SUGGESTIBILITY IN PRIMARY GRADE TEACHERS
AS REVEALED BY THE RORSCHACH

APPROVED:

Sidney Hampton
Major Professor

Jack R. Haynie
Minor Professor

Twanne Timsley
Dean of the School of Education

Robert B. Toulouze
Dean of the Graduate School
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By

Betty L. Cox, B. S.
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CHAPTER I

INTRODUCTION

The use of projective techniques for personality assessment is only one means of obtaining information about a person. Although they do not present the sole and final answer in assessment, the techniques can reveal pertinent data which will aid the clinician in his work. While there are many projective techniques used for the purpose of evaluating personality, the most recognized is Rorschach's test.

The Rorschach, which is made up of inkblots of various ambiguous shapes, allows the subject to project his experiences into the situation by the very ambiguity of the forms. "The major caution in the use of the test is that the psychologist recognize that he does not have an objective tool, but simply another way of making observations such as he has in the interview, and that he treat his interpretation as hypothesis, not facts" (10, p. 310).

While blind diagnosis of the Rorschach protocols did a great service in leading to its acceptance as a clinical tool, it is at best a stunt in clinical practice (11, 7). In most cases, the Rorschach alone is not enough. Every bit of information available on the subject should be collected in order that he may be understood as fully as is possible, and through this, that he may be helped (14, 15, 16).
"The Rorschach leaves to the subject's discretion what he brings to or takes from the experience" (8, p. 4). Since the inkblots are vague and unstructured, the individual literally projects his personality into the perceptual organization of his responses. It is the individual who structures the inkblots in such a way as to bring into the experience his needs, motives, emotions, past experiences, and the like (1, p. 154). The content categories will, then, be as varied as the interests and experiences of the individual who examines the inkblot series.

Since this is true, it must be assumed that the occupation of the individual would have a bearing on the experiences he has available to bring to the testing situation. A surgeon might be expected to be reminded of the anatomy of the human body since it is anatomy which forms the basis of his work. A person who spends his day involved with minute detail, such as a watch repairman, might be expected to find many minute details in the inkblots which catch at his attention and elicit percepts from him. It would be a fallacious assumption to consider these subjects abnormal on the basis of these indices in the Rorschach record. An awareness of the complete picture of the individual, his work, and all other pertinent information about him would help to avert the formation of this assumption.
Statement of the Problem

Rorschach records of children, adults who operate on a child's emotional level, and mental defectives tend to contain a high percentage of percepts which pertain to animals and animal details. Since teachers of primary grades, grades one, two, and three, necessarily deal with many animal pictures and stories in their daily work routine, it may be possible that the records of these persons may show a higher percentage of animal responses than might ordinarily be expected of intelligent adults in the normal population. If this were found to be true, clinicians might reappraise the significance of these indices of the higher percentage of animal responses in these particular protocols.

Working with children, who are by nature more fanciful than adults, may tend to engender a like suggestibility in the group as a whole. Teachers may tend to grow more susceptible to affect in others.

The problem with which this study is concerned is the comparison of primary grade teachers with the normal adult population.

Hypotheses

The following hypotheses were investigated in this study.

1. Primary grade teachers will have a significantly higher percentage of animal responses than the normal adult population.
2. The teacher group will be significantly higher in suggestibility than the normal adult population, as revealed by the sum of the color responses and the affective ratio.

3. There will not be a significant difference in the number of popular responses in the records of the teacher group as compared to the normal adult population.

4. The teacher group will have a significantly higher number of movement responses than the normal adult population.

5. The primary teachers will have a significantly higher affective ratio than the normal adult population.

6. The teacher group will have a significantly higher sum of color responses than the normal adult population.

7. There will be a significant positive correlation between the number of years of teaching experience and the percentage of animal responses in the teacher group.

8. There will be a significant positive correlation between the number of years of teaching experience and the affective ratio in the primary teachers.

9. There will be a significant positive correlation between the sum of movement responses and the sum of color responses of primary teachers.

10. There will be a significant positive correlation between the sum of movement responses and the total number of popular responses of the teacher group.

11. There will be a significant positive correlation between the sum of color values and the animal per cent of the teachers.
12. There will be a significant positive correlation between the sum of color values and the total number of popular responses of the teacher group.

Procedure

Individual Rorschachs were administered to thirty volunteer primary teachers currently employed in public schools. The subjects were told only that the research was being undertaken for statistical analysis to be used in a graduate thesis. The Rorschach was described to the subjects as a means of evaluating personality.

The protocols were examined in the areas of percentage of animal responses, the sum of color values, the sum of movement responses, the affective ratio, and the number of popular responses. Fisher's $t$ test was applied to compare the performance of the teachers with the norms for the normal adult population as set by Beck (3, p. 230). These areas were then compared with the number of years teaching experience of each subject to determine possible correlations.

Definition of Terms

The animal per cent (A per cent): The percentage of responses the content of which are either animal or animal detail. This is derived by dividing the sum of the animal and animal detail responses by the total number of responses. The symbol $A$ represents animal content, and $Ad$ represents animal detail.

Color (C): The use of color in determining the percept in response to the inkblot. $FC$ refers to those in which form dominates in selection of the percept while color is a secondary determinant; $CF$ refers to percepts in which
color is the dominating factor with form secondary; and G refers to those responses in which color is the only determining factor. The sum of the responses in which color is a determinant (EC) is determined with the G responses having a value of 1.5; CF, a value of 1.0; and FC, a value of 0.5 (3, p. 229).

**Movement responses (M):** The responses in which a human movement is ascribed to the percept. M is given a numerical value of 1.0.

**Affective ratio (Af.r):** Derived from dividing the number of responses on the last three cards, cards VIII, IX, and X, by the total number of responses on the first seven cards.

**Popular responses (P):** Those which occur most frequently and are statistically determined (3, p. 208).

**Description of the Instrument**

The most widely used individual projective technique for personality evaluation is the Rorschach. It can be effectively used with young children who are just beginning to verbalize as well as with all other ages up to the senile (1, p. 172).

The series consists of ten inkblots, both chromatic and achromatic, with cards I, IV, V, VI, and VII being achromatic, cards II and III printed in black and red, and cards VIII, IX, and X printed in different hues. The design is, in each instance, centered on a white card; some of the designs are symmetrical while others are not bilaterally identical. The shapes have been deliberately designed, and the distribution of shading and colors is the result of Rorschach's eleven years of experimentation (1, p. 172). Although little is available on how this construction and
selection took place, Klopfer and Kelley are of the opinion that these ten were selected from thousands of experimental blots (6). There is a fixed sequence for the presentation of the cards.

The procedure is generally the same for most investigators. The subject examines the cards one at a time, telling the examiner what he sees or what the blots mean to him. Directions vary from a simple statement asking the subject to relate to the examiner what he perceives to a more lengthy one which includes a statement on how the blots are made and an encouragement to see as many things as possible.

A record of time is made for the first response, the total time for all responses, et cetera, although there is no time limit set for the examination of the series. When all the cards have been examined and the responses made or cards rejected, an inquiry follows in which the examiner asks such non-leading questions as will help him to determine the location and the determinant or determinants of each response. Klopfer also employs a technique which he calls "testing the limits." In testing the limits, the inquiry is more of a probing by the investigator as he asks questions which may, at times, be over areas which did not appear in the spontaneous responses of the subjects.
This phase consists of more directive questioning, tailor-made to suit the particular subject and his record. The relationship can be altered in any way thought to be suitable to the situation. Concepts are deliberately introduced which were not formed by the subject (9, p. 6).

Its basic philosophy is to establish a situation that is more highly structured for the subject and less highly structured for the examiner (9, p. 12).

Although the total time for the administration of the test may range from a few minutes to well over an hour, the interpretation of the record is a longer process, involving several hours of the investigator's time (13, p. 123). Interpretation falls into three major areas; those of content, of determinants, and of location.

The first judgement in scoring a Rorschach record is that of location (3, p. 12). Was the whole or a part of the blot selected in the percept? If the whole blot were used, the symbol W would be used to represent this response in the summary. If a part of the blot were used, it is important to know whether it is a detail frequently noted or one rarely singled out for interpretation. A detail which frequently evokes a response is symbolized by the letter D; the rare detail by the symbol Dd. Beck has set up tables containing the most frequent D and Dd selections for all ten cards in the series (3, pp. 135-207).

Beck points out in the preface of his text The Rorschach Test, Volume I, that he has altered somewhat the Rorschach test from its original form. It is Beck's
contention that by so doing he has preserved Rorschach's intention in creating the clinical instrument. "Rorschach would not have been content to freeze it in its pristine purity. He speaks at more than one point of the need for research and further testing out of the assumptions" (3, p. ix). Beck has made his alterations through clinical experimentation in the testing out of Rorschach's ideas. Approach and sequence of responses are derived directly from the $W$, $D$, and $Dd$ scorings, and they are concerned with the accent which responses place on certain areas of the cards; i.e., were the responses primarily $W$, $D$, or $Dd$ in emphasis, and what was the mode of attack, whether rigidly sequential from one type of location to the next, irregular, or confused.

The determinants of the responses are to be found basically in the chiaroscuro or shading; texture; vista or appearance of distance, a standing away from the percept; color; and good or poor form. If the form seen has human movement projected into the percept, this is also an important determinant.

"The range of associational content projected by the Rorschach test figures has no boundaries" (3, p. 217). Content refers to the specific object, event, or organism, around which the percept is built (1, p. 179). The more intelligent the individual examining the cards, the greater is the number of responses to be expected. Conversely, as
the intelligence decreases, so does the number of responses, thereby diminishing the range of interests in the content categories.

One means of assessing the adjustment and maturity of the subject is through the prediction by the ratio of those percepts involving humans or human details to the number of responses in all, with the greater percentage of human percepts indicating the greater degree of adjustment, and maturity (6, p. 350).

Although admittedly far from perfect, the Rorschach in the hands of a qualified examiner can contribute much toward understanding the subject and his needs. The instrument does not lend itself to manipulation by the subject, while some distortion may be possible (5). It is, therefore, important to realize that the Rorschach should be considered as one of the means of ascertaining information about the individual, not as the sole means of doing so.

Rorschach himself felt that his theories concerning color and movement were particularly vulnerable, and many arguments took place during the research period concerning these. As a means of retesting, Rorschach planned the development of parallel sets of blots, but his death following surgery prevented his plans from reaching fruition. A co-worker, Behn-Eschenburg, created one set of blots for
this purpose, but he, too, died before he could perfect his work. The Sehn-Eschenburg test was published some years later (4). This series can be used in a somewhat limited manner (12).

The Rorschach may be used to predict a person's intelligence. Rorschach cited seven factors which he believed to be important in this area: good form, many whole and movement responses, emphasis on whole responses, orderly sequence, a low percentage of animal or animal detail percepts, and an optimal number of original responses. Although an attempt to relate statistically single or composite Rorschach scoring variables with the Wechsler Adult Intelligence Scale failed to yield useful estimates of intelligence, Klopfer and Kelley believe that they can estimate a Binet IQ within 10 points by the use of the Rorschach (2).

The impact of the Rorschach series has been widespread. It has been utilized in psychology, psychiatry, sociology, and cultural anthropology (1, p. 172).
CHAPTER BIBLIOGRAPHY


The changeable nature of cloud formations and the childlike diversion of imagining what things might be called to mind by those shapes was perhaps the first provocation to excite interest in projection and lay the foundation for what was, in 1939, given the name projective techniques by L. K. Frank to denote certain aspects of the perceptual functions. Among the earliest examples of concrete interest along this line were the Cloud Picture Test created by William Stern and the inkblot series employed by Justinus Kerner.

Kerner, who is considered a pioneer in this field, made use of inkblot designs as early as 1857 in Germany. He described his blots as scenes of Hades. Kerner was one of the first to use inkblots for the collecting of data on the individual's affectual psychological organization and what meanings might then be attached to the inkblot forms (3). During this pre-experimental stage, observations were occasionally made that vague, formless stimuli, such as inkblots, were beneficial to the artist, the poet, and the spiritualist to stimulate the imagination (28, p. 3).
What might be described as the experimental period began with the work of Binet and Henri in 1895. Their work suggested that blot designs might be employed to investigate visual imagination as a means to study individual differences in intelligence. A large and varied amount of percepts was interpreted as indicative of a lively visual imagination. Binet was probably the first to suggest the use of blots as a test method (48). Binet and Henri were primarily interested in personality differences and a set of inkblots were utilized as were other tests. The experimenters commented on the fact that the blots elicited an amazing range of interpretations from the subjects studied (3).

In 1897, Dearborn of Harvard published an article on the possibilities inherent in the utilization of inkblots in experimental psychology. He was apparently among the first psychologists to observe that responses to inkblots reveal a large quantity of significant information about the respondent. Dearborn thought the blot could be used to study the content of the consciousness through the relative ease with which the inkblots were recognized as given objects (48). His interest was fundamentally in the use of inkblots to study imaginative activities. He also suggested that the blots might be employed in the study of memory, as well as in an investigation of a quantitative and qualitative imagination. He desired a treatment of the reaction
time of the subject and felt the blots might be of consequence in the study of discrimination of minute formal differences.

Dearborn made 120 blots and asked college students, professors, and faculty wives to relate what they perceived in each blot. In 1888, he published the results of this study which involved sixteen subjects responding to twelve sets of blots, each of which consisted of a series of ten cards. Unlike the later Rorschach series, the subjects were not permitted to turn the cards to facilitate creation of responses. Dearborn recognized that percepts were individual and was piqued to know if the blots could be used to ascertain the degree to which ideas and delusions are fixed in the mind (48). He was also able to detect a relationship between the content of the responses and the occupation of the respondent (3).

The work of Dearborn was followed closely by that of Sharp, at Cornell University. Seven subjects took part in the experiment, which employed ten cards. Five minutes were allotted to study and respond to each card. Subjects were to tell what the whole or part of the blot meant to them and responses were written (3). Sharp believed that the responses gave information in regard to the passive imagination of each individual (48). The work of Sharp was related more closely to that of Binet and Henri than was that of Dearborn (3).
In a study by Kirkpatrick published in 1900, 500 children whose school classifications ranged from the first through the eighth grade were used. Impressive differences were found between the performances of children at various age levels. The younger children seemed more imaginative and suggestible than did the older ones, and they gave a greater number of responses. In addition, the younger children seemed to entertain no doubts as to the accuracy of their perceptions, while the older children would add qualifying statements, such as "it seems like" or "it looks like" (48).

In 1913, Pyle used inkblots to test the quickness of the associative processes. His subjects were shown twenty cards and were given only three minutes in which to examine the entire series. As did Kirkpatrick, Pyle also noted that a greater number of associations was typical of the younger child. In a study which was published in 1915, Pyle stated, "dull pupils are more like younger children; possibly they are merely uncritical" (48, p. 3).

Whipple in 1914 and 1915 included a series of twenty blots in a manual of physical and mental tests. His subjects were instructed to look over the blots at their leisure and to either tell the examiner or to write down on a numbered blank what could be seen by the subject in each blot. Instructions for this experiment also permitted the subject to turn the cards at will and suggested that the
imagination be used freely, as the blots were not intended to actually picture any given object. Whipple wanted to know whether the subject's imagination would suggest pictures of things to him, just as one might sometimes be reminded of objects by the shapes of clouds (48). There was no time limit set for the examination of the series. In 1915, Whipple described at length the employment of inkblots and word-association tests as techniques for experimental studies of complex mental processes. His interests lay in reaction times, the number of associations, and other data which might be placed in a frequency table (3).

Both adults and children were in the group of thirty-six used by Bartlett in a study of response time. One thousand thirty-eight responses were given by the group, with time measured at from less than one second to more than one minute. Six hundred thirty-five of the responses were either human or animal percepts. One of the subjects remarked that it is the living things that are the most noticeable and the most interesting (48).

Bartlett was probably the first to introduce color and shading in inkblots. The content of the responses was analyzed, and they were found to be similar to those later arrived at by Rorschach from his studies (33). Bartlett felt that inkblots could be used to give a clue to interests and perhaps to occupation (48).
Ten of the Whipple inkblot series were used again in 1917 by Parsons, in a study of children aged seven to seven and one half. The interview was divided into two sessions in an attempt to avert fatigue, and practice cards were used to acquaint the children with the procedure. The number of associations ranged from 1 to 147, with the average at 35.74, with 54.4 per cent of the percepts being found to be either human or animal in content.

These experiments each started out to test the imagination by means of the inkblots, but the findings led the experimenters to recognize the possibilities for study of individual differences (48, p. 6).

The popular use of projective techniques dates from the work of Rorschach, a Swiss psychologist. His experiments began in 1911 and culminated in the publication of Psychodiagnostik in 1921. His work was cut short by his death, and much was left undone in the perfection of the instrument.

It is difficult to say whether Rorschach knew about the experimenters who preceded him in the study of the inkblots (33). One study known to Rorschach was that of Hens, which summarized the results of an experiment carried on in Switzerland in 1916, making use of one thousand school children, one hundred normal adults, and one hundred patients of varied diagnosis. Eight black and white blots were employed in the study (22).
Gurvitz quotes Hens:

We never, of course, perceive as much with our senses as with our psyche; i.e., we add even to our everyday perceptions something from the treasure of our previous experiences. We interpret the incomplete perception complex, influenced by our experiences in the direction of reality. This function we do not call phantasy or imagination, and as far as we know, until now both functions are connected only to the degree that imaginative individuals possess greater possibility and greater tendency towards more far reaching interpretations that deviate more widely from reality (22, p. 120).

Interpretations were made from content, although Hens also considered location and relationships of details to the whole in his analysis of the responses.

It was noted that the classes in which the children took part just before the interview influenced the imaginal productivity of the respondents, as did the personality of the teacher. Children with high socio-economic status or with a high degree of intelligence were noted as giving more responses, and responses which displayed richer fantasy.

Mood was found to be important to the adults in the study in determining the number and types of responses. Euphoria, for example, tended to increase fantasy, while depression displayed a negative effect. Many examples were found of pathological, autistic thinking among the schizophrenics, but diagnosis could not be made from the test alone. Perseveration seemed most characteristic and was deemed to be the most diagnostic when found associated with
a constricted record. Patients in general took the test too seriously, with some of the schizophrenic patients overreacting to their own peculiar fantasies (22).

Hens also predicted that the color cards would lead to a greater understanding in the realm of feeling and mood in particular. Survitz holds that Bleuler, who as a friend and teacher to both Rorschach and Hens, may have been a source of inspiration to each of them in the field of projective studies through the use of inkblots.

Rorschach came upon the scene at a time when the field was especially receptive to his concepts and theories. It was not until his published work in 1921 that a definite and standard set of inkblot stimuli came into existence. Prior to this, each investigator had made use of his own series of blots in order to study that particular aspect which held his attention (3).

The Rorschach inkblots spread rapidly in Switzerland and Germany and, by 1933, were widely used in Europe. They were still little known in England and the United States at this time, however (33). It was through the efforts of Oberholzer that the work Rorschach began was continued. As obsessionally empirical as Rorschach himself, Oberholzer carefully validated his findings (9, p. 11).

Levy took over the technique from Oberholzer in 1924 and tried the test out in the psychiatry department of the
Michael Reese Hospital in Chicago. This was the first use which the test had in the United States in the study of mental illness.

Beck has been considered a leader in connection with the Rorschach since 1928, and Klopfer, a second major figure, has been associated with the test since 1934-1935. It was under the leadership of Beck, Hertz, and Klopfer that the Rorschach method of projective techniques has become widely known in the United States. Since Rorschach's original work, there have been developed many other association tests, not only involving inkblots but also those involving pictures. It was, however, Jung and Rorschach who initiated the use of these techniques to explore the dynamics of personality (3, p. 156).

Klopfer and Kelley say that the Rorschach proposes to give us

1. The degree and mode of control with which a subject tries to regulate his experiences and actions.
2. The responsiveness of his emotional energies to stimulations from outside and promptings from within.
3. His mental approach to given problems and situations.
4. His creative or imaginative capacities, and the use he makes of them.
5. A general estimate of his intellectual level, and the major qualitative features of his thinking.
6. A general estimate of the degree of security or anxiety, of balance in general and specific unbalance.
7. The relative degree of maturity in the total personality development.
This list does not represent a complete account of the personality aspects revealed by the Rorschach method. It simply enumerates the configurational picture which Rorschach material reflects (20, 339).

Blind analysis contributed to achieving acceptance for the Rorschach (51), as did the increased pressure created by World War II, illustrating the need for a clinical device of this type for use by the armed services to administer to those under its aegis who needed mental care. By 1945, the Rorschach technique was firmly established as the leading clinical instrument for diagnosis (28, p. 3).

The Animal Per Cent

"Animals are perceived in the records of subjects of all ages and of both normal and abnormal subjects" (31, p. 383). The most easily produced content is that of animals and animal detail. Objects and humans require more symmetry, more definite contours than do animals. Animals, it would seem, also have greater variability. "The percentage of animal responses thus indicates the extent to which the subject is no longer digging into the inkblot, but is rather responding to its grossest articulation" (40, p. 230).

If perceptions were based on what is actually seen more than anything else in life, cars would receive the highest percentage. Manmade objects, however, are rarely perceived because the blots do not have adequate structure to elicit
that particular type of response content. It is, of course, this very unstructured nature which permits good projection. (17, p. 396).

The letter A represents responses whose content is that of the entire animal figure, while Ad is the symbol used to signify the perception of a detail readily seen on the surface of the animal. A responses are common on cards I, II, V, VIII, and X (1). According to Beck (10, pp. 208-211) approximately 50 per cent of those responses which occur with the most frequency in records, and are therefore deemed "popular", consist of animal percepts.

The highest number of animal percepts are to be found in the records of children, with a decrease resulting from increased age and maturity (47).

One of the major things to be noted in a record is the percentage of animal responses in relation to the total number of responses given by the individual. If this percentage is large, it is taken to mean that the subject has a stereotyped or narrow range of interests (21, 20, 31). "Animal percepts are the obvious ones; therefore a person who cannot choose a reasonable proportion of percepts not involving animals is merely reacting to the obvious" (20, p. 340).

The A per cent, then, can be considered an index of adaptivity, the ability to recognize the common stimuli and events of existence. The most solid finding in the
literature concerning the Rorschach method is that the mentally deficient tend to give a very low number of popular responses and have records which show a high A per cent (42).

There is some disagreement as to what constitutes the normal range of A per cent in a healthy adult population. Klopfer (31, p. 314) sets the optimum number at 20 to 25 per cent, with a range of 35 to 50 per cent (32, p. 493). Rorschach set a range of 30 to 50 per cent (15).

It is an empirical finding that a percentage of animal responses of over fifty per cent tends to be associated with low intellectual capacity or disturbed adjustment.

This hypothesis may be extended to over-emphasis of other content categories, for example, anatomy (31, p. 314).

Psychoanalysis takes a particular view concerning the type of animals seen and holds this as important as the percentage of A percepts. Lions and tigers, for example, are considered to represent aggression; the fox and rodent subtle aggression; while cows and sheep represent passivity. Klopfer (31, p. 383) indicates that ascribing arbitrary values to animals is unwise without knowing how the subject views these animals in his own mind.

Color and Suggestibility

"Color is essentially a phenomenon of the surrounding world, of the visible world outside" (43, p. 393). In the color determined percept, the principle assumption is that
it expresses affect as a reaction to the environment which is outwardly expressed (9, p. 12). The intensity of these feelings varies.

From the M and C we know the degree to which feelings play a role in the person's life pattern but we do not yet know what the ideas are which they energize. We know how much the subject contains his wishes and fears in an imagined activity, but we do not know what he wishes for, nor what he fears (9, p. 13).

Rorschach holds that the influence of colors in perception on figures may be taken to represent the extent of emotional excitability and actual excitement. Susceptibility to color must pass a certain threshold, beyond which the color must have a determining effect on the subject's interpretation of the blot. Otherwise Rorschach would assume it is either a lack, bluntness, or blocking of affectivity (43).

Red appears more in the Rorschach than does any other color. It is a color of primitive quality, capable of evoking a response which is impelled, such as fire or blood. It is not a seeking back into the memory for a likeness of the red image, but rather the red seems to force the association. "In color perceptions, the subject need not pay active attention; the color impresses itself upon him (43, p. 405).

In the evocation of a response in persons susceptible to color, the response is practically always an emotional one. The color is felt, although such feelings may be
vague and inarticulate. When the affect is strong, there is no time for deliberation. The thought is usually an afterthought. Forms usually appear in an atmosphere of neutrality, while color gives qualities of "feeling" to the scene, with red inducing the most reactions.

Orange in the Rorschach provokes frequent C responses, but they are not as specific as reactions to red frequently are. Avoidance of all red and reddish color, including orange, and a preference for blue and green, is more significant. These people seem to sense danger and think it better to stay way from it. Rorschach considered this not a natural control but one which required energy, although not necessarily conscious. Preference by the affect controlling group is more easily understood by the nature of blue and green. These are colors which draw one into the distance, the greenish-blue perhaps even more than the blue. It is the color associated with distant mountains or of the sea or sky (43, 39).

Color in the Rorschach is associated with the affectual in the individual's make-up. The greater the amount of color used in the determination of responses, the greater the affectual release apparent in the individual. When good form is associated with the color determinant, the individual is considered to have greater control over his emotions, and then the number of FC determined responses is higher than the total of CF + C determined responses; it is indicative of higher emotional maturity (25).
In the giving of a color response, the subject not only reveals his recognition of emotional pressures from the world about him, but also his ability to react to these in an outgoing fashion. Color denotes an emotional interplay between the individual and his environment. The content and quality of the responses will tend to indicate whether such experiences are reassuring or disturbing to the subject (23, pp. 28-29). The appearance of the color response is, therefore, an indication of the fact that the subject has an awareness of self, as apart from the rest of the world.

A basic tenet of the Rorschach theory is that people are subject to forces from within as well as from without. Color responses help the clinician to assess the relative strengths of the forces and to determine how effectively the individual can deal with these forces. Color responses are indicative of the force from without, while responses in which the individual has projected human movement are revelatory of inner forces (31, p. 349). As the responses grow more and more color dominated, the lability of the individual approaches an uncontrolled state (27).

There has been a large amount of experimentation on the role of color on the Rorschach. Allen (3, pp. 179-180) feels that color has been either overstressed or misunderstood. In a series of experiments using the group version of the Rorschach, an attempt was made to ascertain the true
role of color. The card series was reproduced in an all-
achromatic version, with care taken to approximate as
nearly as possible the appearance of the original series.
The achromatic series tended to produce the indices of
color shock, although color was no longer available (6, 5,
2, 4, 34, 35, 36, 41, 16). Both Perlman and Siipola contend
that the last three cards are more challenging, whether
chromatic or achromatic. Affect may then be aroused by this
difficulty. Schachtel feels the interruption of routine by
the addition of color may cause shock indices. Siipola
agrees that color is affect laden, and that the incongruity
of color and form may be the cause of the delay in reaction
time rather than associative blocking, as Rorschach con-
tended (45). Siipola also holds that an individually
oriented technique for measuring of color influence can be
worked out (46). Wittenborn holds that the implication of
color may be more a function of the size of the area.

Other research tends to uphold the Rorschach thesis on
the significance of color (14, 29, 18, 30). The supportive
studies dealt with the Rorschach administered on an individual
basis.

In a study by Wallen, it was found that unstable men
frequently dislike color cards because the red reminds them
of blood. When given a choice between chromatic and achro-
matic cards, the unstable men preferred the achromatic.
According to Klopfer (31), clinicians who are experienced in the use of the Rorschach tend to cast aside the findings of those studies which decry color, as their own clinical experiences have convinced them of the general usefulness of the color responses. In addition, the hypothesis pertaining to the $FC:(C + CF)$ ratio, has been supported by experimental validation (31, p. 277).

CF and C responses have been found to have a highly similar factorial composition, while FC responses are different (50). FC responses represent ready control over emotional impact without loss of responsiveness. "FC has been found to be one of the most dependable signs of good adjustment" (31, p. 279).

The sum of the C responses compared to the number of M responses and the percentage of responses appearing on the last three cards is an indication of the degree of suggestibility of the subject. His susceptibility to color is indicated in these areas.
CHAPTER BIBLIOGRAPHY


CHAPTER III

PROCEDURE AND ANALYSIS OF DATA

Thirty teachers of grades one, two and three, the primary grades, volunteered to take the Rorschach for the purposes of this study. They were unaware of the indices under examination, having been told merely that a statistical analysis would be made of the responses. All teachers used in the study are currently employed, the years of experience ranging from one to twenty-three years. The mean number of years of teaching experience for the group was 7.6.

Twenty-five of the teachers were tested in the schoolroom either during a break in the school day or within one and one half hours after the dismissal of classes for the day. The other five teachers were tested in their respective homes. Three of the teachers are men. None of the teachers had ever been examined by the Rorschach, and many were unaware of its use.

The records of the thirty teachers were examined for the number of animal responses, and a percentage was obtained for each record. The sum of the C responses, the number of movement responses, the total number of popular responses, and the affective ratio were also obtained.
Comparisons were made between each of these indices and the number of years experience to check for correlations. Fisher's $t$ test was applied to test for significant differences between the performance of the teachers and the normal adult population.

**Analysis of Data**

The percentage of animal responses ranged from 27 per cent to 91 per cent, with a mean of 53.26 per cent. As indicated in Table I, the $A$ per cent for the teachers was found through the use of Fisher's $t$ to approach significance with a $t$ score of 1.8653. No significant correlation was found between the $A$ per cent and the number of years of teaching experience, as indicated by Table II.

**TABLE I**

MEANS AND $t$ SCORES FOR THE TEACHERS AND THE NORMAL ADULT POPULATION

<table>
<thead>
<tr>
<th>Index</th>
<th>Teachers</th>
<th>Normal Adult Population</th>
<th>$t$</th>
</tr>
</thead>
<tbody>
<tr>
<td>$M$</td>
<td>3.53</td>
<td>3.50</td>
<td>.0484</td>
</tr>
<tr>
<td>$C$</td>
<td>5.76</td>
<td>3.11</td>
<td>4.4663*</td>
</tr>
<tr>
<td>$A_3$</td>
<td>53.26</td>
<td>46.87</td>
<td>1.8653**</td>
</tr>
<tr>
<td>$P$</td>
<td>7.10</td>
<td>6.79</td>
<td>.6449</td>
</tr>
<tr>
<td>Af. $r$</td>
<td>.62</td>
<td>.60</td>
<td>.5161</td>
</tr>
</tbody>
</table>

*significant at .001 level
**approaching significance at .05 level

A significant difference was noted between the two groups in relation to the sum of the color nuances. The
teacher group has a mean of 5.76 as compared to a mean of 3.11 in the normal adult population, the resulting $t$ at 4.4663.

Only minimal differences were noted in connection with the number of $P$ responses, $M$ responses, and the affective ratio for the two groups. The least significant difference occurred between the $M$ responses, 3.53 for the teacher group as compared to 3.50 for the normative group, yielding a $t$ score of .0484. Affective ratio and $P$ responses yielded $t$ scores of .5161 and .6449 respectively as indicated in Table II.

TABLE II

SIMPLE CORRELATION COEFFICIENTS FOR VARIABLES WITHIN THE TEACHER PROTOCOLS

<table>
<thead>
<tr>
<th>Variable</th>
<th>Coefficient</th>
</tr>
</thead>
<tbody>
<tr>
<td>Years experience and $M$ responses</td>
<td>-.1237</td>
</tr>
<tr>
<td>Years experience and $C$ responses</td>
<td>.0503</td>
</tr>
<tr>
<td>Years experience and A per cent</td>
<td>-.0743</td>
</tr>
<tr>
<td>Years experience and $P$ responses</td>
<td>.1663</td>
</tr>
<tr>
<td>Years experience and Affective Ratio</td>
<td>-.0095</td>
</tr>
<tr>
<td>$M$ responses and $C$ responses</td>
<td>.4562*</td>
</tr>
<tr>
<td>$M$ responses and A per cent</td>
<td>-.3335**</td>
</tr>
<tr>
<td>$M$ responses and Affective Ratio</td>
<td>.1813</td>
</tr>
<tr>
<td>$C$ responses and A per cent</td>
<td>-.5363*</td>
</tr>
<tr>
<td>$C$ responses and $P$ responses</td>
<td>.3565**</td>
</tr>
<tr>
<td>$C$ responses and Affective Ratio</td>
<td>.2166</td>
</tr>
<tr>
<td>A per cent and $P$ responses</td>
<td>-.0745</td>
</tr>
<tr>
<td>A per cent and Affective Ratio</td>
<td>.0208</td>
</tr>
<tr>
<td>$P$ responses and Affective Ratio</td>
<td>-.1290</td>
</tr>
</tbody>
</table>

*significant at the .01 level.
**significant at the .05 level.
***approaching significance at the .05 level.
No significant correlation was found between the number of years teaching experience and any of the other variables at either the .05 or the .01 level. Negative correlations were evident in three areas when compared with years experience, those of A per cent, M, and Affective ratio; none of which approached significance at either level.

A positive correlation at the .01 level of significance was found between the sum of M and the sum of C, with a coefficient of .4562. Also at the .01 level was the correlation between the sum of M and the P responses, with a coefficient of .5156. At the same time, the comparison of the sum of M to the A per cent approached significant correlation at the .05 level, with a coefficient of -.3335. Significance at the .05 level for a group of thirty stands at .36; at the .01 level at .46.

A significant negative correlation was evidenced at the .01 level between the sum of C and the A per cent with a correlation of -.5363. At the .05 level, sum of C when compared with P responses yielded a coefficient of .3565. No other comparisons yielded significant correlations.

Wide ranges were evident in the raw data obtained from the records, as indicated in Table III. The number of M responses varied from zero to nineteen; the sum of C from one to eighteen; P responses ranged from three to thirteen; and the affective ratio from .24 to 1.12. The data in Table III are shown for each record and ranked according to the number of years teaching experience. A large fluctuation is evident.
<table>
<thead>
<tr>
<th>Years Experience</th>
<th>Total M</th>
<th>Total C</th>
<th>A%</th>
<th>Total P</th>
<th>Affective Ratio</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>0</td>
<td>3.5</td>
<td>53%</td>
<td>6</td>
<td>.25</td>
</tr>
<tr>
<td>1</td>
<td>1</td>
<td>3.5</td>
<td>91%</td>
<td>5</td>
<td>.68</td>
</tr>
<tr>
<td>1</td>
<td>4</td>
<td>1.5</td>
<td>66%</td>
<td>8</td>
<td>.41</td>
</tr>
<tr>
<td>2</td>
<td>1</td>
<td>8</td>
<td>35%</td>
<td>9</td>
<td>.62</td>
</tr>
<tr>
<td>3</td>
<td>4</td>
<td>5</td>
<td>58%</td>
<td>5</td>
<td>.77</td>
</tr>
<tr>
<td>3</td>
<td>11</td>
<td>12.5</td>
<td>46%</td>
<td>8</td>
<td>.79</td>
</tr>
<tr>
<td>3</td>
<td>19</td>
<td>15</td>
<td>36%</td>
<td>13</td>
<td>.85</td>
</tr>
<tr>
<td>3</td>
<td>0</td>
<td>7</td>
<td>44%</td>
<td>5</td>
<td>.56</td>
</tr>
<tr>
<td>3</td>
<td>5</td>
<td>4.5</td>
<td>57%</td>
<td>7</td>
<td>.75</td>
</tr>
<tr>
<td>3 1/2</td>
<td>5</td>
<td>3</td>
<td>53%</td>
<td>9</td>
<td>.60</td>
</tr>
<tr>
<td>4</td>
<td>3</td>
<td>7</td>
<td>27%</td>
<td>3</td>
<td>.75</td>
</tr>
<tr>
<td>4</td>
<td>2</td>
<td>5.5</td>
<td>44%</td>
<td>3</td>
<td>.80</td>
</tr>
<tr>
<td>4</td>
<td>0</td>
<td>1.5</td>
<td>68%</td>
<td>6</td>
<td>.69</td>
</tr>
<tr>
<td>4</td>
<td>0</td>
<td>1</td>
<td>74%</td>
<td>9</td>
<td>.50</td>
</tr>
<tr>
<td>5</td>
<td>8</td>
<td>8</td>
<td>51%</td>
<td>11</td>
<td>.43</td>
</tr>
<tr>
<td>5</td>
<td>1</td>
<td>2.5</td>
<td>66%</td>
<td>7</td>
<td>.50</td>
</tr>
<tr>
<td>6</td>
<td>2</td>
<td>5</td>
<td>46%</td>
<td>7</td>
<td>.44</td>
</tr>
<tr>
<td>7</td>
<td>14</td>
<td>7.5</td>
<td>43%</td>
<td>9</td>
<td>.67</td>
</tr>
<tr>
<td>8</td>
<td>1</td>
<td>2.5</td>
<td>54%</td>
<td>6</td>
<td>.47</td>
</tr>
<tr>
<td>8</td>
<td>2</td>
<td>6.5</td>
<td>30%</td>
<td>4</td>
<td>.92</td>
</tr>
<tr>
<td>10</td>
<td>2</td>
<td>3</td>
<td>79%</td>
<td>4</td>
<td>.95</td>
</tr>
<tr>
<td>10</td>
<td>1</td>
<td>18</td>
<td>50%</td>
<td>8</td>
<td>.77</td>
</tr>
<tr>
<td>12</td>
<td>1</td>
<td>6.5</td>
<td>63%</td>
<td>6</td>
<td>.45</td>
</tr>
<tr>
<td>13</td>
<td>2</td>
<td>3.5</td>
<td>50%</td>
<td>8</td>
<td>.50</td>
</tr>
<tr>
<td>13</td>
<td>1</td>
<td>1</td>
<td>73%</td>
<td>7</td>
<td>.83</td>
</tr>
<tr>
<td>14</td>
<td>4</td>
<td>3</td>
<td>57%</td>
<td>7</td>
<td>.44</td>
</tr>
<tr>
<td>15</td>
<td>2</td>
<td>9</td>
<td>36%</td>
<td>6</td>
<td>.30</td>
</tr>
<tr>
<td>20</td>
<td>6</td>
<td>4</td>
<td>43%</td>
<td>7</td>
<td>.24</td>
</tr>
<tr>
<td>22</td>
<td>3</td>
<td>5</td>
<td>53%</td>
<td>8</td>
<td>1.12</td>
</tr>
<tr>
<td>23</td>
<td>1</td>
<td>9.5</td>
<td>52%</td>
<td>12</td>
<td>.55</td>
</tr>
</tbody>
</table>
Three of the teachers were first year teachers. Each of these records yielded higher A per cents than the norm of 46.87, with scores of 53 per cent, 91 per cent, and 66 per cent. Further investigation of first year primary teachers may reveal a tendency for this group to have a higher mean A per cent than that obtained by teachers with more experience. The abrupt change from the college classroom to the primary classroom may have a causational relationship to the number of animal percepts.
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CHAPTER IV

SUMMARY AND CONCLUSIONS

Individual Rorschach tests were administered to thirty primary grade teachers, three males and twenty-seven females. All subjects were unfamiliar with the Rorschach and were under the impression that a statistical analysis of their responses would be made without emphasis on any specific content areas. Years of teaching experience ranged from one to twenty-three years. Testing took place in the classroom during a break in the school day or immediately after school.

The records were studied to test the following hypotheses:

1. Primary grade teachers will have a significantly higher percentage of animal responses than the normal adult population.

A comparison of the two groups revealed a t score of 1.8653 in relation to the percentage of animal responses. While the score approaches significance, it does not firmly bear out the hypothesis under examination.

2. The teacher group will be significantly higher in suggestibility than the normal adult population, as revealed by the sum of the color responses and the affective ratio.
The results concerning the suggestibility in primary teachers were inconclusive. Application of the $t$ test to the affective ratio and movement responses revealed no significant difference between the two groups. In the sum of the color responses, however, a comparison revealed a $t$ score of 4.4663, a significant difference, with the teacher group having a mean of 5.76 as compared to the normal adult population mean of 3.11. While the sum of $C$ upholds the hypothesis of increased suggestibility in primary teachers, the $M$ and $AF$ are held at the normative level, with means of 3.53, compared to 3.50, and .62, compared to .60, respectively, with $t$ scores of .0484 and .5161.

3. There will not be a significant difference in the number of popular responses in the records of the teacher group as compared to the normal adult population.

Only minimal difference was noted in comparison of $P$ responses for the two groups. The teacher group mean of 7.1, as compared to the normal adult population mean of 6.79, yielded a $t$ score of .6449, thus upholding this hypothesis.

4. The teacher group will have a significantly higher number of movement responses than the normal adult population.

As discussed in relation to hypothesis 2 above, the teacher group mean of 3.53 as compared to 3.50 for the normal adult population yielded a $t$ score of .0484, thus rejecting this hypothesis.
5. The primary teachers will have a significantly higher affective ratio than the normal adult population. The comparison of .62 for the teacher group to .60 in the normal adult population yielded a t of .5161, thus rejecting this hypothesis.

6. The teacher group will have a significantly higher sum of color responses than the normal adult population. The teacher group has a mean of 5.76 in sum of color responses as compared to 3.11, the mean for the normal adult population. The resulting t score of 4.4663 indicates a significant difference and upholds this hypothesis.

7. There will be a significant positive correlation between the number of years teaching experience and the percentage of animal responses in the teacher group. A negative correlation of -.0743 was found between the number of years experience and the A per cent in the teachers' protocols, thereby rejecting this hypothesis.

8. There will be a significant positive correlation between the number of years experience and the affective ratio in the primary teachers. A negative correlation of -.0095 was evidenced in comparison of these variables, thereby rejecting this hypothesis.

9. There will be a significant positive correlation between the sum of movement responses and the sum of color responses of primary teachers.
A significant positive correlation coefficient of .4562 was found between the sum of G and the sum of H. This is significant at the .01 level, thus upholding this hypothesis.

10. There will be a significant positive correlation between the sum of movement responses and the total number of popular responses of the teacher group.

A significant positive correlation of .5161 was found between the sum of movement responses and the total number of popular responses. This correlation is significant at the .01 level, thereby upholding this hypothesis.

11. There will be a significant positive correlation between the sum of color values and the animal per cent of teachers.

A significant negative correlation of -.5363 was evidenced between the sum of color values and animal per cent. This is significant at the .01 level, thereby rejecting this hypothesis.

12. There will be a significant positive correlation between the sum of color values and the total number of popular responses of the teacher group.

A significant positive correlation of .3565 was found between the sum of color values and the total number of popular responses within the teacher group. This is significant at the .05 level, thus upholding this hypothesis.

Further study in the areas of A per cent and suggestibility would be necessary before any definitive conclusions
could be reached. The results of this study tend to support the view that the Rorschach is an interview and its correct evaluation is not only dependent upon its content, but also upon the examiner's global knowledge of his subject (3).

More research is needed to fully validate the Rorschach and bring the use of the instrument to its optimal level of efficiency. More study of perception itself would also be beneficial (2).
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