.48	5	1.50	2.31*
L	2.16	1	2.16	3.32
E	74.64	114	.65	
T	87.17	119		

LVL2 $^{-}$				
B	63.44	5	12.69	8.46**
L	42.88	1	42.88	28.59**
E	171.35	114	1.50	
T	234.79	119		
MOR $^{-}$				
B	10.70	5	2.14	3.39**
L	6.45	1	6.45	10.24**
E	71.82	114	.63	
T	81.52	119		
Shading^{NS}				
B	3.94	5	.79	.59
L	1.79	1	1.79	1.32
E	153.65	114	1.35	
T	157.92	119		
SX^{NS}				
B	.58	5	.12	.80
L	.04	1	.04	.27
E	16.74	114	.15	
T	17.32	119		
Xy^{NS}				
B	.08	5	.02	1.00
L	.01	1	.01	.05
E	2.84	114	.02	
T	7.97	119		
S				
B	5.47	5	1.10	1.69
L	5.16	1	5.16	-7.94**
E	74.65	114	.65	
T	80.12	119		
Ex $^{+}$				
B	.67	5	.13	.93
L	.60	1	.60	4.28*
E	16.00	114	.14	
T	16.67	119		

BI^{NS}				
B	3.04	5	.61	2.03
L	0.00	1	0.00	0.00
E	33.95	114	.30	
T	31.99	119		
FQ^{-}				
B	60.97	5	12.19	7.17^{**}
L	37.78	1	37.78	22.22^{**}
E	193.70	114	1.70	
T	254.67	119		
FQ_0^{+}				
B	23.34	5	4.67	2.06
L	12.07	1	12.07	5.32^{*}
E	259.25	114	2.27	
T	282.59	119		

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