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The relation of Rorschach movement responses to an inventory score of energy level.

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THE RELATION OF RORSCHACH MOVEMENT RESPONSES
TO AN INVENTORY SCORE OF ENERGY LEVEL

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The Relation of Rorschach Movement
Responses to an Inventory Score
of Energy Level

Sheila M. Kelly

Submitted in Partial Fulfillment of the Requirements for the
Degree of Master of Science in Psychology

University of Massachusetts

Amherst

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INTRODUCTION

The Classical Conception of M

The Original Formulation of Rorschach

Scoring, a matter of form and kinaesthetic. When handed a Rorschach plate and asked the traditional Rorschach question: "What might this be?" the subject's reply may describe a figure in action. When such a response was given to him, Herman Rorschach (1951) gave it special consideration if the action were that of a human or animal in humanlike movement. He showed particular concern if the subject actually experienced a kinaesthetic sensation of movement when he perceived the form of the blot. When this occurred Rorschach scored the response, M. In Rorschach's words, such a response is a matter of "form plus kinaesthesia" (Rorschach, 1951). Those who work with the Rorschach still debate just what phenomenon is described by the phrase "form plus kinaesthetic factors".

It is generally accepted that a response depicting a human or animal in humanlike movement should be scored as determined by M. However, in many cases the decision is highly subjective, based on the training and experience of the scorer. Rorschach emphasized that an examiner should be certain in his own mind that the subject had actually experienced movement and that the kinaesthetic aspect of the perception actually existed. He was aware of the problem this involves, claiming, "The scoring of M answers is the thorniest problem in the whole experiment" (Rorschach, 1951).

Interpretation, considering both the number and quality of M.

Rorschach suggested several hypotheses concerned with the number of M

given. His observations led him to believe that: "Stereotyped and feeble-minded subjects have no M's. The rule is the same for schizophrenics; the more productive the associative life of the patient, the more M's; the more stereotyped the thinking, the fewer M's so that in psychotic depressions there are no M answers" (Rorschach, 1951).

Clinical experience has tended to support these observations.

Rorschach linked the quality of the M response with personality qualities. He spoke of primary and secondary types of movement perceptions, and distinguished between these two types according to the degree to which the movement was integrated with the perceived form. Rorschach determined the degree of this integration according to (1) the readiness with which the response is given, (2) the general quality of the response in terms of whether flexion or extension movements are described. Certain personality traits Rorschach believed are associated with the person who give primary as compared with secondary types of M responses. In general, he associated the ability to give a well-integrated M response with the degree of personality integration of the respondee.

Significance, in terms of personality dynamics. Behind most of the published Rorschach studies one may find a theory which is rooted in the remarks Rorschach offered in his original textbook, Psychodiagnostics. Rorschach said: "Kinaesthetic engrams therefore act as inhibitors of physical activity...motor activity inhibits kinaesthetic engrams". (Rorschach, 1951). It was also his impression that an M response required some degree of "creative ability...individualized

intelligence" (Rorschach, 1951). These two independent statements have many implications which will be pursued and extended beyond their immediate meaning.

In making the first of these statements Rorschach has implied that the "kinaesthetic engrams" involved in giving M responses require physical energy which is the same as that used in motor activity. Hence, he has deduced that expression of this energy in motor activity would prohibit the expression of "kinaesthetic engrams" and lessen the number of M responses. If one is willing to accept Rorschach's assumption that the energy of motor expression is the same as the energy of "kinaesthetic engrams", one is led to the hypothesis that M reflects a redirection of energy from outward expression in motor activity to expression of energy through the cognitive processes. This hypothesis describes the psychological process which psychoanalysts call sublimation, the delay and redirection of energy. The psychoanalysts base their interpretation upon the assumption that there is only one kind of energy, a psychic energy or "libido" which may be expressed in motor activity, in thinking or in affect. Stemming from the assumption of a single source of energy the above hypothesis may be modified to state that M reflects a redirection of the energy of motor impulses or affect arousal from outward expression to inner expression of energy through the cognitive processes.

As indicated above Rorschach has related creative processes and intelligence to the M response. Apparently Rorschach reasoned that if the M response were linked with an ability to inhibit and redirect

energy then such a response would occur in persons who are capable of impulse control, the redirection of energy toward tasks involving cognitive processes, tasks which may be regarded as "creative" or "original". Hypotheses derived from this line of reasoning related frequency of M responses to intelligence, and "creativity".

Experimental Studies Based on Rorschach's Thinking

Experimenters have sought to correlate both the number and kind of M with such personality traits as ability to control motor expression, intelligence and "creativity". The present review is particularly concerned with the relation of M to the control of motor responses.

Form perception versus kinaesthetic experience of movement.

Arnheim (1951) found that the diagonal, vertical and horizontal line formations in the Rorschach could serve as an objective basis for predicting the degree of movement perceived in the stimulus pattern. A further study by Eckardt, Klein and Arnheim (1955) corroborated the findings with regard to the specific form properties which produce movement. Arnheim's generalizations about the personality characteristics of his subject are too impressionistic and speculative to be of theoretical or practical value.

Number and kind of M in relation to intelligence. With regard to the correlation of M and intelligence, a number of studies may be cited. Tucker (1950) found a significant relationship between M scores and intelligence test ratings. Gardner (1936), Harrison (1955) and Wishner (1948) are among those who have presented similar findings. Using the Klopfer scoring system which differentiates between popular and

original responses, Altus and Altus (1947) related their subject's total scores on each to a measure of verbal intelligence. Their findings lead them to conclude that total number of original M's is the better measure of intelligence. These experimenters do not report any control for verbal fluency amongst their subjects. In general, the studies fail to control for total number of responses (R). In a study confined to a psychiatric population of 123 S's, Sommer (1958) found a slight but significant relationship between M and IQ when he controlled for R. His results remained significant, although less so, when he controlled for R. The latter finding suggests that a different factor is involved in percepts involving human movement than in percepts of humans not described in motion. In general the empirical findings support the idea of a relationship between frequency of M and measurable intelligence but the extent of the relationship is not impressive.

Number and kind of M in relation to the control of motor responses.

Levine and Meltzoff (1956) measured the "cognitive inhibition" of 93 unselected neuropsychiatric patients in terms of their reaction time on the Rorschach and on a word association test. They found that "cognitive inhibition", as thus measured, varied positively with frequency of M. Meltzoff, Singer and Korchin (1952-53) required an experimental group of college students to perform a handwriting task at an excessively slow speed, presumably forcing them voluntarily to inhibit their motor response. The control group of students performed the writing task at their regular writing speed. Administration of the Rorschach to all subjects both prior to and following the performance

of the writing tasks showed an increase in frequency of M among the experimental subjects. In another study Meltzoff and Litwin (1956) report that instructing eighty-six students "Don't laugh" after they have been stimulated by a humorous recording led to an increase in the number of M these subjects gave on a Rorschach.

These studies demonstrate a relationship between absolute number of M and inhibition of motor activity. The qualitative aspects of the M responses are not considered. The experimenters did not state how they controlled for number of total responses, R, given by their subjects. In cases where the subjects served as their own controls one is not assured that the possibility of practice effects was overcome. All these studies assume that the absolute number of M given by a subject is stable, although M may be expected to vary with R. Furthermore, number of M may increase with the number of experiences a subject has with the Rorschach blots.

Singer and Spohn (1956) reported an increase in the production of M on the Rorschach among children of six years, the age at which children begin school and must restrain their physical activity. Piaget (1954) believes that the growth and development of phantasy and planful thinking in small children increases as a concomitant of the required restriction of motor behavior, as the child becomes older.

On the basis of the above studies it appears that M scored responses are related to inhibition and control of overt behavior.

Conclusion. The classical conception of M, involving Rorschach's original formulations with regard to scoring, interpretation and the

extension of these formulations to personality variables has been shown to be the bedrock of such present Rorschach experimentation. Contradiction remains, but M is believed to bear some relation to the ability to express energy through the cognitive processes rather than in overt motor expression. By generalization from these findings M is believed to be related to "intelligence" and "creativity". Research supports the notion that number and kind of M are related to the inhibition of outward expression of energy.

Problems Related to the Experimental Study of M

Experimental studies of M are confounded by at least three major variables. The first is the possible instability of M. The second is the relationship of M and R. The third is the possibility of confounding M and H.

Stability of M. When discussing the studies of Levine, Singer and Korchin, it was remarked that the experimenters appeared to have assumed stability of the number of M a subject would give. In several cases the criterion for increased M was a previous administration of the test to the subject. The matters of practice and sequence effects intensify the possibility of influence on M productivity of non-controlled variables.

Significance of R. In reviewing studies in which frequency of M was related to such variables as intelligence, ability to inhibit motor activity, and creativity, it was observed that the results would have been more significant had R been controlled. It is illogical to suppose that a person who gives five M in ten responses is the same sort of ^{used} person ^{as one} who gives five M in forty responses. In an unpublished

dissertation Babcock (1956) has given experimental support to the importance of controlling for R. He concludes that frequency of R is related to personality type. Control of this test score is frequently neglected.

Confounding of M and H. Sommer's study (1958) indicated that M and H covary, but that they do not measure intelligence to the same degree. He suggested that movement and the content to which it is related should be regarded as separate factors.

In conclusion, Rorschach research has a number of possible pitfalls. One must not assume stability of Rorschach scores, and both R and H should be controlled.

Modification of the Classical Conception of M

Beck, Klopfer and Piotrowski have modified Rorschach's original conception of M. The viewpoints of these theorists as well as corroborating and contradicting viewpoints will be discussed.

Interpretations of the "Kinaesthetic Experience"

In the preceding section Rorschach's rationale for scoring M as the determinant of a response was presented. He believed that an M response was determined by a process of perceiving a form and experiencing that form kinaesthetically. Rorschach felt that the more important of these two processes was the kinaesthetic aspect. It is in judging the presence or absence of the so-called "kinaesthetic experience" that the examiner-scorer must rely upon his clinical impression and testing experience. Rorschach experts disagree upon the benefits derived from making such a subjective decision.

Beck. Psychologists who retain the concept of "kinaesthetic

experience" in their understanding of M responses interpret it in various ways. Some believe that the subject "identifies" with the movement he sees in the blot, imagining himself to behave as he wishes he might. M determined behavior thus expresses the feeling or describes the behavior of the subject's inner "mental" life in the opinion of these workers, among whom are Beck (1950) and Schafer (1954).

Piotrowski. Other Rorschach users view the content of the M determined responses as expressive of the attitudes the subject actually portrays in interpersonal situations. Piotrowski (1957) interprets the content of M determined responses as revealing the "subject's conception of his role in life...a definite tendency deeply embedded in the subject and not easily modified to assume repeatedly the same attitude or attitudes in dealing with others when the subject feels important personal matters are involved". Focusing his attention upon the fact that M determined responses deal with content that describes humanlike action. Piotrowski has been impressed with the fact that the subject attributes to the figures in the blot the feelings and attitudes he himself possesses in regard to the others in his world. Some writers modify this idea and regard movement responses as an expression of how the subject actually is feeling and acting toward others at the time of test administration. Most of the support for these ideas has been theoretical.

Perhaps many students of the Rorschach have been inclined to regard the phantasied material given in response to the blots as unlikely to be representative of a subject's characteristic behavior because the responses given are of an abstract or vague nature.

However, the lack of concreteness is largely a function of the vagueness of the stimulus and Rorschach blots cannot be expected to result in the sort of projection one gets from more structured tests.

Klopfer. Attention to the human movement response led investigators to examine other types of movement described on Rorschach blots. Animals are sometimes seen in activity. Mechanical and natural forces are portrayed in action. If humanlike movement is a significant variable in predicting the subject's behavior, other types of movement may be equally informative. Klopfer has established a scoring system which includes all types of movement. Many Rorschach users have adopted the system or modified it in various ways.

Beck. Beck and other Rorschach-Oberholtzer disciples would not credit the responses "a duck going into water" or "an atom bomb exploding" as movement-determined responses. They would likely explain that such a perception is the result of associating appropriate movement with the perceived form. In the sense of Rorschach's criteria for scoring M it would be thought impossible that "kinaesthetic engrams" played any part in determining the response since a person presumably cannot identify with a duck or an atom bomb. This reasoning seems unnecessarily limited inasmuch as the traditional Rorschach approach explains responses as a psychoanalyst explains dreams. Dreams are known to employ colloquialisms and common symbols. Since persons are given to comparing their feelings to those attributed to animals (e.g. "I felt like a fish out of water", "I was as hungry as a bear".) why may they not identify with animals in animal-like behavior? This would be consistent with handling blot-induced verbalizations as one handles the

productions of a dream.

Klopfer. Klopfer evolved a system of classifying all movement--human, animal, natural, mechanical. In his system M is the determinant score given to a perception of humanlike activity; Fm is the determinant score given to a perception of an animal seen in animal-like activity; m is the score given to a natural or mechanical force. In an effort for even greater exactness, Klopfer requires the examiner to decide whether form or the feeling of movement seems to play the greater part in determining the response. For example, "a feeling of disintegration" would merit a score of m since no form is mentioned, but "a spinning top" would be scored Fm (1954). While the Klopfer system is admirable for its attempted rigor, it does increase the demands made of the examiner-scorer. There are more decisions to be made and no more objective criteria than in using the less inclusive Beck or Rorschach-Oberholtzer systems. And, as a result, there is more disagreement among those who attempt to use the Klopfer system. For instance, Klopfer would score "a charming cat's face" as Fm while Piotrowski would score it FM. Klopfer would score "a male sex organ; the erect, distended look" as FM. To Piotrowski, it is an M score. Piotrowski has discussed further scoring disagreements (1957).

The matter of scoring seems to have gained little by being extended to attempt to include all types of movement although the logic behind attending to all kinds of movement is sound. At the present time, in an effort not to lose valuable interpretive data, psychologists who use the Rorschach have added to the controversial state of affairs

in determining the meaning of the movement score. Thus, many studies of M cannot be compared because what one experimenter calls M, another calls FM, or disregards entirely. And this confusion is solely with respect to scoring! The matter of interpretation is still more complicated.

Interpretive Bases of the Extended Movement Score

M. About human movement or M, Klopfer (1954) writes: "The ability to see human beings or any creatures in humanlike action presupposes a tendency to identify with human beings...a relatively free access to energies stemming from archaic sources...creative inner resources...". The implication is that Klopfer would expect the subject to manifest behavior corresponding to that associated with M determinants on the Rorschach. In this respect, Klopfer agrees with Piotrowski.

FM. Animal movement, or FM responses, are interpreted by Klopfer as indicators of impulses which the individual must express without delay and are to be considered as "ego alien" in the psychoanalytic sense. There are two notions to be considered here. First is the idea of the uncontrolled immediacy of the need to discharge the feeling and second is the association of the activity with animal content. Klopfer based the rationale of his interpretation of FM upon the fact that animal behavior is traditionally viewed by both psychologist and layman as synonymous with primitive expression of instincts. Klopfer might have based his interpretation in terms of Miller's displacement theory (Miller, 1948). It could be explained that the subject displaces his associal feelings unto animals because of the guilt or fear he feels

in expressing these feelings directly unto other humans. And, in this way, immediate discharge is permitted. Piotrowski has also explained FM scored responses as descriptive of "behavior in lowered states of integration", suggesting a limited degree of ego control. His findings lead him to believe that FM scored percepts represent behavior that is the opposite to that represented by M scored percepts. He supports this contention with data gathered on a group of sex offenders. Piotrowski found that subjects who committed crimes in an inebriated state gave aggressive FM responses and mild-mannered M responses. He reasoned that subjects who felt no guilt or fear over expressing hostility would give M determined responses associated with aggression, and would overtly express their feelings when in a state of complete awareness.

m. Displacement in the sense of depersonalization is the consideration in Klopfer's interpretation of inanimate movement, or m. He suggested that the content with which an m score is associated has considerable bearing on its interpretation. Such responses may involve mechanical forces, such as a rocket; natural forces, such as wind; affective expression, such as a leer. In other words the source of energy of m may be capable of overcoming gravity as does a rocket or the wind, or it may be comparable to human feeling, for example "the leer of fate". In-so-far as all m is less humanlike than M or FM responses, and yet presumably involves some degree of identification on the part of the individual in order that the movement be perceived, Klopfer regards m as a sign of "inner conflict", or "inner tension", which suggest a recognition of forces "outside one's control".

Piotrowski is more moderate in his interpretation. He regards m as expressing behavior that is least likely to be actualized, and probably representative of unresolved conflicts.

The interpretations of the movement categories as originally developed by Klopfer and his co-workers have been largely based upon theoretical supposition. Until the present there has been little empirical evidence of qualitative differences in the behavioral correlates of FM, M and m Rorschach scores.

Advantages and Disadvantages of Separate Movement Scores

Advantages. Mank (1956) reported a study of the difference between the following Rorschach scoring categories: total M; total C; total FM + M; total Fc + c + FC'. He compared the frequencies of scores in these categories with an objective measure of introversion and extroversion. The objective rating was a free association test. He concluded that FM + m measures a different aspect of behavior than M, because the latter differentiated more significantly among his two groups. In a different area, Altus and Altus (1952) reported finding that M + FM gave a lower correlation with verbal intelligence than did M alone.

Disadvantages. Thornton (1936) argued for the use of a total movement score on a theoretical basis, assuming that it was the same psychological process that led to a movement response regardless of the content with which it was associated. Epstein and others (1957) have indicated that combining the different types of movement responses results in an increase in overall reliability.

King (1958) found that what was posited for M could have been

found by an analysis of M categories. King investigated the validity of hypotheses derived from interpretations of M, with hypotheses derived from content of Rorschach responses, basing his judgment on clinical reports of his subjects, all of whom were neuropsychiatric patients.

In a factor analytic study, Wittenborn (1950) concludes that there is no pure factor which may be said to differentiate between M, FM and m.

Extending ideas of Levy, Zubin (1948) formalized the notion of content analysis of M responses in terms of the amount of energy required to perform the activity, the degree of social interaction indicated by the activity, the extent to which the movement expresses approach or avoidance behavior, the degree of conflict which occurs in perceptions.

The findings of Wittenborn, of Epstein, of King, and of Zubin suggest that for certain purposes movement responses on the Rorschach would be more efficiently handled if they were scored by a single determinant and analyzed in terms of content; while the work of Mank and King suggests that there are areas in which it is meaningful to score M separately.

The Present Study

In the present study Rorschach movement responses are viewed as a measure of the amount of energy that the subject expresses inwardly which, in turn, is a function of total energy level and amount of inhibition of energy. The energy required to inhibit outward expression must be equivalent to the amount of energy inhibited. The opposition of

the two amounts of energy results in tension. The feelings of tension are then experienced by the individual as a need for activity which gives rise to phantasy (see Figure 1). On the Rorschach, such phantasy is expressed in symbols of energy expression in movement.

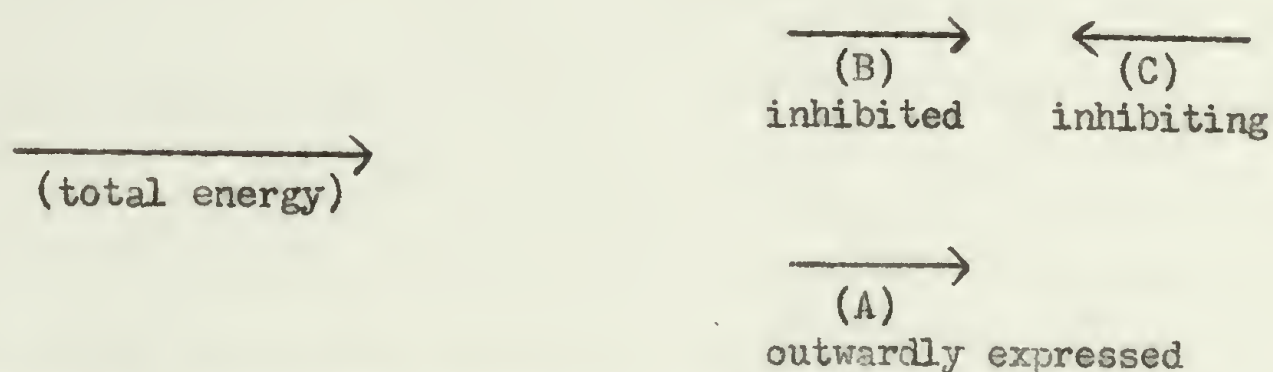


Fig. 1. Vector representation of distribution of energy

The purpose of this study is to examine the above approach in reference to Rorschach movement responses, energy expression and level of tension as inferred from the self-report data.

Hypothesis 1. There is a direct relationship between the energy implicit in Rorschach percepts and the amount of energy an individual expresses in inner activity as measured by a self-report inventory.

This hypothesis is based upon the assumption that movement scores on the Rorschach can be viewed as content; that the content of the subject's associations reflect the subject's needs and that inward expression of energy is a consequence of inhibition which results in a need for tension-reducing outward expression.

Hypothesis 2. There is a direct relationship between the energy implicit in Rorschach percepts and the amount of tension an individual reports.

This hypothesis is based upon the assumption that inhibition of energy produces tension and that tension produces a need for movement.

Hypothesis 3. There is a direct relationship between the amount of tension an individual reports and the amount of energy he characteristically expresses in inner activity.

This hypothesis is based upon the same assumptions as the previous hypothesis but substitutes a self-report measure for a Rorschach measure of inner expression of energy.

PROCEDURE

Subjects

One hundred and eleven male students, all of whom had passed their sixteenth birthday and were completing college entrance courses within the present term, were tested. Any S who earned a total number of responses on the Rorschach in excess of 35 or fewer than 25 were discarded. It was planned to discard any Ss obtaining a deviant L or K MMPI score. (Deviant on the MMPI is defined as ± 2 standard deviations from the norm.) None occurred. The total N used in investigation of the hypothesis related to energy was 76 with nineteen Ss in each of four cells. The total N used in the tension study was 57, or nineteen Ss ⁱⁿ each of three columns. The allocation of an S to a particular group depended upon his questionnaire score of "energy", "innerness", or "tension". All Ss were anonymous.

Film slides of the Rorschach blots, a projector and the appropriate blanks for Ss taking the Group Rorschach Test according to the Harrower-Erikson (1945) method were used. (See Appendix A for exact instructions.)

A self-report inventory was designed to provide the criterion of S's tendency to express or inhibit energy and of S's tension. In addition items from the MMPI L and K scales were checked to provide a method of screening out Ss who were deceptive or defensive. (See Appendix C for description of the questionnaire.)

Administration

Group Rorschachs were administered in a projection room during the school day. Following the administration of the Rorschach, Ss

were required to complete the questionnaire. The Ss had been told only that they were participating in research which was attempting to explain the sort of answers most people gave on a very frequently used and famous test, the Rorschach.

Scoring

Fifteen Ss were discarded because they gave more than 35 or fewer than 25 responses on the Rorschach. Mean R's for final groups divided by innerness and total energy were as follows: High Innerness, High Total, 29.47; High Innerness, Low Total, 30.26; Low Innerness, High Total, 30.89; Low Innerness, Low Total, 29.26. Mean R's for final groups divided by tension were as follows: High Tension, 29.25; Medium Tension, 30.06; Low Tension, 29.56.

Only the movement responses to the Rorschach blots were scored. A weighted score of energy level was assigned to each response according to criteria devised by Epstein and Lambert in an unpublished study. (See Appendix B.) Separate interrater reliability coefficients were calculated by independent scoring of sixty movement responses of each type. The weighted M scores thus obtained yielded an r of .89 for the present author and one of the other authors of the scale and an r of .88 with the other. In weighting FM scores, similar correlations were obtained; r₁ = .79 and r₂ = .80. In weighting m scores equally high correlations resulted; r₁ = .81 and r₂ = .82. Each S was assigned an energy score based upon the sum of his weights for Rorschach responses suggestive of energy expenditure. The method of scoring the questionnaire is described in Appendix C.

Statistical Analysis of Scores

Each S was assigned a score of "total amount of energy"; a score of "innerness" and a score of "tensions" based upon the self-report questionnaire.

There are four main variables in this study. They are: the measure of total energy from the Rorschach, the measure of total energy from the questionnaire, the measure of "innerness" from the questionnaire, and the measure of "tension" from the questionnaire.

Grouping of Ss on the basis of the questionnaire scores yielded a two by two table with the following cells: high energy, high innerness; high energy, low innerness; low energy, high innerness; low energy, low innerness. Nineteen Ss were assigned to each of the four cells according to the design indicated in Table 1. The range of questionnaire scores according to each group were as follows: high amount, high innerness, -6 to +3; low amount, high innerness, +4 to +12; high amount, ^{of energy} low innerness, -10 to +2; low amount, ^{of energy} low innerness, +3 to +8.

Table 1

Energy Level

		Amount	
		High	Low
Innerness	High		
	Low		

The design takes into account both overall energy level and degree of inward relative to outward expression of energy. The Rorschach score of each S was entered in the cell to which that S had been assigned. Rorschach weightings were kept separate for human energy, animal energy, and object energy, rather than handling them in one total score. Analysis of variance was performed to evaluate the relationship of the Rorschach measures of energy to the questionnaire measures of total energy, innerness, and the interaction of energy and innerness.

In order to investigate the second hypothesis the Ss were divided into three groups according to the tension scores they obtained on the questionnaire. Fifty-seven Ss were retained for this analysis. These 57 were chosen after a cut-off point was established to yield an equal number of Ss in the high, medium and low tension groups based upon the questionnaire scores. The high group includes those with scores between 10 and 17. The medium group includes Ss with scores between 6 and 7 and the low group those whose scores are between 2 and 5. Nineteen Ss were assigned to each of the three groups on this basis. The Rorschach responses of these Ss were then entered in a table (see Table 2) to permit the investigation of the relationship between Rorschach energy scores and "tension". Once again the animal, human and object scores were entered separately.

Table 2
Tension Scale

High	Medium	Low

Finally, the third hypothesis relating to the questionnaire measure of tension and inward expression of energy was tested by entering questionnaire scores of tension in the four energy and innerness categories described in Table 1.

RESULTS

Rorschach Energy Scores in Relation to Self-Reported Energy Scores

It was hypothesized that "there is a direct relationship between the energy in Rorschach percepts and the amount of energy an individual expresses in inner activity as measured by a self-report inventory." It had originally been intended to treat all Rorschach energy scores in one analysis. However, as there were many Ss who obtained zero on the object-energy score, this score was not amenable to analysis of variance and was treated separately. Analysis of variance of the human and animal-energy scores failed to reveal a significant relationship between total self-reported energy and either Rorschach human-energy or Rorschach animal-energy, or the sum of Rorschach human-energy and Rorschach animal-energy (see Table 3, and sources of variance E and EXC in Table 4). There is a significant difference for the main effect of Rorschach human versus Rorschach animal-energy (see Figure 1 and Table 4, sources of variance 0). The mean energy score per S for human percepts is 19.4 and animal percepts, 25.9. Of more interest, there is a significant interaction between type of Rorschach energy (human versus animal) and the self-report measure of inner relative to outer expression of energy (see Table 4, source of variance CI). Self-reported innerness of expression is directly related to Rorschach human-energy and inversely related to Rorschach animal-energy. The average score per S in the low innerness group, based on human-energy was 1.6, and for Ss in the high innerness group, 2.5. The average score per S in the low innerness group, based on animal percepts was 2.9 and for Ss in the high innerness group, 2.5.

Table 3
 Means of Weighted and Nonweighted Rorschach Energy Scores in
 Relation to Questionnaire Scores of Total Energy and Innerness

n = 19	Total Energy											
	High			Low								
	Human	Animal	Object	Human	Animal	Object						
	W	N	W	N	W	N						
High	24.4	5.5	21.5	5.2	8.4	1.5	23.2	5.04	27.4	6.8	9.55	1.8
Low	13.6	3.7	26.0	6.9	9.7	1.9	16.7	4.1	28.3	7.1	11.1	2.1

Innerness

Note: In the above W signifies weighted and N nonweighted scores.

Table 4

Analysis of Variance of Weighted Rorschach Human- and Animal-energy Scores
as a Function of Energy Level and Innerness

Sources of Variance	Degrees of Freedom	Sum of Squares	Mean Sum of Squares	F
Total Between	75	11,002.45	146.69	
High by Low Energy (E)	1	210.8	210.8	⊕
High by Low Innerness (I)	1	304.12	304.12	
E X I	1	0	0	
Ss Within	72	10,487.52	145.66	
Total Within	76	11,825.5	155.59	
Content (C)	1	1,443.29	1,443.29	11.81*
C X I	1	1,297.38	1,297.38	10.65*
C X E	1	165.43	165.43	
C X E X I	1	121.29	121.29	
C X Ss	72	8,798.21	122.19	

* Significant at the .01 level

Scores represent sum of scores for groups.

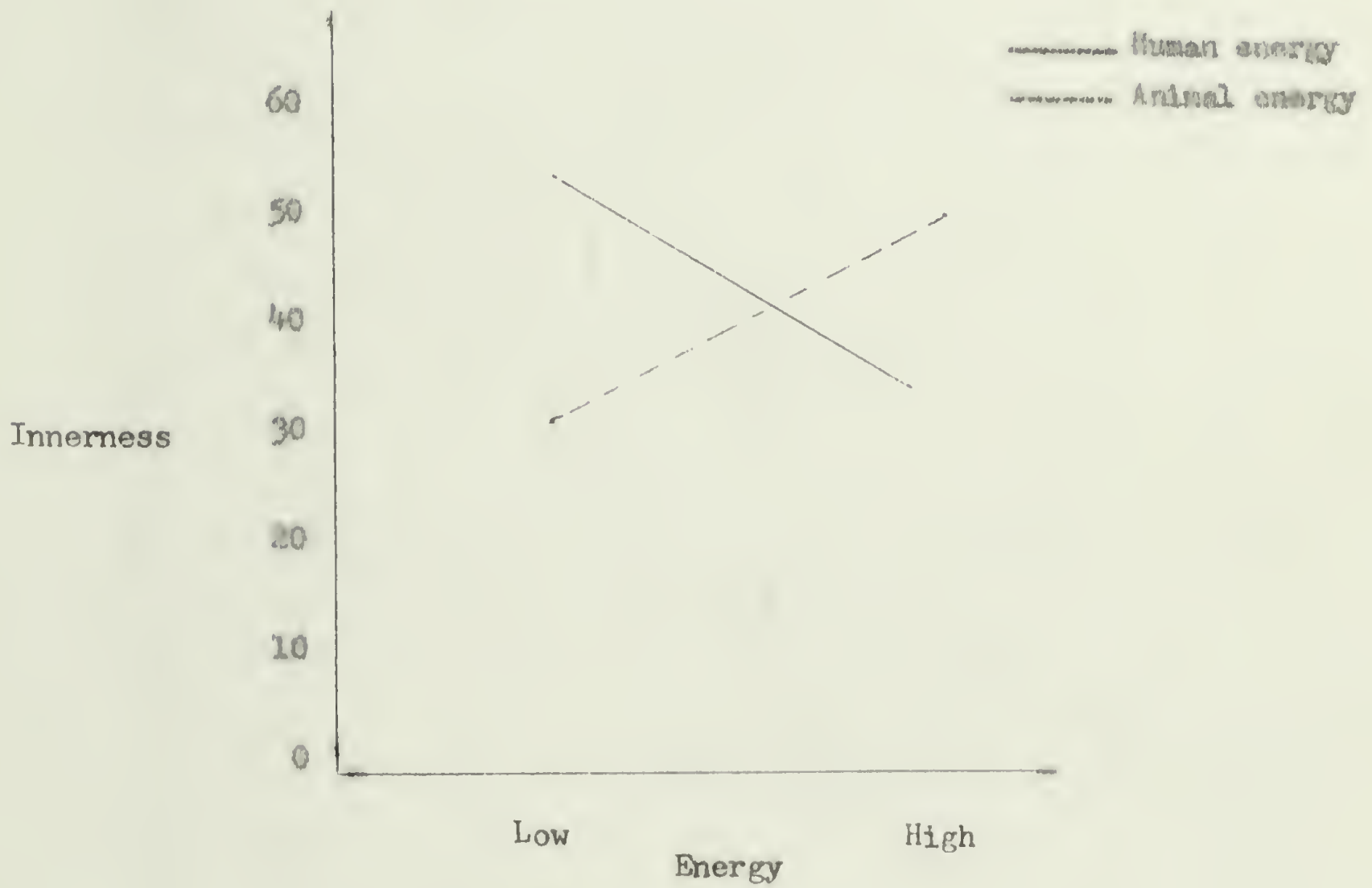


FIG. 1. Rorschach Human- and Animal-energy as a Function of Self-Rated Innerness

The possibility that the relationship between self-reported innerness and Rorschach human and animal movement was a result of the human and animal content per se, was considered. Inspection of the scores for human and animal percepts reported as motionless, i.e. with zero energy score, was made in relation to the questionnaire scores. The percentages of Ss falling above a median cutting point for incidence of both immobile human and animal responses were calculated. (The cutting point used for the human responses was 0-1 and for the animal responses, 1-2.) Within the low innerness group it was found that 28 out of 38 Ss or 73.6% gave immobile animal responses with a frequency above the median point. Seventeen out of 38 Ss, or 44%, gave immobile human responses above the median frequency. Within the high innerness groups, it was found that 15 out of 38 Ss, or 39% gave immobile animal responses above the median frequency and 18 out of 38, or 47.4% of Ss gave immobile human responses above the median frequency. Thus, the direction of the difference between frequencies of animal and human responses occurring within the low and high innerness groups is the same when content without motion is considered as when the moving percepts are analyzed, but the differences are less pronounced. Moreover, although the low and high innerness groups differ, considerably on immobile animal content, they differ relatively little on immobile human content. Further analysis indicates that for the low and high innerness groups, respectively, total human responses not involving movement is 41 and 27, as compared to 150 and 212 human movement responses. Thus, combining the human responses to

which movement has and has not been attributed decreases the discrepancy between the groups. When the same comparison is made for the animal responses, it is found that the low innerness group produces 99, and the high innerness group 78 animal responses that do not contain movement. The corresponding figures for the animal responses that contain movement are 264 and 235. Here it can be seen that animal movement and non-movement responses predict in the same direction, and that combining them increases the discrepancy between groups. It may be concluded that the high innerness group produces less animal content than the low innerness group, irrespective of movement, and more human movement than the low innerness group. Further, while the low and high innerness groups differ on animal content without movement they are almost the same on human content without movement.

The effect of having weighted the Rorschach energy scores was examined by tabulating the findings in terms of mean frequencies of Rorschach human, animal and object energy without weighting and comparing these with the mean weighted scores. As Table 3 indicates the trends were unchanged, but weighting enhanced the differences.

The object energy score was analyzed by considering the number of Ss who produced greater or less than the median Rorschach score of weighted object-energy. The range of weighted scores was from 0 to 29. A median cut-off point of 9 was selected. Thirty-six Ss fell at or above the cut-off point and 40 fell below it. The proportion of Ss falling in each of the four cells corresponding to the cells in Table 1

was as follows: 8/19 in the high energy, high innerness cell; 9/19 in the low energy, high innerness cell; 9/19 in the high energy, low innerness cell, and 10/19 in the low energy, low innerness cell. It is evident that there is insufficient difference between these frequencies to warrant computation of a chi-square.

Rorschach Energy Scores in Relation to Self-reported Tension Scores

The second hypothesis stated that "there is a direct relationship between the energy implicit in the Rorschach percepts and the amount of tension an individual reports".

As outlined in the section on statistical analysis, 57 Ss were used in this section of the study. These 57 were divided according to their questionnaire scores into three equal groups of 19 Ss each. The three groups were determined according to whether they had high, medium or low questionnaire scores. In order to obtain three equal groups, the high tension scores ranged from 10 to 17, the medium from 6 to 7, and the low from 2 to 5. As in the first analysis Rorschach energy scores were entered according to whether they were based upon humans or animals, but did not include the object-energy category. This was done because, as in testing the first hypothesis, a different distribution occurred for the object-energy score than for the human and animal energy scores.

As indicated in Table 6, the results of the analysis reveal a non-significant difference between the three tension groups in terms of the Rorschach energy scores for human, and animal percepts ($F = 1.33$). Figure 2 and Table 5 indicate a slight tendency for human and animal Rorschach movement scores to be higher for the high tension

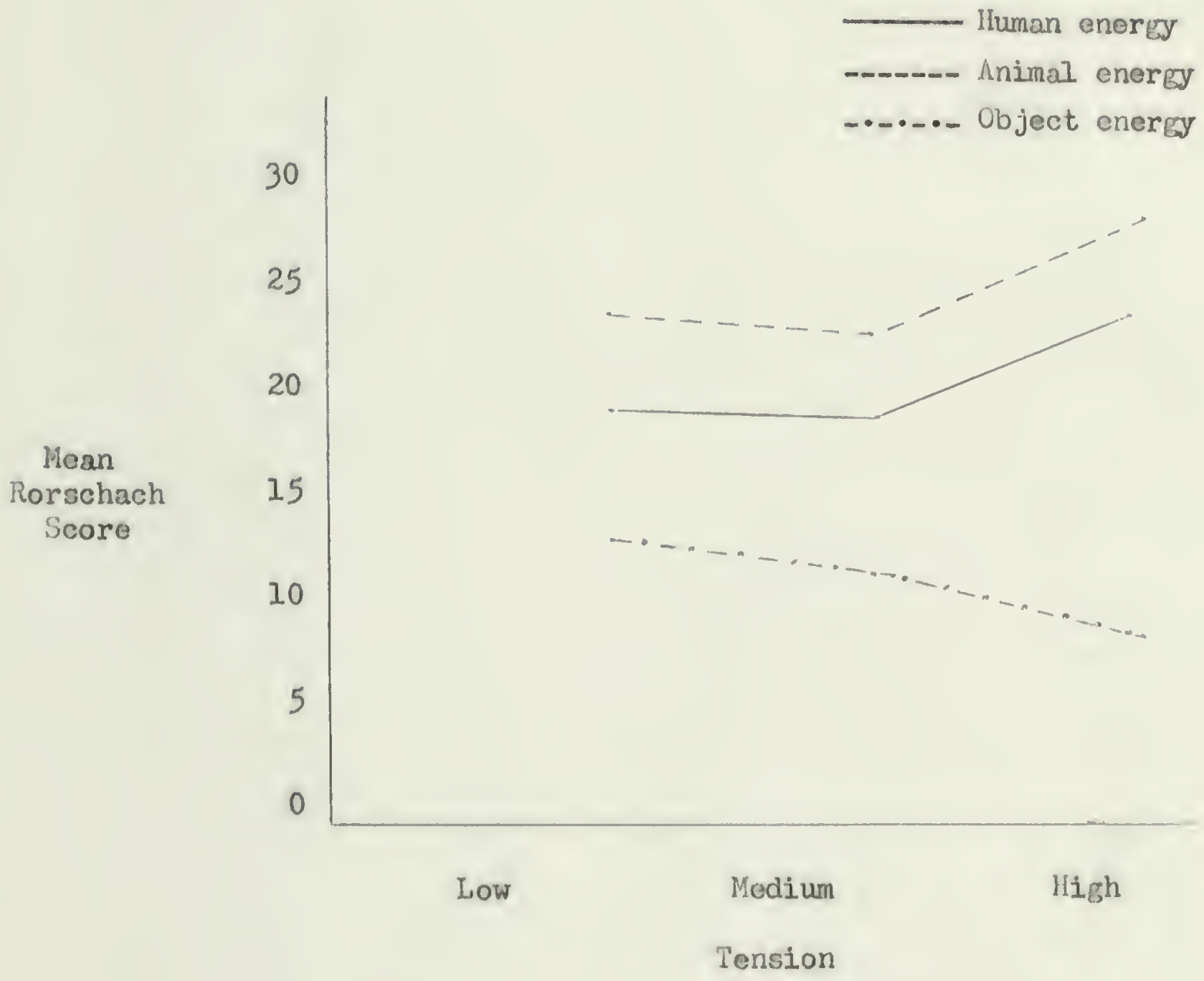


Fig. 2. Rorschach Energy Scores as a Function of Self-Rated Tension

Table 5

Means of Weighted and Nonweighted Rorschach Animal-, Human-, and Object-Energy as a Function of Tension

	High			Medium			Low		
	Animal	Human	Object	Animal	Human	Object	Animal	Human	Object
W	27.6	20.4	5.3	22.3	17.1	9.4	23.7	18.4	10.5
N	6.0	4.6	1.3	5.1	4.2	.89	7.2	4.6	2.3

Note: In this table W signifies weighted scores and N signifies nonweighted scores.

Table 6

Analysis of Variance of Weighted Rorschach Animal- and Human-
Energy as a Function of Self-Reported Tension

Sources of Variances	Degrees of Freedom	Sum of Squares	Mean Sum of Squares	F
Total	113	16,778.29	148.48	
Total Between Ss	56	8,243.28	147.20	
Tension (T)	2	394.33	197.66	1.33
Ss/T	54	8,140.68	150.75	
Total Within	57			
Content (C)	1	1,606.87	1,606.87	13.05*
T X C	2	158.65	79.32	.63
Ss/T X C	54	6,769.49	125.36	

* Significant at the .01 level

group than for the medium tension group, but slightly lower for the medium tension group than for the low tension group. Although a few of the 57 Ss used in testing the second hypothesis failed to give any inanimate movement responses on the Rorschach, the distribution was less skewed than was the case with the data obtained when subjects were grouped according to energy level, but still too skewed to include in the same analysis as the human and animal-energy scores. Thus, an independent analysis of variance was done. This analysis shows a significant difference between the three tension groups, indicated by an F of 3.4, significant at the .05 level (see Table 7). However, this difference was in the opposite direction to that predicted. As Figure 2 shows the Rorschach energy scores of the high tension group (mean of 5.26) are lower than those of the medium tension group (mean of 9.24) which are lower than those of the low tension group (mean of 13.05).

Because the results of the Rorschach object energy scores were significant in the opposite direction to that hypothesized it was decided to further examine the self-report measure used. The lack of difference between the high and low tension groups in the Rorschach energy scores suggested that possibly the low tension group had been relatively defensive in their responses to the questionnaire and denied their tension. The L and K scales of the MMPI had been included in the questionnaire to provide a basis for rejecting extremely defensive Ss before any sorting of the data was done. No S had been rejected on that basis. The groups were now equated in terms of each S's summated L and K scores. The aim was to make

Table 7

Analysis of Variance of Weighted Rorschach Object-Energy
Scores as a Function of Tension

Source of Variance	Degrees of Freedom	Sum of Squares	Mean Sum of Squares	F
Total Between	56	5,158.57	92.11	
Tension (T)	2	578.30	289.15	3.4*
Ss/T	54	4,580.27	84.81	

* Significant at the .05 level

substitutions from the 37 §s not being used in this analysis in order to have an equal distribution of L and K scores in each of the three tension groups without changing the mean score of the groups in terms of their being labelled of high, medium or low tension. Each group would then be composed of equally defensive §s. An equal number of persons with high, medium and low L plus K scores were assigned to each group according to their mean tension score. High, medium, and low L and K scores were defined by whether the scores fell in the lower, middle or upper third of the distribution. The range for high L and K was a score of 10-14; for medium, 8-10 and for low, 5-7. Balancing the groups on L plus K scores resulted in 16 §s remaining in each group.

An analysis of variance was done on the new data for human and animal-energy scores (see Table 8). No significant differences are found between the high, medium and low tension groups and the trend does not differ from the previous analysis, as can be seen in Table 9. An analysis of variance was also done on the new data for object energy Rorschach scores (see Table 10). This analysis again shows significant differences at the .05 level due to the effect of tension. ($F = 4.5$) And, as in the first analysis of this variable the difference was in the opposite direction to that predicted. The mean Rorschach object-energy score of the high tension group (mean of 5.1) is lower than that of the medium tension group (mean of 7.1) which is lower than that of the low tension groups (mean of 15.2). Thus, the trend is unchanged when the tension groups are equated for defensiveness by using the L and K scales.

Table 8

Analysis of Variance of Weighted Rorschach Animal- and Human-Energy
Scores as a Function of Tension With L Plus K Scores Controlled

Source of Variance	Degrees of Freedom	Sums of Squares	Mean Sum of Squares	F
Total	95	13,645.95		
Total Between	47	5,878.96	125.08	
Tension (T)	2	201.58	100.79	
Ss/T	45	5,677.38	126.16	
Total Within	48	7,767.00	161.81	1.18
Content (C)	1	1,320.16	1,320.16	9.64
T X C	2	286.09	143.04	1.04
Ss/T X C	45	6,160.75	136.9	

Table 9
 Mean Energy Scores as a Function of Tension With
 L Plus K Scores Controlled

(n = 16)		High					
Human		Animal		Object			
W	N	W	N	W	N		
17.2	4.2	27.1	6.6	5.1	1.2		

		Medium					
Human		Animal		Object			
W	N	W	N	W	N		
17.7	4.4	20.2	5.0	7.1	1.1		

		Low					
Human		Animal		Object			
W	N	W	N	W	N		
16.9	4.3	26.8	6.9	15.2	2.8		

Note: In the above, W signifies weighted and N nonweighted scores.

Table 10

Analysis of Variance of Weighted Rorschach Object-Energy
Scores as a Function of Tension With L Plus K Controlled

Sources of Variance	Degrees of Freedom	Sum of Squares	Mean Sum of Squares	F
Total Between	47	6,102.98	129.85	
Tension (T)	2	1,033.04	516.52	4.5*
Ss/T	45	5,069.94	112.66	

* Significant at the .05 level

Nonweighted Rorschach scores were computed and examined to determine the effect of weighting. These data are presented in Tables 5 and 6, where it may be seen that the trends are not altered by weighting, but the weighting increases the relative differences.

Self-reported Tension and Self-reported Innerness Scores

The third hypothesis stated that "there is a direct relationship between the amount of tension an individual reports and the amount of energy he reports he characteristically expresses in inner activity". The mean tension scores of each of the energy groups used in the study of the first hypothesis were examined by an analysis of variance to discover if such a relationship existed. The mean tension scores are presented in Table 11. It is evident in this table that the mean tension score of persons falling in the high energy, high innerness group is higher than that of persons falling in the low energy, high innerness group, which is slightly higher than that of persons falling in the high energy, low innerness group. The mean tension score of persons falling in the low energy, low innerness group is the lowest of the four means. However, these differences are not significant (see Table 12). Thus, this hypothesis was not confirmed, although a tendency in the expected direction was found.

Table 11
Mean Tension Scores of Energy Level and Innerness Groups

n = 19	Energy		
	High	Low	
Innerness	High	8.68	7.94
	Low	7.89	6.94

Table 12
 Analysis of Variance of Tension Scores as a
 Function of Energy Level and Innerness

Sources of Variance	Degrees of Freedom	Sum of Squares	Mean Sum of Squares	F
Total Between	75	750.69		
Energy (E)	1	13.47	13.47	1.35
Innerness (I)	1	20.47	20.47	2.05
E X I	1	0	0	
Ss/E X I	72	716.75	9.95	

DISCUSSION

The Relationship Between Rorschach Movement Scores and Self-reported Energy Level

The results of the present study fail to support the hypothesized direct relationship between a Rorschach total energy score and a self-report score of energy level. However, the present data do indicate a direct relationship between a Rorschach score of human-energy and a self-report score of inner expression of energy, whereas an inverse relationship was found between a Rorschach score of animal-energy and a self-report score of inner expression of energy. No relationship was found between a Rorschach object-energy score and a self-rating of either amount of energy or innerness of energy expression.

These findings suggest that total energy scores on the Rorschach are not related to a person's total energy level, but that certain energy scores on the Rorschach are related to the degree of inner relative to outer expression of energy. It is possible, of course, that the relationship of the Rorschach measure to the questionnaire measure was established for direction of energy expression but not for amount of energy because the questionnaire score was more valid for direction of energy expression than for energy level. It may be that people are used to thinking of themselves as introverted or extroverted, but the idea of covert expression of energy being equated with overt expression and forming a combined value of total energy may be too much for most SS to rate.

The present results support the view that persons who obtain a

high human-energy score on the Rorschach tend to express their energy in inward rather than outward activities, i.e. they tend to think, plan and build phantasies, rather than act.

These findings agree in part with those of Meltzoff, Levine, Singer and their co-workers (1956, 1954). The results these workers found indicated that the expression of energy through the cognitive processes, affect arousal and physical exercise bears a direct relationship to the expression of energy in human movement on the Rorschach. But whereas the present study used a self-report measure to gain a measure of an S's usual behavior pattern relative to degree of inhibition and amount of energy, the other experimenters induced inhibition experimentally by means of instruction or physical restriction. The agreement between the present results and their's in so far as inhibition of energy (called "innerness" in this study) is concerned, supports the theoretical viewpoints presented earlier. That is, that energy which is inhibited is expressed inwardly in phantasy. The fact that this seems to be true only for human movement phantasy warrants consideration. This is the classical conception of the Rorschach movement responses as proposed by Herman Rorschach (1951). Rorschach equated the energy of motor expression with "kinaesthetic engrams" re-directed from outward expression to expression in the phantasies of human movement described by M. Rorschach made none of these claims for the other movement scores believing that an individual would experience "kinaesthesia" only when perceiving human movement.

The fact that the human-energy score was directly related to "innerness" while the animal energy score tended to be inversely

related to innerness indicates that these scores must be regarded as distinct measures and treated separately when making certain personality interpretations from Rorschach data. This supports previous experimentation including that of Mank (1956), Altus (1942) and the theoretical views of Klopfer (1954) and Piotrowski (1957). The finding that animal percepts with and without movement were functionally similar throws some doubt on the value of an animal movement score. It is interesting in this respect, that Rorschach (1951) and Beck (1950) see no use for such a score, while other exponents of the Rorschach do (Klopfer, 1954).

The factor which was expected to be common to M, FM and m was total amount of energy expressed inwardly. The problem of obtaining an adequate criterion measure of amount of energy expressed inwardly was mentioned above. It is possible that with a more adequate experimental measure of amount of internalized energy it would be found that it correlated with a pooled measure of Rorschach-energy, but this remains to be seen.

The Relationship Between Rorschach Energy Scores and Self-reported Tension

The findings of this study fail to support the predicted positive relationship between self-reported feelings of tension and total energy score on the Rorschach. No relationship was found for Rorschach human and animal-energy scores and a negative relationship was found for self-reported feelings of tension and the Rorschach object-energy score.

The items of the self-report call for recognition by the S of

reportable tension symptoms. It may be that the Ss of this study do not experience high anxiety, so that the group reporting the highest tension was not an extremely tense group. As a further possibility, it was considered that only certain kinds of object energy scores are related to tension. Accordingly, the responses were inspected for qualitative differences (see Appendix D for sample responses of object energy). No apparent differences were noted in association with the tension groups. Inspection suggested that there was a slight tendency for fewer responses indicating "bound" energy or constrained movement to occur in the low anxiety group.

In a recent study by Neel (1960) it was predicted that any situation calling for inhibition or producing an inhibited state should increase the amount of M, FM, and m. Her findings failed to support her prediction as far as M is concerned, gave non-significant support to her predictions as far as FM is concerned and unequivocally supported her predictions as far as m is concerned. Neel assumed tension existed in her Ss following experimentally induced physical restriction. Thus, she reports tension related to a specific event rather than an overall tendency to inhibit behavior on the part of any of her Ss. This may account for the nearly reverse findings which her study reports in comparison with the present data, on the grounds that Neel's Ss were consciously restricted or inhibited by a specific force in contrast to the present Ss, who were described in the questionnaire a general feeling of inhibition.

The Relationship of Self-reported Tension to Self-reported Energy
Level and Innerness

The present evidence did not disclose a significant relationship between self-reported feelings of tension and self-reported energy level, although a trend in the expected direction is indicated. In discussing the first hypothesis which dealt with data from the self-inventory rating amount of energy, it was suggested that this was difficult behavior for an individual to rate. This same consideration is appropriate here.

The tabulation of the frequencies of the Rorschach human-, animal-, and object-energy scores without weighting showed in the case of each analysis that the trends were unaltered by weighting, but that weighting emphasized the differences.

SUMMARY

The present study investigated the relationship between an energy score based upon Rorschach responses and a self-report inventory of amount of energy, "innerness" of energy expression, and degree of "tension". A theoretical viewpoint based upon the psychoanalytic model of energy distribution served as a basis for the hypothesis. It was assumed that a total energy score of energy level would be a more reliable measure than would separate scores of human-, animal- or object-energy. It was reasoned that percepts suggesting energy expenditure on the Rorschach symbolize a need for expression of energy.

All Ss were drawn from a group of 111 male students who had passed their sixteenth birthdays and were in their final terms of a college entrance course. In order to have a partial control of the number of responses given on each Rorschach protocol, data from any S who gave a total number of responses in excess of 35 or less than 25 was discarded. It was intended to discard any S who obtained an extreme score on the L and K scale of the MMPI but none was received. In testing hypotheses related to amount and innerness of energy expression, 76 subjects were used. These were divided into four groups of 19 each, according to the S's energy level and inner in relation to outer expression of energy, as reported on the self-inventory. In testing the hypotheses related to tension, 57 Ss were used. These were divided into three groups of 19 each, according to S's tension level as determined by their questionnaire responses.

The Rorschach was administered to all Ss according to the Harrower-

Erikson technique (1945), and scored for the amount of energy expressed in each response.

The relationship between amount of energy an S reported for himself and the amount of energy he expressed in the Rorschach movement responses was tested. A similar analysis was performed to test the relationship between the amount of tension an S reported and the amount of energy he expressed in Rorschach movement responses. Finally, an analysis was performed to test the relationship between the amount of energy an individual reports he expresses inwardly and the amount of tension he indicates for himself.

Results show that much would be lost if a total movement score were used. Different relationships were found between the human-, animal- and object-energy scores on the one hand and self-reports of inner expression of energy and tension on the other hand. No relationship was established between the questionnaire measure of total energy level and the Rorschach measure of total energy. Rorschach human-energy percepts and the self-report measure of innerness of expression were directly and significantly related. The Rorschach human-energy scores thus appeared to reflect degree of inner life. The animal-energy score was inversely related to innerness and was higher in persons living an active outer life as expressed in motor activity. Rorschach object-energy scores were neither related to total energy level nor to direction of energy expression.

An inverse relationship was found for self-reported tension and the Rorschach object-energy score. This finding was contradictory to

the hypothesis and to the view of Klopfer that m is related to feelings of "inner conflict", unless the questionnaire measure of tension may be assumed to deal with conflict of which the subject is aware. No clarification of these data was provided by controlling the tension groups for defensiveness before analyzing the Rorschach object-energy data. No relationship was found between the human or animal scores and the self-report of tension. The unanticipated inverse relationship between self-reported tension and the object-energy score indicated a need for further study of the specific kind of object-energy percept.

Finally, no significant relationship was found between the self-report measure of innerness and the self-report measure of tension although the results were in the expected direction. This either suggests that the theoretical basis which related the two for the purposes of this study is incorrect, or that one or both of the criterion measures of energy level and innerness of energy expression is of relatively low reliability.

The use of the weighting system as compared to the traditional Rorschach movement score served to emphasize the differences found between Rorschach energy scores and the criterion measures.

REFERENCES

- Altus, W.D. and Altus, S.J. Rorschach movement variables and verbal intelligence. J. abn. soc. Psychol., 1952, 47, 531-533.
- Arnheim, R. Perceptual and aesthetic aspects of the movement response. J. Pers., 1951, 19, 265-281.
- Babcock, S.D. Under die verwen barkeit der Rorschachtests (sag. verbaler und graphisen Rorschach) im Forschungsbereich der Ebercharak-terologic. Unpublished doctoral dissertation at the University of Tubijen, Germany, 1956.
- Beck, S.J. Rorschach's Test. Vol. 1. Basic Processes. New York: Grune and Stratton, 1950.
- Bell, J.E. Projective techniques. New York: Longmans, Green & Co., 1948.
- Eckhardt, W. An experimental and theoretical analysis of movement and vista responses. J. proj. Tech., 1955, 19, 301-309.
- Epstein, S., Nelson, J., and Tanofsky, R. Responses to inkblots as measures of individual differences. J. consult. Psychol., 1957, 21, 143, 211-215.
- Furrer, A. Ueber die bedeutung der B im Rorschaschen versuch, Imago, 1925, 11, 58-83.
- Gardner, G.E. Rorschach test replies and results in low normal adults. Amer. J. Orthopsychiat., 1936, 6, 32-62.
- Griffin, Dorothy. Movement responses and creativity. J. consult. Psychol., 1958, 22, 134-136.
- Harriman, P.L. The Rorschach test applied to a group of college students. Amer. J. Orthopsychiat., 1955, 18, 116-120.
- Hertzman, M. and Pearce, Jane. The personal meaning on the human figure in the Rorschach. Psychiat., 1947, 10, 413-422.
- Harrower-Erikson, Mary Rachel. Large Scale Rorschach Techniques. New York: Ryerson Press, 1945.
- King, G.F. A theoretical and experimental consideration of the Rorschach human movement response. Psychol. Monog., 1958, 72, 5-8.
- Klein, A., and Arnheim, R. Perceptual analysis of a Rorschach card. J. Person., 1952, 22, 60-70.

- Klopfer, B., Ainsworth, M., Klopfer, W., and Holt, R. Developments in the Rorschach Technique. Yonkers, New York: World Book, 1954.
- Lane, Barbara M. A validation test of the Rorschach movement response. Amer. J. Orthopsychiat., 1948, 18, 292-296.
- Levine, M., and Meltzoff, J. Cognitive inhibition and Rorschach human movement response. J. consult. Psychol., 1956, 20, 119-122.
- Mank, L. Relation of Rorschach indices of extroversion and introversion to measures of responsiveness to immediate environment. J. consult. Psychol., 1956, 20, 114-118.
- Meltzoff, J., and Litwin, Dorothy. Affective control and Rorschach human movement responses. J. consult. Psychol., 1956, 20, 463-465.
- Meltzoff, J., Singer, S.L. and Korchin, S. Motor inhibition and Rorschach movement responses: a test of sensory-tonic theory. J. Pers., 1952-53, 21, 400-409.
- Miller, N.E. Theory and experiment relating psychoanalytic displacement to stimulus response generalization. J. abn. soc. Psychol., 1948, 43, 155-178.
- Neel, Ann F. Inhibition and perception of movement on the Rorschach. J. consult. Psychol., 1960, 24, 224-230.
- Phillips, L., and Smith, J.C. Rorschach interpretation: advanced technique. New York: Grune and Stratton, 1953.
- Piaget, J. The Language and Thought of a Child. M. Gabin., trans, London: Rutledge and Kegan Paul, 1954.
- Piotrowski, Z.A. Percept analysis. New York: Macmillan Co., 1957.
- Piotrowski, Z.A. A Rorschach compendium. Psychiat. Quart., 1947, 21, 79-101.
- Reymert, Martin, ed. Feelings and Emotion. New York: McGraw-Hill, 1950.
- Roe, Anne. Painting and personality. Rorschach Res. Exch., 1946, 10, 86-100.
- Rorschach, H. Psychodiagnostics. (3rd ed.) New York: Grune and Stratton, 1951.
- Sarason, S.B. The Clinical Interaction. New York: Harper Bros., 1959, 207-226.

- Schactel, E.G. Projection in relation to character attitudes and creativity in the kinaesthetic responses. Psychiat., 1950, 13, 69-82.
- Schafer, R. Psychoanalytic Interpretation of Rorschach Testing. New York: Grune and Stratton, 1954.
- Singer, J.L. and Spohn, H.E. Some behavioral correlates of Rorschach's experience type. J. consult. Psychol., 1954, 18, 1-9.
- Sommer, Robert. Rorschach M responses and intelligence. J. clin. Psychol., 1958, 14, 1-5.
- Thomas, H.F. The relationship of movement responses on the Rorschach test to defense mechanisms of projection. J. abn. soc. Psychol., 1955, 50, 41-44.
- Thornton, G.R. A note on the scoring of movement in the Rorschach test. Amer. J. Psychol., 1936, 48, 524-525.
- Thurstone, L.L. The Rorschach in psychological science. J. abn. soc. Psychol., 1948, 43, 471-475.
- Tucker, J.E. Rorschach and other movement responses in relation to intelligence. J. consult. Psychol., 1950, 14, 283-286.
- Werner, H. Perceptual behavior of brain-injured mentally deficient children. Genet. Psychol. Monogr., 1945, 31, 58-78.
- Wishner, J. Rorschach intelligence factors in neurotics. Amer. J. Orthopsychiat., 1948, 19, 265-279.
- Wittenborn, J.R. A factor analysis of Rorschach scoring categories. J. consult. Psychol., 1950, 14, 261-267.
- Zubin, J. Manual of Projective and Cognate Techniques. Madison, Wis.: The College Typing Co., 1948.

Appendix A

Instructions Given for the Rorschach Group Administration

On the cover of each of the booklets which contained a stencilled replica of the blot the S might read the following instructions which were read aloud at the beginning of the session:

One at a time, ten inkblots will be shown to you on the screen. You may look at each blot for three minutes. There is a sheet of paper supplied in this booklet with an outline of each blot on it. Your task is to look at each blot and then write down what it looks like on the paper provided for that particular blot. You are asked to try and write down three things that each blot could be for each blot that is shown to you. (If you cannot think of three things that one blot might be, try to make up for what you missed by writing more than three things for the next blot.) You will notice the outline of each blot on the page provided for your answers to that blot. You are asked to draw a line to the part of the blot where you saw what you have written. Draw a circle around that part. Notice that there is a separate page for each blot. Try and fit your three answers in at the top of the page. But, don't worry too much about your handwriting--just as long as it can be read! (Print if it is easier for you.)

A second showing of each blot was given. This time each blot was exposed for one second. This time the S was instructed:

Add no new responses. Read the responses which you have written. Tell me more about each one if you can. Write down all that you can about each. You may use the space below the line on the paper and number your responses so I'll know which one you are talking about. Tell me how it looks or what it is doing--if anything.

Appendix B

Epstein-Lambert Criteria for Weighting Rorschach Responses

These researchers gathered sixty different responses scored M, 60 FM and 60 m according to the Klopfer scoring system. They required judges to separately Q-sort each type of movement in terms of amount of energy indicated by the percept. This permitted them to set up criteria and examples for weighting a Rorschach response in terms of the amount of energy involved in it. The criteria concerns itself primarily with the intensity of energy involved considering both kinetic (movement through space) and static energy. The primary weight was modified by consideration of vividness of description, size of the moving form and the directness, as opposed to implicitness of movement or energy. Weights ranged from one to nine according to the following values:

1. minimal expression of energy
- 2.
3. relatively mild expression of energy
- 4.
5. moderate expression of energy
- 6.
7. relatively strong expression of energy
- 8.
9. extremely intense expression of energy

Examples of Scores for Humans
Weighting

1. - a grinning face
- a sleeping animal

2.
 - sitting
 - standing
 - leaning
 - peering
 - an old woman holding her head in her hands
3.
 - arms held up
 - reading
 - holding
 - huddling
 - making faces
 - hands sticking out
4.
 - choir director, without a head, directing
 - talking
 - bowing
 - waving
 - cocking
 - making faces
 - kissing
 - sitting, sewing
5.
 - children playing pease porridge hot
 - picking up something
 - climbing down a tree
 - creeping
 - shaking hands
 - performing rites
 - talking a mile a minute
 - looking startled
 - leaning and opposing one another
6.
 - women hugging
 - somebody diving
 - people climbing a mountain
 - a dancer carefully balanced
 - witches flying
 - trying to hold on to something
 - women pulling a pot
7.
 - running
 - pushing against an obstacle
 - dancing
 - riding a motor cycle
8.
 - intoxicated students whooping it up
 - kicking legs and arms
 - vigorous dancing
 - jitterbugging
 - dueling
 - calisthenics

9. - enraged giant jumping up and down

Examples of Scores for Inanimate Objects
Weighting

1. - animal skin being pulled tight
2. - candle flame coming out of a pink holder
 - smoke from a train
 - ripples dying away
 - rabbit with green clouds coming out of his eyes -
symbolic of mystic experience
3. - blood dripping
 - boat drifting
 - blood spurting
 - two forces pushing together
 - scattering clouds
 - a pleasure boat going down stream
 - earth separating gradually
4. - hypodermic needle drawing fluid
 - flags blowing
 - wind blowing ears of two bears
 - marionettes bowing being pulled by strings
 - ornamental gates swinging shut
 - a moving sailboat
5. - feeling of disintegration
 - fountain flowing up
 - a spinning top
 - fire in a fireplace
 - cherubs falling through the sky
 - torches burning
 - balanced rocks
 - water flowing
 - a feeling of disintegration
 - rays of magic leaving a magicians arm
 - tides hitting a spot of land - over time
6. - bomb falling
 - airplane in flight
 - metal chips, flying off the anvil
 - red shoes that keep on dancing
 - red symbolic of fire in hell
 - water fall
7. - forest fire beginning to creep up
 - Old Faithful coming up and bubbling
 - projectile - has gone through center and left a path
in its wake
 - fireworks bursting in the air

8.
 - atomic explosion
 - a bomb blasting off
 - a rocket blasting off
 - aerial view of wreck - a train, burst of flame where oil tank damaged
9.
 - world spinning around so fast that everything is being spilled into the atmosphere
 - a volcano erupting in all directions

Examples of Scores for Animals Weighting

1.
 - hibernating
 - just sitting
2.
 - upper part of a frog - croaking
 - elephants touching trunks
 - opossum hanging by the tail
 - hound dog peering
 - baby bird with its mouth open
 - cat looking at you
 - collie standing - proud, like in dog show
3.
 - braying
 - hovering
 - nuzzling
 - spreading of wings
 - sucking a bottle
4.
 - parasite chewing a rabbit
 - animal stepping from rock to rock
 - crawling up
 - creeping
 - holding something
 - stretching
5.
 - sea horses spraying each other
 - trick seal balancing something on its nose
 - digging
 - climbing
 - flying (bird, butterfly)
 - moose swimming
 - sitting up begging
6.
 - bears playing patty cake
 - beaver walking on front feet
 - birds racing
 - caterpillars making a toast - with a dancing bird on its nose
 - dancing bears

- monkey throwing sausages
 - mice squeezing through an opening
 - crabs grabbing small animals
 - animal with foot stuck, trying to pull it out
 - sheep jumping around
 - muskrat jumping from one rock to another
 - animal climbing laboriously
7. - animal rearing
- animal leaning backward, pulling
8. - animal flying over something
- fighting animals
- taking a leap
- running hurrying
9. - deer running for his life
- maddened animal charging

Appendix C

The Questionnaire

The questionnaire was composed of four types of questions which were randomly distributed. The total number of items was ninety-six. Included were: the L and K scale of the MMPI; fifteen items measuring energy level; fifteen items measuring direction of the energy expression or "innerness"; twenty items measuring feelings and symptoms of tension. The remainder were buffer items. Ss were required to signify "true" or "false" for each statement on the questionnaire. I.B.M. scoring was then used. The method of selecting the energy and tension items will be explained.

Originally seventy items were composed which were believed to be descriptive of energy expression. Some of the items clearly described amount of energy, e.g. "I never have been a very energetic person". "People say of me, 'He never sits still'". "I often wake up in the morning feeling that life is not worth the effort". "By the time I have done my usual work I find I have little energy left for socializing". Other items were descriptive of the direction in which energy was expressed, inwardly or outwardly. Examples are: "I like active sports". "I am an introspective person". "I am always on the go". "I seldom hurry". The seventy items were given to six graduate students in clinical psychology who were asked to assign weights to the items according to two separate Q-sort processes. The instructions to the judges are described below. It will be noted that for each sorting nine piles were required which enabled a weight of -4 to +4 to be assigned to each item. The judges were given the following written instructions.

Energy level refers to a person's total capacity for inner and outer activity. By inner activity is meant all that is going on inside a person--the unobservable ways in which he can be busy inside. For instance, a person expends energy unseen when he is thinking, feeling or dreaming. Outer activity refers to what a person may actually be observed doing, the energy he expresses in motor activity and the intensity and the frequency of such activity--including both speech and gesture.

Each person has a different energy level. Within limits it is not better to be of high or low energy level. However, individual differences in energy level are one way in which personalities may be said to differ. This is the aspect in which we are interested. In order to clarify the notion, here are some examples of behavior discussed in terms of energy level.

The most extreme example of low energy level is a dead person. A corpse has zero energy level, being capable of neither inner nor outer reactivity. A person who is deeply asleep has a slightly higher energy level. The sleeper may express inner activity in dreams. He may express out activity when he rolls over. Some people can be described as "half dead" or "half asleep". These persons are of low energy level. Such persons given an impression of inertness. They seem mentally blank and physically inactive. What mental activity there is going on in such persons is apt to be more of the passive "wool gathering" variety than an active creativity or planful thinking.

A person of high energy level is constantly "on the go" either inwardly, outwardly or both. If he happens to express his energy outwardly such a person may be exhausting to be with. He cannot be still for a moment! A person of high energy level who expresses his energy inwardly is perceptually thinking, feeling, or planning. Although he does not exert himself in physical activity people may comment: "There's a lot going on inside him".

Having read these descriptions of energy level, you are asked to perform two sortings of the accompanying seventy items.

Sort I

In this sorting you are to completely disregard any reference in the item to amount of energy. Consider only to what extent the statement describes a person who expresses what energy he has in an inner relative to outer direction. Ask yourself whether the item talks about a person doing

something which is an inward unobservable expression of energy or an outward observable expression of energy. Think about a continuum, the left end of which indicates predominant inward expression and the right end of which indicates predominant outward expression. You are to place the items in Q-sort fashion in nine piles. Each pile will contain 3, 6, 8, 11, 14, 11, 8, 6, and 3 items, respectively, in a left to right direction along the continuum. (The accompanying sheet records the number of items required in each of the nine piles.)

Note that you may shift the items from pile to pile throughout the sorting. In fact, reading a new item often makes you reconsider a former item. When you are satisfied that you have sorted the items accurately, you are asked to record the numbers of the items in the appropriate blanks on the accompanying sheet.

Sort II

Please reshuffle all the cards in any convenient manner.

This time the same 70 items are to be sorted according to the same technique but with consideration ONLY for the amount of energy that is being described.

Think of a continuum extending from one to nine points and having each of the piles proceeding from left to right contain items that describe a progressive increase in amount of energy each contains. Please disregard any references to whether the expression of energy described is inwardly or outwardly directed.

When you are satisfied that you have completed the second sorting, please record the numbers of the items in the blanks on the sheet provided for this sorting.

Of the seventy items given to the judges, fifteen were selected as measures of the amount of energy, and fifteen were selected as measures of the direction in which the energy was expressed, called "innerness" for convenience. The basis for selecting the thirty items will now be described. For any item in either scale, three out of the six judges were required to be in agreement as to the weighting assigned the item and none of the six judges could differ from any

other judge by more than three points. Furthermore, no item which could be used in both scales according to the above criterion was retained in the scale. That is, if an item were regarded as a significant measure of "innerness" as well as total energy then it was not used at all. This was done in order to keep the scales independent. An attempt was made to represent all weights equally. However, in some cases no judge deviated by more than one point in assigning a weight to a particular item and in such cases the item was included regardless of whether it increased the number of items for that particular weighting.

The "innerness" score and the score on energy level were then obtained by summing the weights of the items that a subject indicated were "true" for him. As indicated above the weighting for all thirty items was according to the following scale: -4, -3, -2, -1, 0, +1, +2, +3, +4. The scales were so constructed that affirmative statements and negative statements were balanced.

The fifteen items measuring amount of energy are as follows:

- People say of me: "He never sits still."
- If I were to move into a world of insects I indeed make a better spider working slowly and cautiously than a grasshopper leaping suddenly and swiftly.
- I often wake up in the morning feeling life is not worth the effort.
- I never have been a very energetic person.
- By the time I have done my usual work I find I have little energy left for socializing.
- I feel very intensely about certain matters.
- I often feel worn out and run down.
- People who know me do not consider me an outgoing person.
- I am very active both mentally and physically and have many minor interests as well as some more profound or deep ones.
- I like to spend a part of each day in quiet contemplation.
- Things build up inside me until sooner or later I must "let off steam" or burst.

- Sometimes I just don't have time to think.
- I have very strong feelings about many things.
- I am neither an introvert nor an extrovert but rather I am as equally one as the other.
- I am a very restless person.

The fifteen items measuring "innerness" of energy are as follows:

- I like active sports.
- I like to keep busy.
- I take things easy most of the time.
- I very seldom hurry.
- I am an introspective person.
- People often say of me: "He has lots of pep."
- I have more energy than most people I know.
- Most of my energy is expressed in an inward direction.
- I would not be described as an enthusiastic person.
- I am always on the go.
- I can go for days without much sleep.
- I live a very active fantasy life.
- I like to feel weary at the end of the day and know that I have given all my energy to what I have done.
- I need less rest than most people.
- I like to daydream.

The twenty items which were used as a measure of tension were based mainly upon the premise that inhibited energy may be said to "charge" the striped muscles. Items were developed according to symptoms of tension found by Jones in his "Study of patterns of emotional expression". (Reymert, 1950) Jones concluded that anxiety reflected persistent feelings of tension, irritability, unremitting worry, restlessness, inability to concentrate and feelings of panic. The best physiological measures of anxiety were found to be reports of muscular tension, particularly in the skeletal muscles. A careful rewording of the accounts of tension published in the Jones article led to the following items:

- I hardly ever feel pain in the back of my neck.
- It is sometimes hard for me to get my breath.
- My hands sometimes tremble.
- I never feel a pressure at the top of my head.

- I never have back-aches.
- The cords of my neck frequently ache as if they were knotted.
- I do not have many headaches.
- I have little or no trouble with my muscles twitching or jumping.
- I hardly ever notice my heart pounding and I am never short of breath.
- I frequently get back-aches.

The following additional items descriptive of anxiety symptoms are included:

- I often feel my heart beating wildly.
- I sweat very easily even on cool days.
- I am not bothered by dizziness.
- My mouth often feels dry.
- I practically never blush.

Finally five items describing a state of general uneasiness were included. These are:

- I worry constantly.
- I do not have trouble concentrating.
- I often get a feeling of panic in every day situations.
- I do not worry more than most people I know.
- I am not easily frightened.

The twenty-six buffer items included on the questionnaire were composed on an intuitive basis as possibly relevant to Rorschach movement responses, with the thought that they might be inspected at a future date for leads for further work.

Questionnaire with response receiving a positive score indicated in parenthesis to the left of each question. Scale to which each item belongs and weight is designated at the right.

1. I have strong impulses to do things that I know I should not do.
- (F) 2. I do not worry any more than most people I know. (Anxiety)
- (T) 3. People say of me: "He never sits still". (Total*, +3)
4. I would like to be very close to someone.
- (T) 5. I like active sports. (Innerness, +4)
6. I like animals.
- (F) 7. The top of my head sometimes feels tender. (MMPI: K-scale)
8. I am glad I have a rich imagination.
- (F) 9. I never feel a pressure on the top of my head. (Anxiety)
- (F) 10. Once in a while I think of things too bad to talk about. (MMPI, L-scale)
- (F) 11. Once in a while I put off until tomorrow what I ought to do today. (MMPI, L-scale)
- (F) 12. I believe I am a condemned person. (MMPI, K-scale)
- (T) 13. I like to keep busy. (Innerness, +2)
- (T) 14. I take things easy most of the time. (Innerness, 0)
- (F) 15. Any man who is able and willing to work hard has a good chance of succeeding. (MMPI: K-scale)
16. I never have backaches. (Anxiety)
- (T) 17. I very seldom hurry. (Innerness, -1)
- (T) 18. If I were to move into a world of insects I would make a better spider working slowly and cautiously than a grasshopper leaping suddenly and swiftly. (Total, -2)
19. I am bothered by certain thoughts which come to my mind repeatedly.
- (T) 20. I worry constantly. (Anxiety)

- (T) 21. I am an introspective person. (Innerness, -1)
22. I often feel my heart beating wildly. (Anxiety)
- (T) 23. I often wake up in the morning feeling that life is not worth the effort. (Total, -3)
- (F) 24. Much of the time I feel as if I have done something wrong or evil. (MMPI: K-scale)
- (T) 25. My mouth often feels dry. (Anxiety)
- (F) 26. At times I have fits of laughing and crying that I cannot control. (MMPI: K-scale)
- (T) 27. It is sometimes hard for me to get my breath. (Anxiety)
- (F) 28. My table manners are not quite as good at home as when I am out in company. (MMPI: L-scale)
29. I have at times been worried about losing control of myself.
- (T) 30. I never have been a very energetic person. (Total: -3)
- (F) 31. I am not easily frightened. (Anxiety)
- (T) 32. People often say of me: "He has lots of pep". (Innerness, +3)
- (T) 33. By the time I have done my usual work I find that I have little time left for socializing. (Total, -2)
34. I sometimes have more sympathy for animals than for people.
- (T) 35. I feel very intensely about certain matters. (Total, +1)
- (F) 36. I hardly ever notice my heart pounding and I am never short of breath. (Anxiety)
- (F) 37. I do not like everyone that I know. (MMPI: L-scale)
- (T) 38. I often feel worn out and run down. (Total, -4)
- (F) 39. I do not have many backaches. (Anxiety)
- (F) 40. I believe in the second coming of Christ. (MMPI: K-scale)
41. I am not a lonely person.
- (F) 42. I have often wished I were a girl. (MMPI: K-scale)

- (T) 43. People who know me do not consider me a very outgoing person. (Total, -1)
- (T) 44. I have little or no trouble with my muscles twitching or jumping. (Anxiety)
- (T) 45. I frequently get backaches. (Anxiety)
- (T) 46. I have more energy than most people I know. (Innerness, +1)
47. I have never had a close friend.
48. I believe that what I experience in life will depend upon what sort of person I am.
49. I do things on the spur of the moment.
- (T) 50. Most of my energy is expressed in an inward direction. (Innerness, -4)
- (T) 51. I sweat very easily even on cool days. (Anxiety)
- (T) 52. I am very active both mentally and physically and have many minor interests as well as some more profound or deep ones. (Total, +4)
- (F) 53. I do not have trouble concentrating. (Anxiety)
54. Sometimes I feel at odds with myself and uncertain that what I am doing is really what I want to do.
- (T) 55. I like to spend a part of each day in quiet contemplation. (Total, -1)
56. I become very attached to pets.
- (F) 57. I am sure I got a raw deal from life. (MMPI: F-scale)
- (T) 58. Things build up inside me until sooner or later I must "let off steam", or burst. (Total, +2)
- (F) 59. At times I have a strong urge to do something harmful or shocking. (MMPI: K-scale)
- (T) 60. Sometimes I just don't have time to think. (Total, +1)
- (F) 61. I am not bothered by dizziness. (Anxiety)
- (F) 62. I do not always tell the truth. (MMPI, L-scale)
63. I am interested in ideas for their own sake whether or not they have practical application.

64. I have a lot of friends.
65. I am generally interested and curious about the people I meet.
- (F) 66. Once in a while I laugh at a dirty joke. (MMPI: L-scale)
- (T) 67. I have very strong feelings about many things. (Total, +1)
- (T) 68. I would not be described as an enthusiastic person.
(Innerness, -1)
- (T) 69. I am always on the go. (Innerness, +4)
- (F) 70. I get very angry sometimes. (MMPI: L-scale)
71. I feel reasonably at peace with myself.
- (F) 72. I hardly ever feel pain in the back of my neck. (Anxiety)
- (T) 73. I can go for days without much sleep. (Innerness, +3)
- (F) 74. I gossip a little at times. (MMPI: L-scale)
- (T) 75. I often get a feeling of panic in an everyday situation.
(Anxiety)
- (T) 76. I live a very active phantasy life. (Innerness, -2)
- (T) 77. The cords of my neck frequently ache as if they were knotted.
(Anxiety)
78. Sometimes I worry that my imagination will run away with me.
- (F) 79. I practically never blush. (Anxiety)
80. I wish I were able to get along with people better.
- (T) 81. I like to feel weary at the end of the day and know that I have given all my energy to what I have done. (Innerness, +1)
- (F) 82. At times I feel like swearing. (MMPI: L-scale)
83. I am a spontaneous person.
- (T) 84. I need less rest than most people. (Innerness, +1)
- (F) 85. I do not read every editorial in the newspaper every day.
(MMPI: L-scale)

86. Mechanical things are of more interest to me than are people.
- (T) 87. I am neither an introvert nor an extrovert but rather I am as equally one as the other. (Total, 0)
- (T) 88. I like to daydream. (Innerness, -3)
89. I believe that what happens to a person depends upon the breaks he gets and other such things beyond his own control.
- (T) 90. My hands sometimes tremble. (Anxiety)
91. I am more self-conscious than most people.
92. I generally think things over carefully before I act.
- (F) 93. I would rather win than lose in a game. (MMPI: L-scale)
94. I am more inhibited than spontaneous.
- (T) 95. I am a very restless person. (Total, +2)
96. I am a cautious person.

* The word "Total" stands for Total Energy Level.

Appendix D

Sample Object-Energy Responses from each of the High, Medium and Low Anxiety Groups

High anxiety group

Flares scattered by the wind.
 Heat rising from a fire and lifting a cloth.
 A man's boot up-raised.
 A jet burning out.
 An elevator going up.
 Birth, the being, divided in two parts.
 A power standing firm on international issues.
 A volcano erupting.
 An active volcano erupting.
 A shoe or boot being worn.
 Top view of a plane flying over a shadow of topography.
 An egg frying.
 A battleship sailing home in the sunlight.
 Mushroom cloud from an atomic explosion.
 A rope that stands by itself.
 Rocket exhaust--low efficiency, much spray.
 Rocks balanced on the edge of a cliff.
 Stream of hot water--steam condensing.
 Clouds flying by.
 Cloud covering something like a smoke screen.
 Mushroom formation of an atom bomb.

Medium anxiety group

A volcano erupting.
 A Darringer pistol pointing at something.
 A rocket taking off.
 Exhaust from a jet.
 Coon skin hat with tail sticking up.
 A boot stepping.
 An iceberg floating.
 Jet plane flying--exhaust coming out the rear.
 A rocket blasting off islands in the ocean.
 Two cars racing down a straight road.
 A plane flying right at you, as in war pictures.
 Oil shooting from the ground.
 Water flowing.
 Volcano spouting lava.
 A fire encircling the Spaniards.
 Rocket bursting through an obstacle.
 Polaris missile being launched from under water.
 Maple seed floating down, wrong side up.
 Water falling into a small area.
 Boots hanging.
 Bunsen burner burning.
 Rocket ship firing off into the night.

Eggs attached to underside of crab.
 Choppy water on windy afternoon.
 Something blowing apart.
 Bolt of lightning.
 A scarecrow hanging from a pole.
 Explosion of an artillery shell.

Low anxiety group

A bell ringing.
 An oil well blowing.
 A fire moving about in the breeze.
 A jet plane flying at night.
 A spear stuck in the ground.
 A rocket taking off slowly--a dust cloud.
 Blast of a rocket.
 Cutaway view of a volcano erupting.
 A Chinese kite flying.
 Maple leaves falling.
 A thunder cloud with lightning flashing in the middle.
 Bear skin stretched on a frame.
 Flames being put out.
 Rocket--blasting off.
 Flames--out of control.
 Two peapods hanging on a vine.
 Water gushing from a broken hydrant.
 Explosion from a bullet hitting from above.
 Blasting in a mine shaft.
 A skin hung out to dry.
 Candle burning in a church.
 Vanguard missile being fired.
 Burning candle.
 An attacking submarine.
 An old gallion headed out to water.
 A stone rolling down a chute.
 Wings and front of Supersonic in flight, full speed.
 Mechanical toy moving up and down on a stick.
 Rocket sitting on pad ready for take off.
 Sun shining.
 Jet plane flying with nose upward.
 Atom bomb exploding.
 Pelt of animal skin hanging on wall.
 Rocket with smoke coming out--shooting up.
 Delt-winted plane flying through a black cloud.
 A boot on each side kicking.
 Surgeon's knife opening a wound.
 Bullet bursting out of a bar of soap.
 Cut-away of a volcano about to erupt.
 Rocket blasting off.
 Missile blasting off.

A P P R O V E D :

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