A THEORETICAL AND EXPERIMENTAL CONSIDERATION OF THE RORSCHACH MOVEMENT RESPONSE: ITS RELATION TO THE NEUROPSYCHIATRIC PATIENT'S ORIENTATION TO HIS PROBLEM

Thesis for the Degree of Ph. D.

MICHIGAN STATE COLLEGE

Gerald F. King

1954

THESIS

This is to certify that the

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presented by

Gerald F. King

has been accepted towards fulfillment
of the requirements for

Doctor of Philosophy degree in **Psychology**

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By

Gerald F. King

AN ABSTRACT

Submitted to the School of Graduate Studies of Michigan State College of Agriculture and Applied Science in partical fulfillment of the requirements for the degree of

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Gerald F. King

In the interpretation of the human movement response (M) to his series of ink blots, Rorschach related it to intelligence, creativity, emotional stability, suggestibility, rapport, and empathy. A survey of the validation studies failed to provide consistent support for any of the interpretations posited by Rorschach. The purpose of this investigation was to redefine the meaning of M and to provide an empirical test of this new interpretation.

The area of interpersonal relationships was suggested as a fruitful frame of reference for this interpretation by some current theoretical orientations, as well as some research findings. After making a distinction between universal and collateral meanings, the following basic interpretation of M was offered: the ability in fantasy to project the self into time and space in the interpersonal sphere.

This basic interpretation of M was viewed as having certain implications for psychopathology. Specifically, the following four hypotheses were formulated in regard to the orientation of neuropsychiatric patients to their problems (illnesses):

1. The High-M producers will show a greater tendency to recognize their problems as involving disturbances in interpersonal relationships than the Low-M producers.

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2. The High-M producers will show a greater tendency to project themselves backward in time in accounting for the origins of their problems than the Low-M producers.

3. The High-M producers will show a greater tendency to utilize interpersonal fantasy in coping with their problems than the Low-M producers.

4. The High-M producers will show a greater tendency to project themselves beyond their present problems into the future than the Low-M producers.

The principal instrument selected for obtaining the data to test the hypotheses was the controlled interview. An interview outline or schedule was constructed as a guide for the interviewers, who were systematically rotated. Within forty-eight hours of the interview, all subjects were administered the Rorschach and Wechsler-Bellevue Verbal Scale (Form I). The M response and the measurements derived from the interview were found to possess an adequate level of inter-rater and test-retest reliability.

The preliminary subjects consisted of one-hundred recently hospitalized functional neuropsychiatric patients. On the basis of Rorschach performance, High-M and Low-M groups, consisting of thirty subjects each, were selected. The criteria for the selection were three or more M for the High-M group and one or zero M for the Low-M group.

The two groups were equated for age, education, intelligence, diagnostic status, cooperation, confusion, and nine Rorschach variables.

The results confirmed or strongly supported all the hypotheses.

In the discussion of the results, the following three aspects were emphasized:

(1) On the basis of the obtained relationships between M and the individual's orientation to his psychiatric illness, M could be an important variable for predicting behavior in psychotherapy.

(2) The interpretation of M that was formulated and the consequent empirical findings suggested that M could have important implications for the psychology of thinking.

(3) The methodology developed and employed in this investigation demonstrated that the controlled interview, by providing reliable measurements, can be a useful research instrument.

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So many people contributed to this project that it is not possible to list them all individually. The author's primary debts of gratitude are to Drs. Albert I. Rabin and Stewart G. Armitage.

As Chairman of the Guidance Committee, Dr. Rabin provided encouragement and constructive criticism. His guidance was characterized by patience and understanding.

As Chief Psychologist at the Veterans Administration Hospital in Battle Creek, Michigan, Dr. Armitage gave his unlimited cooperation in making it possible to collect the necessary data. His suggestions also contributed to the conception of the problem.

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I. INTRODUCTION

Many Rorschach investigators consider the movement response (M) to be Rorschach's most original contribution to his method of personality study. In general, the meanings assigned to M by Rorschach have been adhered to quite closely by later clinical and research workers. Although numerous Rorschach studies have been reported, it is surprising that in view of the importance that is given to it in the Rorschach method so little has been done (a) to validate the meanings attributed to M and (b) to search for other meanings it may possess. This latter point seems to be characteristic of present Rorschach theory, and the need for remedial action is beginning to be emphasized in the literature (18, 28). It is the reason for the following statement by Cronbach in his discussion of Beck's latest book (12):

> ...He does not reverse any early interpretations. This in itself should suggest that the book is disappointing. We have now had thousands of research studies, some well conducted, which have failed to establish validity of many interpretations commonly made. One would expect such evidence to be used in revising the interpretative schema... (18, p. 221).

Since the publication of Rorschach's "Psychodiagnostics", the concept of movement has been extended, with several types being differentiated (e.g. human, animal, and inanimate movement). Human movement has received, and continues to receive,

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the most attention from clinical and research workers, and it was the only type explicitly designated by Rorschach. The following is his outline of what constitutes a movement response:

> Movement responses are those interpretations which are determined by form perceptions plus kinaesthetic factors. The subject imagines the object interpreted to be in motion... The following may be taken as a rule: Answers may be considered as kinaesthetically determined only when human beings or animals capable of motion similar to that of human beings (monkeys, bears) are seen in the figures (67, p. 25).

Rorschach viewed M as a multi-dimensional concept, with several interpretations being given to it. While meaning was attributed to M as a single variable, he based his analysis of personality upon the relationship between M and color responses (C). According to the proportion of M to C, this ratio was classified as one of several "experience types". The following six interpretations of M and the experience types were cited by Rorschach (67), and probably represent the most common views existing in the literature.

1. Creativity: Rorschach seems to have primarily considered M to be a measure of inner life or introversion which manifests itself in creativity and imagination. It is designated as the "capacity for 'inner creation'" (p. 65).

2. Intelligence: He pointed to the relationship between M and intelligence by stating, "In normals, the number of M responses rises in proportion to the productivity

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of the intelligence, the wealth of associations, the capacity to form new associative patterns" (p. 26)[1]

3. Suggestibility: An inverse relationship is proposed for this variable and M: the "greater the number of M's in the experience type formula, the less the suggestible is the subject" (p. 100).

4. Emotional stability: The relationship between M and emotional expression is described as "the more the kinaesthesias, the more stable the affect" (p. 76). According to Rorschach, M functions to counterbalance emotional reactions (C), and thus the M experience type (M greater than C) is characterized by stable affective reactions, rather than impulsiveness.

5. Rapport: The M experience type reflects "more intensive than extensive rapport" (p. 78). Intensive rapport is illustrated in individuals whose relationships with others are few but likely to be very close ones. This is opposed to the capacity for extensive rapport found in the C experience type, where relationships with others are easily formed but likely to be superficial.

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[1]It is difficult to tell from Rorschach's writings whether he meant any more than a relationship between M and creativity, which he considered to be a component of intelligence. Later investigators (11, 39, 40) have been more explicit in positing a relationship between M and intelligence.

6. Empathy: That the capacity for empathy is equally dependent upon M and C responses is indicated by the following statement by Rorschach: "Individuals capable of empathic relationships with others must include in their make-up certain introversive and extratensive elements" (p. 99). In his discussion, he emphasized the limitations for empathic relationships, suggesting that "genuine" empathy can only occur between two individuals of similar experience type.

A. Previous Research

Validation Studies. The following discussion will be confined to a consideration of the research findings relevant to M and its relationships to the above interpretations posited by Rorschach, along with such statistical problems as quantification and reliability. More comprehensive reviews of Rorschach validation studies have been compiled recently by Bell (14), Hertz (31), and Rabin (58).[1]

A number of studies have been reported which pertain to the relationship between M and creativity. The most extensive research in this area has been carried out by Roe (61, 62, 63, 65, 66), who collected Rorschach protocols from such "creative" groups as artists and physical scientists. These are people whom Rorschach designated as being

[1]These are reviews published since 1948. At the present rate of Rorschach research reports, reviews of the literature tend to become obsolete after only two or three years.

high in M. Using the mean of 3.5 M obtained in the Spiegel normal sample (13) as a standard, Roe's results did not reveal a greater number of M responses for artists and physicists than would be expected from a sample of the general population. The various groups studied by Roe showed the following mean numbers of M: 3.7 for artists, 2.9 for physical scientists, 2.6 for biologists, and 6.7 for social scientists.[1] Only the social scientists appear to have produced a significantly greater number than the Spiegel normal sample. This would lead to the conclusion that social scientists are more creative than artists and other scientists!

Conflicting results have been obtained in other studies involving M and creativity. In Padro's investigation (52) of a less eminent group of artists than Roe's sample, the mean number of M responses was 7.2, which is considerably higher than normal expectation. An average of seven M was obtained by Steiner (81) with the group Rorschach method for a small group of commercial artists, which is actually contrary to Rorschach's prediction for "reproductive" artists. Comparing female students majoring in creative painting with other women college students, Anderson and Monroe (4) found that the former gave many more M on group Rorschachs. Pedigo's

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[1]These findings should be interpreted with caution since the social scientists, besides giving more M, produced about twice as many responses (R) as the other groups.

results (54) revealed that high school students judged as displaying the most creativity in their classroom writing gave a much greater number of M than those judged least creative. However, in this latter study, the "creative" subjects also produced significantly more Rorschach responses (R). Rust (70, 71) in a study of children eight to twelve found a small, but significant negative correlation between movement on the Levy Movement Blots[1] and creativity based on the ratings of their drawings. Zubin (100) reported three unpublished studies all indicating negative results. A study of graduate students in English revealed little relationship between creativity in their field of specialization and movement responses on both the Rorschach and the Levy Movement Blots. No relationship was found between creativity in mathematics and the Levy Movement Blots for both high school students and graduate students majoring in mathematics. The final study indicated no relationship in college undergraduates between ratings for capacities in art and the Levy Movement Blots.

Perhaps, the most striking results in this area have been obtained by Vernier and Kendig (88). Using a group of 125 adults, containing both normals and neuropsychiatric

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[1]The Levy Movement Blots (70, 71, 100) are a "substitute" technique for the Rorschach in the study of M. Research using this technique will be included in the discussion of validation studies although there is some evidence (1) indicating that the two instruments may not tap the same psychological function. The Levy Movement Blots, as a method, will be discussed later.

patients, they investigated the relationship between the number of M on the Rorschach and the imaginal productions given to the Thematic Apperception Test (TAT), which were rated on the basis of creativity with a reliable six point scale. A high, significant r of .77 was obtained. It is difficult to evaluate this correlation. The sample of subjects was extremely heterogeneous, and such factors as age, education, intelligence, and diagnosis were not controlled. The statistical treatment is suspect since the variance cohtributed by R, which was also significantly related to TAT creativity, was not partialled out. A conservative appraisal would seem to be that the reported correlation is spuriously high. This interpretation is supported by the results of a similar study by Racusen (59), who actually obtained negative findings. Her measure of TAT creativity was adapted, in part, from that used by Vernier and Kendig, while the measure of Rorschach creativity was derived from a combination of the M responses and Beck's Z scores,[1] with the former being assigned a weight of seven and the latter a weight of one. The correlation between the TAT and Rorschach measures of creativity was .20, significant at the .05 level of confidence. When the influence of intelligence was statistically controlled, the resulting correlation was not significantly different from zero.

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[1]See Beck (11).

Considerably more studies have been focused upon the relationship between M and intelligence, with most of them correlating M with performance on some intelligence scale. Ford (25) found that in young children (five-year-olds) the number of M was not significantly related to Stanford-Binet (S-B) I.Q. (r = .186). Gair's results (29) showed that the frequency of M responses was much greater for seven-year-old children of superior intelligence (S-B) than for the average children of that age, while Ledwith (43) reported that there was no relationship between M and I.Q. (S-B) for six-year-olds. Investigating a group of first graders, Paulsen (53) concluded that her data indicated M increased with intelligence (S-B). In a study of junior high school students, Hertz (30) reported a significant r of .259 between M and intelligence (S-B). No relationship was found by Rust (70, 71) between the Levy Movement Blots and intelligence (Pintner Intermediate Test) for children nine to thirteen years of age.

Using the group Rorschach method with college students, Altus and Thompson (2) correlated the number of M with two group tests of intelligence emphasizing verbal ability. The tetrachoric r's obtained were .34 and .43, with corresponding etas of .54 and .63. In another article (3), the "popular M" were eliminated in the computations, and the resulting eta was .68 for the same data. These findings

represent the highest correlations reported in the literature for the relationship between M and intelligence. Other studies using college students as subjects by Vernon (90), Wittenborn (96), and Barrell (7) provide contrasting results. Vernon found an r of .32 between M percentage and a group intelligence test for his group of undergraduates. Extracting several measures of "intelligence" from the student entrance exams, Wittenborn concluded from his analysis that the number of M showed only a "slight positive relationship with measures of mental ability" (p. 338). Barrell correlated the number of M with eleven measures of intellectual ability, including tests and ratings. When the variance contributed by the number of Rorschach responses (R) was partialled out, only six of the partial correlations were significant at the .05 level of confidence or better. The highest correlation accounted for less than thirteen per cent of the criterion variance.

The relationship between the Rorschach and intelligence has also been investigated in "deviant" groups. Walter's study (92) of a group of prisoners revealed no significant relationship ($r = .11$) between the number of M and Wechsler-Bellevue I.Q. (W-B). For neurotics, Wishner (95) reported no significant relationship ($r = .206$) between the number of M and intelligence (W-B). Tucker (87) obtained a significant r of .262 between M and I.Q. (W-B) with his group of neurotics. In this investigation, the correlation

between the number of non-human movement responses (animal and inanimate) and intelligence (r = .350) was higher than that yielded by human movement responses. In an unpublished study of 182 schizophrenics, Armitage and King (5) found a significant biserial r of .34 between M and I.Q. (W-B). Eliminating all subjects with an I.Q. of 89 or below from the sample resulted in the reduction of the correlation to an insignificant .07. When R was partialed out, the net correlation dropped to .26, although it was still significant.

Discrepant conclusions have been drawn from two factor analytic studies. Intercorrelating the Rorschach and intelligence (W-B) scores of their subjects, Williams and Lawrence (94) interpreted the findings of their factor analysis as supporting previous studies in demonstrating that the number of M covaries with intelligence. Lotsof (46), on the other hand, interpreted his results as pointing to the inadequacy of M as an indicator of intelligence. He emphasized that M showed only a small loading on the factor of verbal intelligence, which was viewed as being in agreement with previous research.

As can be seen, research with M and intelligence has not provided consistent results. In about one-third of the above cited studies, no relationship was found between M and intelligence. With the exception of one study, when

significant correlations were reported, they were quite small. If the variance contributed by R had been accounted for in all the statistical analyses, the correlations would undoubtedly have been even smaller, and some even reduced to insignificance. It seems safe, then, to conclude that if M is related to intelligence, it provides an extremely weak predictive index as attested by a quite low coefficient of correlation.

The three studies investigating the relationship between M and suggestibility have also produced equivocal results. Using measures of suggestibility derived from autokinetic situations, Linton (45) and Schumer (75) found significant relationships between M responses and suggestibility. In neither study, however, was the inverse relationship between the number of M and suggestibility statistically significant, if the .05 level of confidence is the criterion. Significant relationships were between suggestibility and measures of M involving the percentage of M, the type of M, and the experience type, although the two studies showed some disagreements on these relationships. Contrary results were reported by Steisel (82), who tested the relationship between M (number of M and M percentage) and five measures of suggestibility. The latter measures were obtained from a postural-sway test, an ink-blot suggestion test, and an autokinetic situation. None of the relationships

proved to be statistically significant, or even to be near significant.

The other interpretations of M cited by Rorschach (emotional stability, rapport, and empathy) have not received direct experimental attention. This situation is somewhat understandable if the rather elusive terminology used in the descriptions is considered. It should be pointed out that Rorschach's formulation of the relationship between M and empathy has been modified and extended by later writers, which has recently stimulated some research in this area. The results of these studies will be reported in the next chapter.

Reliability and Related Studies. One criterion for the adequacy of any clinical instrument is that it should provide reliable measurements. The Rorschach method poses some difficult problems in the matter of reliability. First of all, as pointed out by Vernon (89), its shortness as a test and the subjectivity involved in its scoring operate to decrease reliability. More important, however, is the nature of the Rorschach test, which makes it difficult to study and assess the reliability of its scores. The split-half and test-retest techniques have usually been employed in such studies. The former method has been criticized on the grounds that the Rorschach cannot be dissected for study since it represents a pattern of interdependent scores. A

more appropriate objection seems to be that the Rorschach simply doesn't yield two equivalent halves. For example, there is an uneven number of color cards. The latter method appears to be more acceptable although the test-retest approach does not eliminate the influences of such factors as memory and interim personality changes. The following is a review of the reliability studies involving the Rorschach M response.

The reliability coefficients reported for the split-half technique have covered a rather wide range of values. Using the percentage of M responses, Hertz (30) found correlations of .745 and .73 for two groups of high school students and .71 and .39 for two groups of psychiatric patients. For three groups of college students, Vernon's average correlation for the percentage of M was .62 (89). Thornton and Guilford (85) obtained somewhat higher correlations for the number of M with two groups of college students, .919 and .768.

About twice as many studies, which vary in their degree of relevance to Rorschach reliability, have employed the test-retest method. With a test-retest interval of one year, Kerr (38) found a correlation of .52 with elementary school children for the number of M. Swift (83) reported correlations for the following time intervals with pre-school children: .30 for ten months, .71 for thirty days

and .76 for fourteen days. In this study, M represented the sum of the human, animal, and inanimate movement responses. Troup (86) obtained a correlation of .79 with children ten to fourteen years of age for percentage of M, the time interval being six months. Using different time intervals and instructions to the subjects, Fosberg (26) found that reliability was quite high for the Rorschach determinants, the mean correlation being well-above .8. No direct information was given concerning M. High test-retest agreement was also indicated by the results of Altus and Thompson (2), who repeated the group Rorschach with college students after six weeks. The number of M correlated in the two administrations to the extent of .82 (Pearson *r*) or .93 (tetrachoric *r*). The subjects in a study by Holzberg and Wexler (33) were chronic schizophrenics whose psychotic adjustment was considered to have become stabilized. Retesting after three weeks revealed a correlation of .88 for the number of M.

If the Rorschach, as an instrument for assessing personality, is sensitive to personality changes, then the use of long intervals between test administrations is hardly appropriate for reliability studies. If all results based on intervals longer than six weeks are discarded in the above studies, the resulting reliability coefficients are all above .7. This approaches an acceptable level of reliability, at least, for the purpose of group prediction.

Some basic assumptions underlying certain Rorschach scoring categories have been investigated statistically by Wittenborn (97, 98, 99). It was found that M responses showed internal consistency in the Rorschach cards, indicating they are functionally similar perceptual elements. This finding supports the practice of combining all M responses into a single score. Further, M responses were determined to be functionally different from C responses. The implications of these results are indicated in the following statement by Wittenborn: "The consistency among groups of human movement responses (as well as their relative independence from groups of color responses) may be taken as evidence that the total human movement response score could bear a valid relationship to an important feature of the personality which could not be predicted from a knowledge of the individual's color responses" (99, p. 5).

Summary. The research investigating the relationships between M and intelligence, creativity, and suggestibility has provided inconclusive results. The validity and, hence, usefulness of these interpretations of M are certainly questionable. None of the other interpretations, as posited by Rorschach, have received direct experimental attention. It was suggested that this may be due in part, at least, to the vague terminology used in outlining these interpretations of M. The reliability of Rorschach scores was

viewed as difficult to assess. The evidence provided by studies using the test-retest technique was interpreted as pointing to an acceptable level of reliability for M, at least, for group prediction. Statistical studies showed that M responses were internally consistent with each other and relatively independent of C responses, indicating that movement responses could be related to personality variables not predictable from color responses.

B. Some Problems of Rorschach Validation

Research with the Rorschach encounters not only the methodological problems of validation studies in general but also some that are unique to projective techniques. A brief consideration of some of these problems might be undertaken at this time. More comprehensive discussions of Rorschach validation can be found in articles by Ainsworth (40), Benton (15), Korner (41), MacFarlane and Tuddenham (47), Rosenzweig (68), Rotter (69), and Schneider (74).

Rorschach studies can be classified as being either molar or molecular in accordance with their methodological orientation. A variety of opinions have been expressed concerning the necessary conditions for Rorschach validation studies. The holistic or molar approach has been endorsed so rigidly by some writers as to eliminate any study of elements. For example, it has been stated by

Sargent in regard to the Rorschach that "factors taken out of context have little meaning..." (72, p. 275). Molecular studies focused upon M or other Rorschach scores in isolation would be precluded by this viewpoint.

The present investigator's viewpoint is that both the molar and molecular approaches to the Rorschach provide adequate orientations for research. If the various Rorschach manuals are examined in regard to interpretation, little evidence is found for entirely different interpretations resulting from the combination of Rorschach factors or scores. In practice, the interpretation of the individual factor seems to be modified when it is considered with others, but the nuclear interpretation of each factor is not lost. From this point of view, if it is held that Rorschach elements have no meaning in isolation, it is difficult to see how an integration of these elements can have any meaning. Further, it is felt that our present inadequate knowledge of the Rorschach actually points to the study of component parts, rather than the total Rorschach, as offering the more fruitful approach. Molecular studies could supply evidence for redefining and extending Rorschach interpretations, while the molar approach does not pin-point Rorschach processes sufficiently to provide such data. If "interaction" laws are to be eventually derived for the total Rorschach configuration, it would seem that the

initial step should be the determination of the various component laws. This position is supported, at least, in part by Ainsworth (40), Schneider (74), and Zubin (100).

There are certain problems involved in the utilization of M as a score. The positive relationship between the number of M and R must be taken into consideration. The use of M percentage is not a completely adequate control since Fiske and Baughman (24) have shown that the relationship between M and R is curvilinear for both normals and neuropsychiatric patients. It seems essential in group comparisons to follow Cronbach's suggestion (17) and adjust the samples so they are equated for R.

Besides the number of M, other methods have been employed in scoring M responses. The experience types have already been mentioned. Classifications have been made on the following bases: location of the M response on the ink blot (W, D, or Dd); type of content of the M response (human, human detail, or animal); form level of the M response (plus or minus); and the qualitative nature of the M response (extension or flexion). The question arises as to whether these distinctions in scoring reflect different meanings. There is also the problem of "diminishing data". Normal expectation is a mean of only 3.5 M responses; and if this number is divided into various classifications, the resulting scores would have extremely limited ranges. Such a reduction of

range would undoubtedly be accompanied by a reduction in the reliability of the scores.

The wide interest in M seems to be attested by the development of, at least, two techniques which were designed to overcome some of the difficulties involved in the study of human movement responses. The Levy Movement Blots (70, 71, 100) consist of a series of finger paintings, the objective of which is to provide a more controlled and thorough analysis of M responses. The M-threshold method constructed by Barron (8) utilizes a series of twenty-six ink blots which have been gradated for stimulus threshold (frequency of M elicited). Little research has been reported for either one of these techniques, and there is the question of whether these procedures tap the same psychological function as that represented by the Rorschach M.

C. Scope of the Present Investigation

This investigation has the following two objectives:

(1) to reformulate the interpretation of the Rorschach M response and

(2) to provide an empirical test of this revised interpretation of M.

II. THE RORSCHACH MOVEMENT RESPONSE AND INTERPERSONAL RELATIONSHIPS

A. Current Interpersonal Conceptions of M

According to the definition of what constitutes an M response, it was seen that structurally M requires the perception of a human being (H) in almost every case. The content category of H is commonly interpreted by Rorschach workers as indicating the subject's interest in human beings. For this reason, it remains a puzzle to this investigator why interpersonal relationships haven't been emphasized more in the interpretation of M. Although Rorschach touched upon this area in his discussion of rapport and empathy, this lead has largely been neglected until quite recently by the theorists that have followed him. The following represents the theoretical overtures that have been made in this direction.

In his "nuclear definition of M", Piotrowski states that M responses "always reveal the subject's conception of his role-in-life" (57, p. 560). His following elaboration of this definition seems to incorporate Rorschach's notion about suggestibility and M:

> ...The M designates a tendency to form a more or less definite conception of reality and one's role in it, and a dislike for acting in a manner not foreseen in, or incompatible with, that

> conception. The more prominent the M in a testee's record, the stronger is his urge to live his life uninfluenced by others, and the more apt he is to act upon his individual ideas rather than upon the direct suggestions of his environment" (p. 561).

The M response is seen as a phenomenon similar to empathy by Bochner and Halpern in their discussion of its relationship to identification and creativity:

> A movement answer is the expression of an emotional experience that has its source in the 'inner' life of the subject. Identification and inner creativity are its chief components.
>
> By identification is meant the ability to put oneself in the place of another or to put oneself in different situations. This may be on a wishful thinking basis or on a very realistic one. In either case, the identification arises out of the needs of the individual. His projection of himself into other people and situations thus becomes a part of his daily living (16, pp. 39-40).

Schachtel (73) and Frankle (27) also view M in terms of empathy. Schachtel considers M responses to indicate the ability for empathic projection, which amounts to an emotional understanding of others. Frankle concludes that in normals M responses "should correlate positively with the ability to empathize with and understand other people, especially in a close relationship such as case work or psychotherapy" (p. 19).

The two most recent books on the Rorschach method devote some attention to the relationship between M and

interpersonal relationships.[1] The principal emphasis of Phillips and Smith (55) in their interpretation of M is upon empathy, which is conceptualized in terms of role taking and role assigning. Although still clinging to some of the standard interpretations of M (e.g., intelligence), Klopfer et al also consider it to be related to the "capacity for good empathic relationships with other human beings" (40, p. 264).

In summary, it can be seen that most of the current interpersonal conceptions of M view this Rorschach response as reflecting the capacity for empathy.

Interpersonal Rationale for M. Schachtel provides a rationale for the relationship between M and empathy by positing the same mechanism, which he terms "projection", as the underlying process in both types of behavior. The relationship of projection to empathy is described as follows:

> Projection plays a role in every act of empathic understanding since the subject cannot have an inner understanding of another person's feelings except in terms of his own experience of that or a similar feeling. In empathic understanding the projection of the subject's own feeling merges inseparably with the perception of the other person's feeling (73, pp. 98-99).

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[1]Both of these reports were published after this investigation was formulated.

A relationship between M and empathy is proposed by Frankle on the following basis:

> ...This might be assumed on the basis of the very simple, logical analogy that the readiness of subjects to see human beings, especially live and active human beings in the Rorschach blots, would naturally have some relationship to how readily and intimately they relate themselves to actual human beings in real life. While the Rorschach is a projective test, it is certainly not true that all responses are pure products of the imagination of the subject. The blots themselves have certain objective features which, even if somewhat ambiguous, do have a very definite bearing on what may be seen; hence the possibility of popular responses, the discrimination between plus and minus form accuracy, and so forth. Beginning with this framework and the observed fact that certain areas of the blots do lend themselves to interpretation as human figures, it seems logical, even if an oversimplification, that whether or not a person accepts these areas and other less common ones as representing human figures should tell us something about his identification with people, his affinity for them, or interest in them, the converse tendency to avoid seeing the most common or popular human responses should indicate some type of resistance to interpersonal relations and inability to identify, or perhaps a concept of himself as something less than human (27, p. 19).

The present investigator presents what he believes to be a somewhat more simple rationale. As already defined, an M response is essentially a human percept plus kinaesthetic factors. In discussing this kinaesthetic element, Rorschach offers the following elaboration:

> Frequently the gestures of the subject during the test will indicate whether or not kinaesthetic influences are in play. He makes the movements which

> he is interpreting or indicates them by involuntary innervations (67, p. 25)[1]

What is postulated here by Rorschach is an empathic response: what Rust (71) calls "artistic empathy", or what Schachtel (73) calls "kinaesthetic empathy." Doesn't the combination of a human percept with an empathic response suggest the possibility that M may be related to "empathy in the interpersonal sphere"?[2]

Research Related to M as an Interpersonal Concept. Although somewhat meagre, there is some evidence from research that seems pertinent to the relationship between M and interpersonal relationships in general and empathy in particular. First, in order to obtain an adequate frame of reference, it seems appropriate to examine the concept of empathy more closely. The following description of empathy provided by Dymond and Cottrell in their discussion of the therapist's relationship to the patient appears to be one of the most lucid in the literature:

> This requires that the psychiatrist utilize some portion of his reactive system to take the role of the patient--to place himself in the psychological shoes of the patient--and perceive the situation from that perspective; and to respond

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[1]There is definite evidence from research (50, 78, 79, 93) indicating that M is in some way related to physical motility.

[2]This rationale is quite similar to that offered recently by Phillips and Smith (55, p. 58).

> to himself as the patient responds to him. The ability to do this we shall call empathic ability (21, p. 356).

In this definition, empathic behavior assumes among other things a knowledge of, an awareness of, a sensitivity toward, or an understanding of the self and others. Barrell (7) obtained small, but significant positive correlations between the number of M and ratings on "insight into himself" and "insight into others," although the latter correlation dropped to insignificance after R was statistically controlled. Using the Sheviakov and Friedberg Interest Inventory (77), Schwartz (76) found that the number of M was significantly related (small correlations) to items interpreted as measuring "identification with others" and to items measuring "self-acceptance."

Although it is open to methodological criticism, some interesting research by Hertzman and Pearce (32) has pointed to the relevance of M not only in regard to empathy but also to other aspects of interpersonal relationships. With the objective of discovering the meaning of the H and M responses of their subjects from material obtained in therapeutic interviews, they report that the personal meaning of the majority of these Rorschach percepts could be determined. All identified responses were empirically classified, with the majority being labeled "self-identification." Other categories were as follows: self-identification plus

attitudes toward the world, characteristics of interpersonal relationships plus self-identification, the world around me, parents and parent substitutes, negative identification with a parental figure, and rejection of a possible role.

Reference might be made again to Roe's Rorschach data on artists and scientists (61, 62, 63, 65, 66). When it is considered that the highest number of M was produced by the social scientists, the only group studied whose occupational goals involve other people, then the results become quite suggestive in terms of some interpersonal meaning for M.

Perhaps, the most substantial evidence comes from the research by Frankle (27). Hypothesizing that M reflects the ability to empathize with and understand other people, he used as his criterion group social work students engaged in case work. On the basis of the number of M with good form, he was able to predict significantly better than chance the adequacy of the students as determined by two measures of effectiveness in forming interpersonal relationships.

Results from research of a similar nature have also been reported. According to Holt (40), the Menninger study of resident psychiatrists showed that the top eight men, on the basis of pooled ratings of empathy, produced significantly more M than the bottom eight. In the evaluation of

the findings obtained from the Michigan study of the performance of trainees in clinical psychology, Kelly and Fiske state that "for this prediction problem, we find that M% scores show significant correspondence with most of our criterion measures, whereas none of the ratings made by the clinicians on the basis of the total Rorschach pattern achieve statistical significance" (36, p. 200).

B. A Point of View

Some theoretical viewpoints and research evidence that point to a relationship between M and empathy have been considered. Accepting this interpretation of M on a tentative basis, at least, the question might be asked: How universal or basic is this meaning of M? Beck (11) distinguishes between the significance of a Rorschach determinant found in patients and the same one when it occurs in superior non-patients. Kornreich's data (42) show how the meanings of test scores, including Rorschach indices, can vary when different "personality types" are involved. This does not constitute a default to the molar Rorschach approach, nor does it preclude the existence of universal meanings; but it does emphasize that many meanings assigned to Rorschach symbols are collateral or "conditional" ones, to use Piotrowski's term (57). Collateral meanings must be compatible with universal meanings, but their applicability is dependent upon the context in which the symbol

appears (e.g., personality structure of the subject, other symbols present, etc.).

With the aforegoing in mind, M might be examined in regard to psychopathology. The general consensus in the literature is that the number of M given by neurotics and schizophrenics is below that found in normals (9, 60, 80).[1] These results are quite compatible with a correlation between M and empathy. Dymond and cottrell (21) propose that "empathic phenomena occupy the critical position in human interaction and adjustment," and Hoskins (34) considers the fundamental manisfestation in schizophrenia to be a "loss of empathy." However, there is one outstanding exception for Rorschach findings in psychopathology, namely, paranoid schizophrenia. Reports in the literature reveal that M responses are fairly high for this diagnostic category (9, 39, 60, 67, 84). It is quite evident that the paranoid schizophrenic cannot "place himself in the psychological shoes" of others since his delusional thinking shows glaring inaccuracies in his perception of not only his own role but also that of others. Only by accepting his "psuedo-community" could he be credited with empathy. Here, then, is an example where the relationship between M and empathy breaks down.

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[1]Rust (71) also found with the Levy Movement Blots that movement responses occurred significantly less frequently in schizophrenics and neurotics than in normals.

In further consideration of the paranoid schizophrenic, perhaps the chief characteristic of this diagnostic classification is the rich, although inaccurate, fantasy life involving people. For example, the belief may be held that various people in his environment are attempting to persecute or kill him, often in ingenious ways, and he may imagine himself to be some important figure such as the King of Siam with enormous power. If this illustration of paranoid schizophrenic behavior is considered to have relevance for the meaning of M, the "capacity for interpersonal fantasy" may be used as a tentative point of departure. This orientation seems to be particularly compatible with one of the few studies investigating M and creativity where positive (albeit questionable) results were obtained. The study in question is that by Vernier and Kendig (88), who found a very high relationship between M and fantasy productions on the TAT rated for creativity. A closer examination of this research reveals that the stimuli on all the TAT cards used were people. When the results are now interpreted as indicating the more M the more creative the <u>interpersonal</u> fantasy, the consistency of this research with the proposed orientation can readily be seen.

It is apparent that this interpersonal fantasy should not be considered as one exclusively focused upon empathic

behavior. The paranoid's fantasy life would attest to this. The data provided by Hertzman and Pearce (32) in the attempt to determine the personal meaning of M responses show such classifications as "negative identification with a parental figure" and "rejection of a possible role," hardly empathic in nature. It seems more feasible to assume that it encompasses the total area of interpersonal relationships.

Stated in capsulated form, the following formulation of the basic meaning of M is suggested: M reflects the ability in fantasy to project the self into time and space in the interpersonal sphere. The dimension of interpersonal space refers to the various possible settings for interpersonal behavior or the range of roles available to humans. It seems to be illustrated in part, at least, by the following statement by Piotrowski: "Persons with a large number of M show more awareness of the complexities of human relationships than those with few or no M" (57, p. 568). In addition to this cross-sectional dimension, there is the temporal factor in the interpersonal sphere, which is both illustrated and supported by some findings reported by Roe (64). Her results revealed that the number of M correlated significantly with the tendency for her subjects to complete their TAT stories by including a future. The specification of the dimension of interpersonal time seems also to receive some justification from the following observations of

patients made by Singer and Spohn: "To some extent those individuals who reported tendencies toward active fantasy lives such as heroic daydreams or reviewing of past or future plans tended to fall in the High-M group [while]... Ss who showed Low-M production ... reported that they tended to lose themselves in viewing television or in focusing on minute bodily changes with consequent somatic delusions" (79, p. 6).

If this posited basic interpretation of M is to be comprehensive and consistent, it should provide an explanation for the results obtained by Frankle (27) and others, who found a relationship between M and empathy for normals. The ability to indulge in interpersonal fantasy, as indicated by M, should certainly facilitate empathy when it is in the presence of other crucial factors (e.g., factors crucial to normality). As revealed by Kornreich's data (42), the type of personality structure is an important consideration in the meaning of test scores. Hence, empathy would be a collateral meaning of M. Another collateral meaning that we would predict seems to be expressed in the following statement by Beck, if we changed "problems" to "interpersonal problems" and "average" to "normal": "The average individual discloses in his M the extent to which he uses imagination to understand the world he deals with and to solve his problems" (11, p. 26).

Implications for Psychopathology. The postulated basic meaning of M was the ability in fantasy to project the self into time and space in the interpersonal sphere. Since the functional psychopathological disorders are viewed as illnesses which fundamentally represent disturbances in interpersonal relationships, it is suggested that M has certain implications for the maladjusted individual's orientation to his illness. In the sense that a psychiatric illness represents a problem for the individual, it is proposed that M is related to the individual's orientation to his problem in terms of his perception of the nature of the problem, his perception of the origin of the problem, his reaction to the problem, and his view of the future.

It would seem to follow from the basic meaning of M that the more M produced on the Rorschach the more interpersonal space would be available for fantasy, which would result in a greater awareness of the complexities involved in interpersonal relationships. In the case of fantasy limited in interpersonal space, there would be a reduced awareness of the significance of human interaction for the self. Hence, it would be expected that a low amount of M produced by an individual who is mentally ill to be associated with a tendency for the perception of the illness to be more localized or restricted to the self. Such an

individual would be more apt to see his problem in terms of somatic complaints, unexplainable tenseness, and the like, or even deny any debilitation. With high M, it would be more likely that the problem would be regarded as being in some way related to interaction with other people.

The dimension of time in the interpersonal sphere ranges from past to future events. Like the dimension of interpersonal space, the extent to which interpersonal time could be utilized in fantasy would vary with the number of M. In regard to psychopathology, the literature abounds with reports attesting to the influence of childhood and adolescent experiences upon adult personality problems. In mental disorders, the expectation would be that the individual who produces few M would be less able to project himself backward in time in accounting for the origin of his illness. He would tend to point to events in the immediate past, while the person high in M would be more likely to consider interpersonal experiences in the more distant past as contributing to his present problem.[1]

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[1]While the majority of human experiences probably possess some interpersonal element, many human events seem best classified as "non-interpersonal." The interpretation of M that has been formulated does not preclude people low in M from connecting non-interpersonal events from the distant past with their problems. However, to the extent that past events become interrelated, sequentially or otherwise, interpersonal events would serve as important cues in the perception of the past. Thus, M may be related to more than just interpersonal time on the basis that interpersonal cues facilitate the projection of the self backward in time in general. This would mean that since individuals low in M are less aware of interpersonal events, they would have fewer interpersonal cues available to them, resulting in their being less likely to associate events (interpersonal or non-interpersonal) of the distant past with their problems.

At the other end of the time continuum is the future. In a similar vein, the expectation would be that the number of M is related to the individual's ability to project himself beyond his illness into the future. As compared to those high in M, people low in M would have more difficulty in outlining plans and formulating goals for future action.[1]

The reaction to an illness can be described in terms of many mechanisms that the individual can use to cope with his problem. These mechanisms differ from each other in such characteristics as personality level involved, degree of pathology, direction, and so forth. A person, for example, might contend with his problem by attempting to "cast it from his mind," similar to the Freudian mechanism of suppression. On a different level would be the attempt to escape the problem through indulgence in alcohol. Numerous other methods of dealing with problems could be cited. Interpersonal fantasy appears to provide not only a means of escaping a problem (e.g., daydreaming) but also a mechanism for mulling over a problem in the direction of a solution. The degree to which an individual could indulge in interpersonal fantasy in regard to his illness would be related to the number of M responses produced on the Rorschach.

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[1]In the matter of the relationship between M and interpersonal plans and goals and non-interpersonal plans and goals, the discussion in the preceding footnote seems applicable.

The prediction would be that a person low in M would be more likely to use such mechanisms as suppression, denial, and other avoidance measures in combating his problem.

C. Hypotheses

Certain relationships between Rorschach M and the psychiatric patient's orientation to his illness or problem have been derived from the basic interpretation of M that has been proposed. Predictive statements were made specifically in regard to (1) the perception of the nature of the problem, (2) the perception of the origin of the problem, (3) the reaction to the problem, and (4) the perception of the future. In order to test these implications for psychopathology, the following hypotheses have been formulated for an empirical test with functional neuropsychiatric patients:

1. The High-M producers will show a greater tendency to recognize their problems (illnesses) as involving disturbances in interpersonal relationships than the Low-M producers.

2. The High-M producers will show a greater tendency to project themselves backward in time in accounting for the origins of their problems than the Low-M producers.

3. The High-M producers will show a greater tendency to utilize interpersonal fantasy in coping with their problems than the Low-M producers.

4. The High-M producers will show a greater tendency to project themselves beyond their present problems into the future than the Low-M producers.

III. METHODOLOGY

A. The Controlled Interview

The principal instrument selected for obtaining the data to test the hypotheses was the controlled interview. The advantages of such an approach are that it offers flexibility and directness. The chief criticism would appear to be directed at the question of reliability. It was felt that this problem could be overcome if careful planning went into the construction of the interview.

The outline for the interview was developed through numerous trial administrations. Further refinements were made on the basis of a formal pilot study with twenty-two subjects. The following constitutes the final revision of the outline as it was used by the interviewer in his contact with the subjects. Each section of the interview has been given a parenthetical introduction, the content indicating the hypothesis to which the section is related.

OUTLINE OF INTERVIEW

Suggested Introduction: As a patient here in the hospital, the hospital staff is interested in you and your problem. If we are to help you, we must get certain information about you. I am going to ask you some questions. I would like you to listen carefully and to answer the questions the best you can. Think each question over before answering. I would appreciate your talking slowly because I want to write down as much as I can of what you say.

I. (Nature of the Problem) Like every person who comes to this hospital, there is a reason. We will call this your problem. Now, first of all, I would like you to tell me in your own words what your problem is.

If hesitant, the subject should be encouraged. The question can be repeated and paraphrased. If paraphrasing is necessary, only minor variations should be used. If the subject's account of his problem is brief and confined to such general descriptive terms as tense, nervous, emotionally upset, etc., more information should be obtained by asking the general question: "What are you tense (nervous, etc.) about?" At the end of the subject's account, he should be asked: "Anything else?"

II. (Origin of the Problem) Now, everything has a beginning. Sometimes things go pretty far back in the past and build up gradually. Sometimes things happen suddenly without much of a build-up. Think it over carefully and tell me when your problem first began.

As before, repetitions and paraphrasing are permissible. If, at the close of the subject's account, nothing is mentioned in regard to his childhood or adolescence, he should then be asked: "Was there anything in your childhood or 'teens that you might connect with your problem? Where the subject perceives the origin of his problem as being in the immediate past, it may be necessary to ask: "Was there anything in the Army that you might connect with your problem?"

III. (Reaction to the Problem) When a problem comes up, people usually try to deal with it. Different people use different ways or methods. I would like to know what your approach has been to your problem. Let me read you some possible ways that have all been used by others.

The interviewer then reads seven methods printed on separate cards, placing the cards on the table in front of the subject as he reads them.

Now you can read them over. Pick out any that apply to you. Pick out any of the methods that you have used at one time or another.

If the subject picks out more than one, the interviewer then asks the subject to rank the methods in regard to frequency of use. If several methods

are selected, the interviewer can instruct the subject as follows: "Now I want you to rank these methods according to how much you've used them. The one you've used most would be first, the one that you've used next most frequently would be second, and so on." If the unselected methods number more than one, the interviewer points to these methods and states: "Now you didn't pick these methods because you've used them very seldom or not at all. Now I want you to rank these methods the same as you did the others. It may be more difficult, but I'm sure you can do it." After this is accomplished, the subject is then asked: "Have you used any methods not listed here?"

IV. (View of the Future) Last of all, I would like to turn to the future. What are your plans or goals for the future?

If the subject can't give any plans, he should be encouraged with: "Do you have any plans at all?" If plans are given, he should be asked: "Do you have any other plans or goals?" Since this question is more general than the others, it will probably be necessary to ask more additional questions. The time element should be obtained in every case; e.g., when he plans to do this, how long will it take him to accomplish this, etc. Unless the subject includes this topic in his answer, he should be questioned about any long range goals he may have. He should be asked: "Do you have any plans or goals for the more distant future, let's say, five years from now?"

Conclusion: In order to maintain the subject's cooperation and reduce any resistance to a reinterview, he should be told that there is a possibility that he may be asked these same questions again in about a week by another staff member. It might be explained on the basis of research that is being conducted.

Part III of the interview (Reaction to Problem) allows the subject to choose from seven methods of dealing with psychiatric problems. These methods were derived from case histories, therapy notes, and related sources. The final

selection and revision of terminology was accomplished after the pilot study. The following are the methods that were used, along with provisional descriptive classifications and the order of their presentation to the subjects:

(A) I try to handle my problem by avoiding any thinking about it. I often keep myself very busy which helps to take my mind off it. (suppression)

(B) I try to handle my problem by relying on hope and faith. It helps if you believe that it won't always be like this. (mysticism)

(C) I try to handle my problem by using my imagination. It helps to give me relief if I daydream that people and things are different from the way they actually are. (interpersonal fantasy, non-reality)

(D) I try to handle my problem by ignoring it. It helps if I exercise my willpower and act as if it didn't exist. (denial)

(E) I try to handle my problem by pushing it aside. It helps to give me some relief from it if I drink. (escapism)

(F) I try to handle my problem by thinking about myself in relation to others. It can help to find a solution if you think about it from different angles. (interpersonal fantasy, reality)

(G) I would try to handle my problem but there's nothing I can do. Nothing would work so it's useless to waste your effort trying to do something. (passive defeatism)

In terms of their directional relationship to the problem, these methods can be considered to consist of five that express attempts to avoid the problem (A, B, C, D, and E), one that expresses an attempt to confront the problem (F), and one that expresses a passive acceptance of the problem (G). Methods C and F represent the ones employing

interpersonal fantasy, the first being an avoidance and the second a confronting method.

B. Procedure

The interview and other techniques of this investigation were administered to one-hundred recently admitted, male neuropsychiatric patients at the Veterans Administration Hospital, Battle Creek, Michigan. In seventy-six cases, the length of hospitalization was less than three weeks, while the length of hospitalization was less than five weeks for the remaining twenty-four subjects.

All patients admitted to the hospital during a period of seven months were screened by an examination of the notes provided by the admitting psychiatrist and by a brief interview. The patients were evaluated on the following criteria, which governed the selection of subjects:

(1) Cooperative attitude
(2) Minimal confusion: no active hallucinations or delusions
(3) No evidence of brain damage
(4) Approximately average intelligence or better
(5) Not above forty-five years of age
(6) Limited previous psychotherapeutic contacts

As can be seen in Table 1, the schedule for the controlled interviews called for a systematic variation of the interviewers. It can be further noted that in the first fifty cases every other subject was reinterviewed six to eight days later by a different examiner. On a few occasions, early discharges, absences without leave, and physical illnesses

Table 1

Schedule of Controlled Interviews and Reinterviews

Interviewer Sequence[1]	Number of Interviews	Reinterviewer Sequence[2]	Number of Reinterviews
A	20	B	5
		C	5
B	10	A	5
C	10	D	5
D	10	A	5
A	50	-	-
Totals	100		25

[1]A is the author

[2]Reinterviews were conducted in the first 50 cases for every other subject 6-8 days later.

necessitated slight alterations in the reinterview schedule. Besides the present investigator, three hospital staff psychologists, all possessing the Ph.D. degree, served as interviewers.

The outline was followed quite rigidly in the conduct of the interviews and reinterviews. The reinterview was essentially a repetition of the interview except for the introduction. In the first twenty interviews, the length of time required ranged from seventeen to sixty-seven minutes, with the median time being 29.5 minutes. Both the interviews and reinterviews were recorded as close to verbatim as possible by the examiners. Typewritten copies were made of the one-hundred interviews and twenty-five reinterviews.

Within forty-eight hours of the controlled interview, the Rorschach and Wechsler-Bellevue Verbal Scale (Form I), in that order, were administered to all subjects. This testing preceded the interview in forty-three cases and followed it in fifty-seven. The test administrators were, in addition to this investigator, advanced VA trainees in clinical psychology from Michigan State College and University of Michigan. The instructions were in accordance with Beck (10) for the Rorschach.

In addition, every subject was rated for "cooperation" on a seven-point scale and "confusion" on a six-point scale

(see Appendix) by two independent judges. Cooperation and confusion were considered to be variables that could have an important influence upon the patient's performance in an interview situation.

After an interval of thirteen to fifteen days, the Rorschach was readministered by different examiners to thirty subjects, every other subject in the first sixty cases being selected. Except in a few instances, the latter subjects were other than those who had been reinterviewed.

C. Subjects

The Rorschach performance of the hundred subjects constituted the basis for selecting High-M and Low-M groups. The number of M ranged from zero to nine, with twenty-six subjects falling at zero, twenty-five at one, eighteen at two, and thirty-one producing three or more M.[1] Using three or more M as the criterion for the High-M group and one or less M for the Low-M group yielded preliminary groups of thirty-one and fifty-one subjects, respectively. The two preliminary groups were adjusted on the basis of age, verbal IQ, and Rorschach R, and it was possible to form two

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[1]This tabulation refers only to M, both good and poor form, associated with W and D. Such a small percentage of M occurred with Dd that this type was eliminated. A later section will deal with the reliability of this scoring.

Table 2

Comparison of the High-M and Low-M Groups on Age, Verbal Intelligence, and Education

		Age			Verbal IQ (W-B)			Education		
Groups	N	M	Range	SD	M	Range	SD	M	Range	SD
High-M	30	30.47	21 - 44	6.26	110.53	85 - 130	10.92	11.50	7 - 17	2.34
Low-M	30	31.80	21 - 44	5.85	109.33	87 - 131	9.83	11.83	7 - 17	2.19

final groups of thirty subjects each, which were equated for these variables. Table 2 shows that the resulting High-M and Low-M groups were not only equated on age and verbal intelligence but also on education.

The High-M and Low-M groups were quite similar in the matter of diagnostic composition, as indicated by Table 3. Each group contained twenty-one psychotics and nine non-psychotics, with only minor differences in regard to diagnostic subtypes. All the neuropsychiatric disabilities were classified as "military service-connected."

Actually, controlling for psychiatric diagnostic status is an operation of questionable worth since the unreliability of diagnostic categories has been rather convincingly demonstrated (6, 20, 22, 49). The consideration of control in terms of relevant, specific variables would seem to provide more experimental precision. Cooperation and confusion, on which all subjects were rated, are offered as examples of relevant variables. In this respect, the subjects of the two groups were quite homogeneous, as attested by the fact that only one end of each scale was used in the ratings. The screening procedure used in selecting the subjects eliminated the more uncooperative and more confused patients. The mean ratings on cooperation were 5.7 for the High-M group and 5.9 for the Low-M group, while the means on confusion were 2.3 and 2.1, respectively. If anything, these

Table 3

Diagnostic Characteristics of the High-M and Low-M Groups

Diagnosis[1]	Groups High-M	Low-M
Schizophrenia, undifferentiated type	13	15
Schizophrenia, paranoid type	8	6
Total psychotics	21	21
Passive-aggressive personality	2	5
Emotionally unstable personality	2	1
Inadequate personality	2	0
Antisocial personality	0	1
Total personality disorders	6	7
Anxiety reaction	3	2
Total psychoneurotics	3	2
Total Subjects	30	30

[1]The diagnostic classifications essentially follow the nomenclature recommended by the American Psychiatric Association (19).

comparisons indicate that the subjects in the Low-M group were slightly more cooperative and slightly less confused.

The two groups were also compared on Rorschach scores other than M. The following Rorschach variables, as utilized by Beck (10), were selected for this purpose: number of responses (R), percentage of accurate forms (F + %), number of popular responses (P), number of whole responses (W), sum of the shading responses (Y + V + T), number of color-dominant responses (CF + C), and number of form-dominant color responses (FC). In addition, the number of FM, Klopfer's animal movement response (39), and the number of m, Piotrowski's inanimate movement response (57), were included. The protocols were scored for these variables by this investigator in collaboration with another experienced Rorschach scorer. Table 4 reveals that there were no statistically significant differences between the two groups on any of these Rorschach variables.

In summary, the High-M and Low-M groups were equated for age, verbal IQ, education, diagnostic status, cooperation, confusion, and nine Rorschach scores.

D. Treatment of the Data

It was necessary to construct scales or devise scoring schemas for the interview data in accordance with the hypotheses of this investigation. These scales and scoring schemas will be discussed as they pertain to each section of the

Table 4

Comparison of the High-M and Low-M Groups on Other Rorschach Scores

Rorschach Variables	Groups[1] High-M		Low-M	
	M	Mdn	M	Mdn
FM	2.73	2.06	2.23	2.10
m	0.87	.62	0.77	0.50
FC	2.97	2.83	2.43	2.16
CF + C	1.97	1.75	1.97	1.64
Y + V + T	5.17	5.00	5.33	5.00
W	6.63	5.00	5.47	4.50
P	7.23	7.10	6.17	6.00
F + %	76.90	75.00	79.83	79.00
R	26.27	25.83	26.83	26.50

[1]None of the differences between the groups are statistically significant according to t tests between means or median tests (chi square).

interview and, thus, each hypothesis.

Nature of the Problem. In this area the scale was concerned with the extent to which the subject viewed his problem (illness) as involving disturbances in interpersonal relationships. Designated "interpersonal awareness of the problem," this variable was considered to vary in amount along a continuum, ranging from a complete lack of interpersonal awareness to an extensive awareness of interpersonal factors. The following provides the rationale used in the construction of the scale:

> In a complete lack of interpersonal awareness, the individual would be entirely self-oriented, with no consideration of events in the interpersonal sphere in accounting for his problem. An example would be the problem-description that was confined to somatic complaints (headaches, stomach trouble, etc.) and/or anxiety features (nervousness, tenseness, etc.). A minor degree of interpersonal awareness would be introduced if the description was supplemented as follows: "I have headaches, and I think my wife's nagging makes them worse." Another variation is presented for further clarification: "I'm extremely tense and tired all the time, and the reason is my work, the long hours I put in." In this latter case, there is no interpersonal awareness. There is projecttion beyond the self into the work area but no recognition of interpersonal events, so this individual can be considered to be essentially self-oriented.
>
> The recognition of interpersonal influences can readily be seen in the problem that is characterized as "difficulty in getting along with my family." An even greater degree of interpersonal awareness would be displayed by the individual who labeled his problem as an "inability to adjust to people." Both of these examples show an awareness of interpersonal factors; the difference is in the scope of the interpersonal referent. People represents a broader segment of the interpersonal sphere than family.

A preliminary rating scale consisted of six categories, which were designed to represent points along the continuum. Results from the pilot study suggested that two of these classifications could be eliminated. The final selection of points on the dimension of interpersonal awareness of the problem utilized the following four categories:

1) Self-Oriented: In its extreme form, the description of the problem is confined to somatic symptomatology (e.g., headaches) and/or anxiety features (e.g., tenseness). These symptoms may or may not be explained by non-interpersonal events (e.g., overwork, noises, drinking) but not by interpersonal factors.

2) Limited Interpersonal Awareness: The primary focus in the description of the problem is upon somatic and/or anxiety phenomena (self-oriented symptomatology), but there is some recognition of interpersonal factors. Interpersonal awareness is of secondary importance, and it is limited and narrow in scope.

3) Narrow Interpersonal Awareness: Primary consideration is given to interpersonal influences in the description of the problem, but the interpersonal referent is of a restricted nature. It is confined to a special group or type of people (e.g., family, wife, foremen, friends). If present, self-oriented symptomatology is of secondary importance.

4) Broad Interpersonal Awareness: An extensive interpersonal awareness is revealed in the description of the problem, as attested by such a broad referent as people and its variations (e.g., society). The area of social interaction is not limited to a special group or type of people. Self-oriented symptomatology may be included in the description of the problem in any degree of importance.

Origin of the Problem. The data in this section required a scoring schema which would quantify the "distance" in the

past that the subject projected himself in accounting for the origin of his problem. The variable could be called "temporal-distance awareness of the origin of the problem." The following three categories were selected as the final points on this dimension:

1) Childhood Period: ten years of age or under.

2) Adolescent Period: eleven to twenty years of age.

3) Military Service Period: the subject's tour of military duty.

Reaction to the Problem. This part of the interview employed the previously mentioned seven methods of coping with a psychiatric problem. The following information was obtained from the interview:

1) Free Choice: the number and type of methods selected by the subject.
2) Ranking: the ranks of all the methods in terms of frequency of use by the subject. (Methods not selected in the Free Choice were force ranked.)
3) Supplementary Methods: the subject's report of any additional methods that he used.

The Supplementary Methods were classified as either "interpersonal" or "non-interpersonal." An interpersonal method was defined simply as one that "involves overt or covert interaction with other people."

View of the Future. In this section, the following three measures were obtained on the plans and goals given by the subject: range of plans (number of areas encompassed by the subject's plans), interpersonal plans (number of plans cited involving interpersonal relationships) and

long range plans. Rating scales were constructed for the first two measures. What was considered to be "long range plans" was indicated by the subject's response to the question as to whether or not he had any plans for the "more distant future, let's say, five years from now." Long range plans were simply scored for their presence or absence.[1]

The interview data for the forty subjects not selected in the High-M and Low-M groups were used in the construction of the two rating scales. This procedure seemed necessary to provide a more adequate frame of reference for the raters. With more data to draw from, a greater variety of examples could be cited for the rater to make his task more explicit. The following are the rater-instructions for the two scales:

Rating Scales: Future (Plans and Goals)

Range of Plans: This scoring system is concerned with how many areas the subject's plans encompass. The following list of areas and examples of related plans was formulated as a guide:

Acquisition: Get a home. Make payments on our house. Buy a car. Sell my house.
Business: Own my own business. Buy a farm. Operate a restaurant.
Family: Raise a family. Support my father. Educate my children. Leave my family.

[1] An attempt to classify the long range plans as either "interpersonal" or "non-interpersonal" had to be abandoned. Responses to this question in the interview seemed to be particularly brief and ambiguous, making the task of classification very difficult.

Financial: Pay off my debts. Save money. Borrow money. Get a pension.
Health & Well-Being: Get myself in shape. Get readjusted. Learn to face things. Quit drinking. Try to be happy (or normal).
Marriage: Get married. Get my wife back. Get a divorce.
Recreation: Get more recreation. Go hunting. Spend more time on my hobby.
Residence: Get out of this climate. Move to California.
Religion: Start attending church. Practice what the Bible says.
Socialization: Make some friends. Win the respect of others. Help others. Stay away from people.
Training: Go to college. Take some aptitude tests. Learn a trade.
Work: Get a job. Go back to my work. Change jobs.

Record the number of areas covered by each subject's plans. It is the number of areas, not individual plans, that is to be scored. For example, three different plans that could all be classified under "Family" would be tabulated as one area. In the case of plans that do not appear to be relevant to any of the above areas, credit should be given for additional areas.

Interpersonal Plans: The preceding scoring system dealt with plan-areas; this one is focused upon the smaller unit: plans. More specifically, it is concerned with how many of the subject's plans involve interpersonal relationships.

In any plan in which it is present, the interpersonal component may be peripheral or central in its importance to the plan. The type of interpersonal relationship involved will also vary. To assist the rater, the following list of types of interpersonal relationships, along with examples of plans, is provided:

Direct interactive
(a) Approach: Get married. Live with mother.
(b) Avoidant: Divorce my wife. Get away from people.
Causal-motivational: Leave this climate, because it's bad for my wife. My mother would like me to go back to school.
Conditional: If my wife lets me, I'll go hunting. I'll buy this farm provided Mr. Smith will sell.
Descriptive-associational: Like a lot of people, I want a home. Move up North; the people are nice there.

The interpersonal component, itself, will usually be directly stated, but in a few cases it may be merely implied. Examples of the two types of interpersonal expression would be as follows: explicit (people, wife, we, anyone, Agnes); implicit (without discouragement at home, make the right contacts, get married).

Record the number of plans involving interpersonal relationships for each subject. Repetitions of the same plan do not count as additional plans.

E. Reliability of the Various Measurements

Inter-rater Reliability. In the quantification of qualitative data, the process must be a reliable one if the resulting measurements are to be of any value. This type of reliability is referred to as inter-rater or inter-scorer reliability. Some of the scales or scoring schemas of this investigation depended upon judgments by the rater; others provided scores more or less mechanically. More than one rater was employed for the scales of the former type in order to determine the reliability of the scoring. All the raters were either hospital staff psychologists, psychiatrists, or advanced trainees in clinical psychology.

The one-hundred Rorschach protocols (plus the thirty retests) were scored by the present investigator, with the number of M being tabulated for each subject. After the number was reduced by eliminating every other protocol, the remaining records were divided into two samples of twenty-five each. Two raters, each assigned one of the samples, scored the protocols for the number of M. The per cent

agreements with the original scoring were 88 and 96, the mean being 92 per cent. This was deemed an adequate level of scoring reliability, especially when it is considered that reliability was actually based on finer measurements than those used in forming the High-M and Low-M groups.

The two independent ratings on cooperation and confusion were obtained from the interviewers, test administrators, or admitting psychiatrists. The per cent agreement was 89 for cooperation and 87 for confusion. In no case was the discrepancy between raters more than one scale point.

The interview data for all one-hundred subjects were scored by three raters (including the present investigator) on the following dimensions: interpersonal awareness of the problem, range of plans, and number of interpersonal plans. The supplementary methods (Reaction to the Problem) that were given by the sixty subjects in the two M groups were classified as either "interpersonal" or "non-interpersonal" by two raters. None of the other scoring schemas for the interview data required the interpretations or judgments of raters.

The per cent agreements among the raters for interpersonal awareness of the problem were 90, 92, and 98, resulting in the mean per cent agreement being 93.3. For all subjects, the agreement among the raters was at least two out

of three. The subjects of the High-M and Low-M groups gave thirty-nine supplementary methods. The per cent agreement for the two raters in classifying these methods was 94.8.

The method of determining the inter-rater reliability for the range of plans and the number of interpersonal plans was designed to match the method that was to be used in the analysis of the data in regard to these two variables. Scoring was in terms of numbers: number of plan-areas and number of interpersonal plans. The procedure for both variables was to combine the distributions of the three raters and compute the median. Then each subject was designated "above or below the median" for each variable. With this measure of range of plans, the per cent agreements among the raters were 85, 85, and 87. For number of interpersonal plans, the per cent agreements were 85, 88, and 89. The mean per cent agreement was 85.7 for range of plans and 87.3 for number of interpersonal plans.

Test-retest Reliability. While inter-rater reliability is a problem peculiar to measurements derived from qualitative data, the concept of reliability basically refers to the consistency or stability of the measurements. In this investigation, for example, it is concerned with the question of how stable are the interview data, or how reliable are the subject's responses to the interview questions.

Reliability can be estimated from empirical data by several procedures, one of which is the test-retest method. Since both the Rorschach and the interview were readministered to samples from the one-hundred subjects, the reliability of measurements from these two instruments can be estimated.

The Rorschach was readministered to thirty subjects after an interval of thirteen to fifteen days. There was a slight, but insignificant increase in the number of Rorschach responses. The agreement between the two test results in terms of number of M was 83.5 per cent. This finding was interpreted as indicating a fairly high level of consistency. Perhaps, this is more apparent when it is pointed out that the computed tetrachoric r was .87.

Both the data from the interviews and reinterviews (six to eight days later) were scored by the raters which provided comparisons on the following variables for twenty-five subjects: interpersonal awareness of the problem, range of plans, number of interpersonal plans, and supplementary methods. In assigning scores to the subjects on the preceding variables, the consensus of the ratings was used. This procedure presented no difficulties since there was always two out of three agreement among the ratings.[1] The

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[1]In the case of supplementary methods, where there were only two raters, this investigator served as the third rater in the necessary instances.

following presents the estimates of stability for the interview variables.

The interview-reinterview agreement for interpersonal awareness of the problem (Nature of the Problem) was 92 per cent.

The agreement for the response variable under Origin of the Problem (temporal-distance awareness of the origin of the problem) was 100 per cent.

In the free choice (Reaction to the Problem), the agreement between the methods selected in the interview and those in the reinterview was only 24 per cent. The reason for the low level of agreement is that there was a significant increase in the number of methods selected in the reinterview ($t = 5.67$); nineteen out of twenty-five subjects selected more methods. The explanation for this behavior seems to lie in the interview procedure. After the free choice, the subject was asked to rank all the methods, including the methods not selected. It is suggested that the forced ranking of unselected methods gave the subject a more "accepting" attitude toward these methods, which was carried over to the reinterview. Another aspect of interview-reinterview stability in the free choice is that of "inconsistencies": methods selected in the interview but hot in the reinterview. In this respect, there was 96 per cent agreement. It would appear that

in the reinterview other methods were merely added on to the original selections.

This interpretation is born out by the interview-reinterview comparison of the rankings of the methods. Rank-order correlations were computed between the way the methods were ranked in the interview and their order in the reinterview. The twenty-five rank-order correlations ranged from + .071 to + 1.00. After transforming the rhos into Fisher's z coefficients, the mean z was obtained, which was in turn converted to its correlational value. Computed by this method, the mean rho was .85, which is interpreted as the best estimate of stability in regard to the ranking of the methods by the subjects.

Supplementary methods were cited by sixteen subjects in the interview, and these sixteen, plus three other subjects, gave supplementary methods in the reinterview. The classificatory stability of the methods for the sixteen subjects was indicated by 87.4 per cent agreement.

The interview-reinterview agreement for range of plans and number of interpersonal plans (View of the Future) was 80 and 84 per cent, respectively. An apparent increase in reinterview "raw scores" suggested that the agreement would have been even higher if the reinterview classifications (above and below the median) had been based on the median computed for the reinterview distributions. The per cent

Table 5

Summary of the Reliabilities of the Various Measurements

Variable[1]	Inter-rater			Test-retest	
	N	No. of Raters	% Agreement[2]	N	% Agreement
Rorschach M	50	3	92.0	30	83.5
Cooperation	100	2	89.0	--	--
Confusion	100	2	87.0	--	--
Nature of Problem					
IAP	100	3	93.3	25	92.0
Origin of Problem					
TDAOP	--	--	--	25	100.0
Reaction to Problem					
Free Choice	--	--	--	25	24.0 [3]
Ranks (Methods)	--	--	--	25	(rho = .85)
Suppl. Methods	39	2	94.8	16	87.4
View of Future					
Range of Plans	100	3	85.7	25	80.0
Interpersonal Plans	100	3	87.3	25	84.0
Long Range Plans	--	--	--	25	68.0

[1]Key: IAP, interpersonal awareness of the problem; TDAOP, temporal-distance awareness of the origin of the problem.

[2]Where there are more than 2 raters, the mean % agreement is reported.

[3]In terms of consistency of methods from interview to reinterview, the % agreement is 96.

agreement for long range plans was quite low, being 60.

Summary. Table 5 presents a summary of the reliability data, both inter-rater and test-retest. As can be seen, inter-rater reliability was uniformly high. It should be pointed out that per cent agreement, which was the reliability index used, is a rather rigid measure. If it had been assumed that the dimensions were continuously variable and normally distributed, which is frequently done with such data, and coefficients of correlation had been computed, the results would have undoubtedly given the "appearance" of even higher reliabilities. Except for the number of methods selected in the free choice (Reaction to the Problem) and long range plans (View of the Future), the test-retest results also reflected an adequate level of reliability. An examination of the low agreement in the former case indicated that it involved only the number and not the consistency of the methods selected.

IV. RESULTS

The results will be presented sequentially as they bear on each hypothesis.

A. Nature of the Problem: Hypothesis 1

Table 6 provides a comparison of the High-M and Low-M groups on interpersonal awareness of the problem. The chi square of 29.58, which is significant beyond the .001 level of confidence, clearly indicates that the two groups were different in regard to this variable. Further, there appears to be no difficulty in interpreting this difference; it is one of direction. It can be seen by inspection of the pattern of frequencies on the scale that the High-M group showed a greater interpersonal awareness of the problem.

That the difference is one of direction is even more apparent if the data in Table 6 are transformed into a two by two contingency table by combining the first two categories and the third and fourth. The newly formed categories could be designated "primarily self-oriented" and "primarily interpersonal-oriented." Manipulating the data in this way would also tend to increase the accuracy of the chi square test by increasing the cell frequencies. The results can be seen in Table 7. The chi square for

Table 6

Comparison of the High-M and Low-M Groups on Interpersonal Awareness of the Problem

Groups	Self-Oriented	Limited Interpersonal Awareness	Narrow Interpersonal Awareness	Broad Interpersonal Awareness
High-M	2	2	8	18
Low-M	14	11	1	4

Chi Square = 29.58 [1]

[1]Significant at the .001 level of confidence.

Table 7

Comparison of the High-M and Low-M Groups on Interpersonal Awareness of the Problem (Reduced Categories)

Groups	Primarily Self-Oriented	Primarily Interpersonal-Oriented
High-M	4	26
Low-M	25	5
	Chi Square = 29.43 [1]	

[1] Significant at the .001 level of confidence.

this contingency table is also significant beyond the .001 level of confidence.

Two estimates of the strength of the relationship were computed. The contingency coefficient based on Table 6 is .57. The relationship is interpreted as being reasonably high when it is considered that the maximun coefficient of contingency attainable for data with four categories is .866. This is supported by the phi coefficient computed on the basis of Table 7, which is .67.

The results, thus, confirm Hypothesis 1: it was found that the High-M producers showed a greater tendency to recognize their psychiatric problems as involving disturbances in interpersonal relationships than the Low-M producers.

B. Origin of the Problem: Hypothesis 2

The variable involved here has been designated "temporal-distance awareness of the origin of the problem." As can be seen in Table 8, a comparison of the two groups on this dimension yields a chi square of 25.46, which is significant beyond the .001 level of confidence. An inspection of the table reveals that the significant chi square is due to a difference in direction. The interpretation presented is that the subjects in the High-M groups tended to project themselves further backward in time in accounting for the origins of their problems than the subjects

Table 8

Comparison of the High-M and Low-M Groups on Temporal-Distance Awareness of the Origin of The Problem

Groups	Military Service Period	Adolescence Period	Childhood Period
High-M	3	7	20
Low-M	17	8	5
	Chi Square = 25.46 [1]		

[1]Significant at the .001 level of confidence.

in the Low-M group. The strength of the relationship is indicated by the contingency coefficient of .55. This correlation, too, must be considered reasonably high since the maximum coefficient of contingency attainable for data with three categories is .816.

Since no provision was made for the elimination of accounts given by subjects who related their problems to non-interpersonal circumstances in childhood and adolescence, the results indicated that individuals low in M are less likely to associate any type of event (interpersonal or non-interpersonal) from the distant past with their problems. Further information in regard to this side issue is provided by an examination of the explanations obtained from the subjects who projected themselves as far back as adolescence or childhood in accounting for the origins of their problems. Of the forty subjects in this category, twenty-nine cited interpersonal events only, eight mentioned both interpersonal and non-interpersonal experiences, and three gave only non-interpersonal events.[1] Using Fisher's exact method (23, pp. 96-97), there was no difference between the High-M and Low-M subjects in terms of the type of event cited. However, the proportion of twenty-nine out of forty

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[1]These classifications were based on the collaboration of two examiners.

is significantly greater than chance at better than the .01 level of confidence (chi square = 8.10). This finding suggests that if an individual does relate events in the past to his problem, the association is most likely to be in terms of past interpersonal experiences.

The results, thus, confirm Hypothesis 2: it was found that the High-M producers showed a greater tendency to associate past events with the origins of their psychiatric problems than the Low-M producers.

C Reaction to the Problem: Hypothesis 3

The methods that the subjects used in coping with their problems were indicated by their selections in regard to the previously discussed seven methods. In this free choice, the number of methods selected ranged from two to seven, with the median for both groups combined being 3.1. A comparison of the two groups on the number of methods selected is given in Table 9. An inspection of this table indicates a slight tendency for the High-M group to have selected more methods. After combining the frequencies of the three cells on the right, a chi square was computed on the resulting two by four contingency table. The obtained chi square is 3.50, which does not approach a significant level of confidence for three degrees of freedom.

Hypothesis 3 prescribed that the High-M group would show a greater tendency to select interpersonal fantasy as

Table 9

Comparison of the High-M and Low-M Groups on The Number of Methods Selected in The Free Choice

	Number of Methods Selected by Subjects					
Groups	2	3	4	5	6	7
High-M	8	7	9	3	1	2
Low-M	11	11	5	0	2	1

a method than the Low-M group. Interpersonal fantasy was denoted by Methods C and F. Method C represented interpersonal fantasy of a daydreaming or non-reality type, while Method F represented interpersonal fantasy of a problem-solving or reality type. A comparison of the two groups in terms of the incidence of the selection of these two methods in the free choice is provided by Tables 10 and 11. As can be seen in Table 10, there was no difference between the groups in regard to Method C. Table 11 shows, however, that Method F was chosen by twenty-five subjects from the High-M group, as compared to only ten subjects from the Low-M group. This difference is significant beyond the .001 level of confidence (chi square = 15.43). It would appear, then, that M is positively related to the tendency to utilize interpersonal fantasy of the problem-solving type but not of the daydreaming type.

Due to the previous finding that the number of methods selected in the free choice increased from interview to reinterview, a more rigid test for Method F would be in terms of its being ranked first. The ranks of the methods from interview to reinterview were quite stable, and this measure would be less subject to error due to the instability of the number of methods selected in the free choice. Table 12 provides such a comparison, and it can be clearly seen that

Table 10

Comparison of the High-M and Low-M Groups on the Selection of Method C (Interpersonal Fantasy, Non-Reality) in the Free Choice

	Method C	
Groups	Selected in the Free Choice	Not Selected in the Free Choice
High-M	9	21
Low-M	8	22

Table 11

Comparison of the High-M and Low-M Groups on the Selection of Method F (Interpersonal Fantasy, Reality) in the Free Choice

	Method F	
Groups	Selected in the Free Choice	Not Selected in the Free Choice
High-M	25	5
Low-M	10	20
	Chi Square = 15.43 [1]	

[1]Significant at the .001 level of confidence.

Table 12

Comparison of the High-M and Low-M Groups on Ranking Method F First

Groups	Method F Ranked First	Method F Not Ranked First
High-M	16	14
Low-M	3	27

Chi Square (with Yate's Correction) = 11.09 [1]

[1]Significant at the .001 level of confidence.

the High-M group tended to rank Method F first much more often than the Low-M group.[1] Incorporating Yate's correction in accordance with McNemar (48, p. 207), the computed chi square is 11.09, which is significant beyond the .001 level of confidence.[2]

The subjects were also asked to give any supplementary methods that they used in coping with their problems. There was no difference between the groups in the number of subjects offering supplementary methods, as indicated by Table 13. However, when the methods are classified "interpersonal" or "non-interpersonal," it can be seen that significantly more subjects in the High-M group gave interpersonal supplementary methods than in the Low-M group. These data are shown in Table 14. The Chi square of 5.71 is significant at the .02 level of confidence.

The agreement between the way the methods were ranked in the interview and the way they were ranked in the reinterview was previously found to be quite high. The question might be asked: Is there any agreement among the subjects in each group in the way the methods were

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[1]Method C was ranked first by very few subjects, and there was no difference between the groups in this respect.

[2]Yate's correction was employed whenever a theoretical frequency was less than ten.

Table 13

Comparison of the High-M and Low-M Groups on the Number of Subjects Giving Supplementary Methods

Groups	Supplementary Methods	No Supplementary Methods
High-M	21	9
Low-M	18	12

Chi Square = 0.66 [1]

[1]Not significant: $\chi^2 = 3.84$ at the .05 level of confidence.

Table 14

Comparison of the High-M and Low-M Groups on the Number of Subjects Giving Interpersonal Supplementary Methods

Groups	Interpersonal Supplementary Methods	No Interpersonal Supplementary Methods
High-M	16	14
Low-M	7	23

Chi Square = 5.71 [1]

[1]Significant at the .02 level of confidence.

ranked? Stated slightly differently, the question would be: Are the rankings significantly related in each group? Kendall's coefficient of concordance (W) provides such a measure; it measures the communality of judgments for m observers and n objects (37). The values of W range from zero to one. The W for the High-M group is .302, and for the Low-M group it is .135. Converting the coefficient of concordance to chi square by the following formula gives a test of significance: $\chi^2 = m\,(n-1)\,W$. The chi squares for the High-M and Low-M groups are 54.36 and 24.12, respectively, both being significant beyond the .001 level of confidence for six degrees of freedom. Thus, there is a significant similarity among the subjects in both groups for the ranking of the methods according to frequency of use. An examination of the two coefficients of concordance shows that there was greater agreement among the subjects of the High-M group than in the Low-M group. However, since little is known about the distribution of W in the non-null case when some community of preference exists, the significance of the difference between the two sets of rankings cannot be tested.

Since both values of W were found to be significant, there is justification for estimating the true rankings for each group. Kendall (37) has shown that the "best" estimate of the true rankings in terms of least squares would

Table 15

Group Rankings of the Methods for the High-M and Low-M Groups

Group Rankings of the Methods	
High-M Group	Low-M Group
F	B
A	A
B	F
D	E
C	D
E	C
G	G

be derived by ranking according to the sum of the ranks alloted to the methods. The group rankings of the methods for the two groups are presented in Table 15. It can be seen that Method F is ranked first in the High-M group, while it is ranked third in the Low-M group. Method C also has a higher ranking in the High-M group than in the Low-M group. Actually, there appears to be considerable overall agreement between the two sets of rankings. The rank-order correlation is .75, which has borderline significance at the .05 level of confidence (91, p. 478). If the subjects of the two groups are combined and a coefficient of concordance is computed, the result is a W of .181, which is significant beyond the .001 level of confidence (chi square = 65.16).

The results, thus, provide strong support for Hypothesis 3. It was found that the High-M producers showed a greater tendency to utilize interpersonal fantasy of the problem-solving or reality type in coping with their psychiatric problems than the Low-M producers. No relationship was obtained between M and interpersonal fantasy of the daydreaming or non-reality type. The results also indicated that the High-M producers displayed a greater tendency to utilize supplementary interpersonal methods in coping with problems than the Low-M producers.

D. View of the Future: Hypothesis 4

To test this hypothesis, the following three measures were used: range of plans (number of areas encompassed by the plans), number of interpersonal plans, and presence or absence of long range plans. For the first two dimensions, the analysis was in terms of above or below the median. Tables 16, 17, and 18 offer a comparison of the two groups on these variables.

It is evident that the two groups are different in regard to range of plans and number of interpersonal plans. The chi squares are 8.07 and 6.79, which are significant at the .005 and .01 levels of confidence, respectively. The subjects in the High-M group cited more plan-areas and more interpersonal plans than the subjects in the Low-M group. No difference exists between the groups in terms of number of subjects giving long range plans. There appears to be a slight trend for more subjects in the High-M group to give long range plans than in the Low-M group, but the chi square (1.15) is clearly insignificant. Although this finding may reflect the true state of affairs in regard to this variable, it should be pointed out that the measure of long range plans that was employed was quite crude. In addition, the interview-reinterview reliability of this variable was perhaps the lowest of all those obtained from the

Table 16

Comparison of the High-M and Low-M Groups on Range of Plans (Number of Areas Encompassed by Plans) in Terms of the Number of Subjects Above and Below the Median

Groups	Range of Plans: Above the Median	Range of Plans: Below the Median
High-M	21	9
Low-M	10	20

Chi Square = 8.07 [1]

[1] Significant at the .005 level of confidence.

Table 17

Comparison of the High-M and Low-M Groups on Number of Interpersonal Plans in Terms of the Number of Subjects Above and Below the Median

Groups	Number of Interpersonal Plans: Above the Median	Number of Interpersonal Plans: Below the Median
High-M	18	12
Low-M	8	22

Chi Square = 6.79 [1]

[1] Significant at the .01 level of confidence.

Table 18

Comparison of the High-M and Low-M Groups in Terms of the Number of Subjects Giving Long Range Plans

Groups	Long Range Plans	
	Given	Not Given
High-M	21	9
Low-M	17	13
	Chi Square = 1.15 [1]	

[1]Not significant: $\chi^2 = 3.84$ at the .05 level of confidence.

interview.

A further analysis of the data indicates that those individuals who were above the median in range of plans also tended to be above the median in number of interpersonal plans. This trend proved to be significant at the .02 level of confidence (chi square = 5.67). The relationship is quite understandable when the scoring of range of plans is taken into consideration. As the number of areas encompassed by the subject's plans, its scoring is partly derived from such plan-areas as family, marriage, and socialization, which directly reflect interpersonal plans. The other plan-areas may or may not involve interpersonal plans. Thus, the two variables, range of plans and number of interpersonal plans, show a certain amount of overlap in terms of the interpersonal factor.

The results, thus, provide strong support for Hypothesis 4. It was found that the High-M producers showed a greater tendency to project themselves beyond their problems into the future, as indicated by their giving more plan-areas and more interpersonal plans than the Low-M producers. No relationship was found between M and what was termed "long range plans."

V. DISCUSSION OF THE RESULTS

A redefinition of the meaning of M has led to the formulation of four hypotheses concerning the neuropsychiatric patient's orientation to his problem (illness). Specifically, the hypotheses were focused upon the relationship of M to the perception of the nature of the problem, the perception of the origin of the problem, the reaction to the problem, and the view of the future. All the hypotheses were either confirmed or strongly supported. The findings can be summarized as follows:

(1) Nature of the Problem (Hypothesis 1): High-M producers showed a greater tendency to recognize their problems as involving disturbances in interpersonal relationships than Low-M producers.

(2) Origin of the Problem (Hypothesis 2): High-M producers showed a greater tendency to project themselves backward in time in accounting for the origins of their problems than Low-M producers.

(3) Reaction to the Problem (Hypothesis 3): High-M producers showed a greater tendency to utilize interpersonal fantasy in coping with their problems than Low-M producers. The type of interpersonal fantasy that was related to M was shown by the results to be restricted

to that involving problem-solving or reality processes, as opposed to the daydreaming or non-reality type. Another measure, the number of supplementary interpersonal methods, was also positively related to M.

(4) View of the Future (Hypothesis 4): High-M producers showed a greater tendency to project themselves beyond their present problems into the future than the Low-M producers. The results revealed that M was positively related to range of plans and number of interpersonal plans, while the relationship of M to the third measure, long range plans, was in the predicted direction but not statistically significant.

Ascertaining the implications of the time dimension in the basic interpretation of M presented some difficulties. It was suggested that due to the possible importance of interpersonal events as cues for other events, M could be related to more than just "interpersonal" time. For example, to the extent that past events become sequentially interrelated, the awareness of past interpersonal experiences would facilitate one's becoming aware of other past events, both interpersonal and non-interpersonal. The obtained results throw little additional light on this question. The data pertaining to the origin of the problem showed that M was related to the tendency to associate "distant" past experiences with problems, regardless of

whether the experiences were interpersonal or non-interpersonal. At the same time, significantly fewer non-interpersonal events from the past (and not related to M) were associated with problems. In the data pertaining to the future, it was revealed that M was related to both range of plans and number of interpersonal plans. Since the variables were not independent, as range of plans partly reflected interpersonal plans, it was not possible to determine whether M was also related to non-interpersonal plans.

A. Implications

The results of this investigation seem relevant to the present thinking about prognosis in psychotherapy. The concept of "insight", which essentially refers to the patient's level of understanding of his problem, is considered to be an important variable in the psychotherapeutic process, especially by those practicing dynamic or "deep" psychotherapy. The relationships between M and the individual's perception of the nature of his problem and the origin of his problem seem especially pertinent to this concept. This is evident when it is considered that, due to the present conceptual framework concerning the nature and origin of psychiatric illnesses, insight is defined in terms of such criteria as the degree to which the patient recognizes interpersonal conflicts in

his problem and the degree to which he considers his problem in terms of childhood and adolescent influences.

Further, one of the goals in psychotherapy is to provide the patient with insight, or more insight, and the relationship between this goal and the patient's interpersonal fantasy resources is readily seen. Interpersonal fantasy would serve as the mechanism for achieving insight. Its importance in psychoanalytic therapy is emphasized by the fact that one stage in this type of treatment is devoted entirely to "working through" anxiety-laden interpersonal experiences. The relationship between M and the individual's ability to deal with the future enters the psychotherapeutic picture when it is considered that the final stage of treatment is frequently focused upon the patient's plans and goals.

Thus, on the basis of the obtained relationships between M and the individual's orientation to his psychiatric illness, M could be an important variable for predicting psychotherapeutic behavior. More specifically, it may bear a relationship to prognosis.

The interpretation of M that was formulated and the consequent empirical findings suggest that M may have implications for some of the more traditional areas of psychology. The psychology of thinking especially

comes to mind. Singer and Spohn (79) note that some current theories of thinking show a certain amount of compatibility with a relationship between M and thinking. Lewin (44), Piaget (56), and Murphy (51) consider the development of thinking or planful fantasy to be a concomitant of the increased restriction of the child's motor behavior, and Singer and Spohn point out that M is usually first produced by children at the age of six, a period when physical motility is rigorously restrained due to school attendance. Further, considerable evidence has been compiled showing a relationship between motor inhibition and the production of M responses with normal adults and neuropsychiatric patients (50, 78, 79, 93). Perhaps, this attempt to associate M with thinking is somewhat strained. However, the basic interpretation of M used in this investigation can be viewed as referring in essence to "thinking" in the interpersonal sphere, and the results can be considered to reflect the relationship between the number of M and differences in "thinking" about psychiatric problems.

The methodology developed and employed in this investigation also seems to warrant some attention. Although the interview has undoubtedly been the most widely used personality assessment technique, it seems safe to say that its value as a research tool has been questionable.

Its usefulness is certainly not supported by research results (35). Typically, no serious attempt is made to control the interview, its structure being mainly dictated by the individual interviewers. As pointed out by Kelly (35), the methodology in such situations does not involve merely the interview, being more properly described as a "technique-user combination." The result in terms of reliability is that in these studies inter-interviewer agreement is characteristically quite low. By using a controlled interview, this investigation obtained reliable measurements, with the results demonstrating that the interview can be a worthwhile instrument in validation studies.

VI. SUMMARY AND CONCLUSIONS

In his interpretation of M, Rorschach related it to intelligence, creativity, emotional stability, suggestibility, rapport, and empathy. A survey of the validation studies failed to provide consistent support for any of the interpretations posited by Rorschach. The purpose of this investigation was to redefine the meaning of M and to provide an empirical test of this new interpretation.

The area of interpersonal relationships was suggested as a fruitful frame of reference for this interpretation by some current theoretical orientations, as well as some research findings. After making a distinction between universal and collateral meanings, the following basic interpretation of M was offered: the ability in fantasy to project the self into time and space in the interpersonal sphere.

This basic interpretation of M was viewed as having certain implications for psychopathology. Specifically, the following four hypotheses were formulated in regard to the orientation of neuropsychiatric patients to their problems (illnesses):

1. The High-M producers will show a greater tendency to recognize their problems as involving disturbances in

interpersonal relationships than the Low-M producers.

2. The High-M producers will show a greater tendency to project themselves backward in time in accounting for the origins of their problems than the Low-M producers.

3. The High-M producers will show a greater tendency to utilize interpersonal fantasy in coping with their problems than the Low-M producers.

4. The High-M producers will show a greater tendency to project themselves beyond their present problems into the future than the Low-M producers.

The principal instrument selected for obtaining the data to test the hypotheses was the controlled interview. An interview outline or schedule was constructed as a guide for the interviewers, who were systematically rotated. Within forty-eight hours of the interview, all subjects were administered the Rorschach and Wechsler-Bellevue Verbal Scale (Form I). The M response and the measurements derived from the interview were found to possess an adequate level of inter-rater and test-retest reliability.

The preliminary subjects consisted of one-hundred recently hospitalized functional neuropsychiatric patients. On the basis of Rorschach performance, High-M and Low-M groups, consisting of thirty subjects each, were selected. The criteria for the selection were three or more M for the High-M group and one or zero M for the Low-M group.

The two groups were equated for age, education, intelligence, diagnostic status, cooperation, confusion, and nine Rorschach variables.

The results confirmed or strongly supported all the hypotheses.

In the discussion of the results, the following three aspects were emphasized:

(1) On the basis of the obtained relationships between M and the individual's orientation to his psychiatric illness, M could be an important variable for predicting behavior in psychotherapy.

(2) The interpretation of M that was formulated and the consequent empirical findings suggested that M could have important implications for the psychology of thinking.

(3) The methodology developed and employed in this investigation demonstrated that the controlled interview, by providing reliable measurements, can be a useful research instrument.

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APPENDIX

Rating Scales: Cooperation and Confusion

COOPERATION

_____ 1. Extremely uncooperative. Openly resistive to the hospital and staff. Hostility dominates practically all his verbalizations and actions. Flatly refuses to answer questions or to comply with suggestions.

_____ 2. Very uncooperative. Evades or resists most questioning. Responds with passive or open resistance to suggestions.

_____ 3. Generally uncooperative. Will cooperate only in a few areas and usually on his own terms.

_____ 4. Cooperative. But shows vacillation. Major resistance or evasion can be elicited depending upon the manner he is approached, the topic of conversation, the activity in which he is involved, etc.

_____ 5. Generally cooperative. But there are minor elements of resistance or evasion in his behavior.

_____ 6. Very cooperative. Attempts to answer all questions. Responds favorably to suggestions.

_____ 7. Extremely cooperative. Openly expresses positive attitude toward hospital and staff. Answers all questions readily. Volunteers his complete cooperation in regard to hospital procedures.

CONFUSION*

____ 1. No evidence of confusion. Well-composed. Excellent contact with the environment. Thinking is entirely clear with no blocking or traces of bizarreness in speech.

____ 2. Minimal confusion. Composed. Contact with the environment is unimpaired. Absence of any bizarreness. Disturbances in thinking are slight, momentary, and confined to such phenomena as inability to concentrate, lapses in attention, and blocking.

____ 3. Mild confusion. More tense than composed. No noticeable deficit in contact with environment. No bizarreness. Inability to concentrate, lapses in attention, and blocking are frequent.

____ 4. Considerable confusion. Noticeable disorganization. Contact with reality is tenuous or fluctuating. There may be traces of bizarreness. Possibility of transient hallucinations or delusions. Difficulty in concentrating, blocking, and lapses in attention are characteristic. Speech may show circumstantiality, repetitions, etc.

____ 5. Pronounced confusion. Disorganized. Definite impairment in contact with reality, but not disoriented for time, place, or person. At least one of the following psychotic symptoms will be displayed to an acute degree: bizarre thoughts, hallucinations, delusions, mannerisms, depression, etc. Speech pattern is characteristically disturbed.

____ 6. Pronounced confusion. Marked disorganization. Almost complete loss of contact with reality. Disoriented for at least one of the basic spheres (time, place, person). Shows a variety of the psychotic symptoms mentioned under 5. Communication may be all but impossible.

* It may be difficult to rate certain patients on this scale due to their particular patterns of symptoms. In some cases, a more adequate rating can be made by placing the check between two categories. It is recognized that this scale is not applicable to certain "personality types" at all; e.g., paranoid schizophrenics with well-defined delusions but otherwise in excellent contact.

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