Rorschach Responses of Nine-Year Old Children

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RORSCHACH RESPONSES
OF
NINE-YEAR OLD CHILDREN

by
Catherine J. Ivis

A Thesis Submitted to the Faculty of the Graduate School
of Loyola University in Partial Fulfillment of
the Requirements for the Degree of
Master of Arts

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# TABLE OF CONTENTS

<table>
<thead>
<tr>
<th>CHAPTER</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>I. INTRODUCTION</td>
<td>1</td>
</tr>
<tr>
<td>Statement of the problem</td>
<td></td>
</tr>
<tr>
<td>II. REVIEW OF RELATED LITERATURE</td>
<td>4</td>
</tr>
<tr>
<td>III. PROCEDURE</td>
<td>32</td>
</tr>
<tr>
<td>Selection and description of subjects--</td>
<td></td>
</tr>
<tr>
<td>Description of the Rorschach--Administrative procedures--Description of scoring symbols--</td>
<td></td>
</tr>
<tr>
<td>Method of analysis</td>
<td></td>
</tr>
<tr>
<td>IV. RESULTS OF THE STUDY</td>
<td>44</td>
</tr>
<tr>
<td>Statistical analysis of Rorschach variables--</td>
<td></td>
</tr>
<tr>
<td>Analysis of sex differences--Comparison of data with other studies in the literature</td>
<td></td>
</tr>
<tr>
<td>V. SUMMARY AND CONCLUSIONS</td>
<td>76</td>
</tr>
<tr>
<td>BIBLIOGRAPHY</td>
<td>31</td>
</tr>
<tr>
<td>APPENDIX</td>
<td>34</td>
</tr>
</tbody>
</table>

Sample Rorschach Records
**LIST OF TABLES**

<table>
<thead>
<tr>
<th>Table</th>
<th>Description</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>I.</td>
<td>AGE, INTELLIGENCE, BEHAVIOR RATING AND PERSONALITY TEST DATA FOR THE FORTY-SEVEN NINE YEAR OLD CHILDREN IN THE PRESENT STUDY</td>
<td>33</td>
</tr>
<tr>
<td>II.</td>
<td>RORSCHACH TEST CHARACTERISTICS OF FORTY-SEVEN NINE YEAR OLD CHILDREN</td>
<td>45</td>
</tr>
<tr>
<td>III.</td>
<td>MEANS AND STANDARD DEVIATIONS OF NINE YEAR OLD BOYS AND GIRLS CONTRASTED FOR RORSCHACH VARIABLES</td>
<td>66</td>
</tr>
<tr>
<td>IV.</td>
<td>MEAN AND MEDIAN SCORES FOR THE MAJOR VARIABLES OF THE PRESENT GROUP AS COMPARED TO AMES NINE YEAR OLD GROUP</td>
<td>70</td>
</tr>
<tr>
<td>V.</td>
<td>A COMPARISON IN TERMS OF PERCENTAGES OF VARIOUS RORSCHACH CATEGORIES OF EIGHT YEAR OLD AND NINE YEAR OLD CHILDREN</td>
<td>74</td>
</tr>
</tbody>
</table>
CHAPTER I

INTRODUCTION

Since its introduction, the Rorschach test has been widely used and accepted as an instrument for revealing the personality structure of adults. It supplies the clinician with an understanding of an individual's way of responding to his experiences, the amount of affective energy at his disposal, and his methods of handling emotional stimuli. The Rorschach also gives indication of the inner resources available for fantasy activity and creative productivity. The individual's mental approach to problems and new situations is revealed. The Rorschach results will also give clues to areas of maladjustment, and the emotional and intellectual resources upon which the individual can draw in solving his problems.

Needless to say, clinical interpretations will depend largely on a wide knowledge of the normal or average person's reaction to the test. The normal approach and expectancies have been established for work with adults. However, in work with children we are on less sure ground. A child's reactions to the test, as to all other experiences, will not be identical to that of the adult. Even when children give the same responses as
adults, the meaning or significance may very well differ. Nevertheless, the Rorschach has been used with children, with investigators applying adult procedures, scoring and interpretations in the absence of other standards.

The need for developmental and age norms for children has been frequently pointed out in the literature. Results from the early studies on children could not be generally applied because of small, poorly controlled samples. The studies which have appeared more recently have been better controlled and have been based on larger samples; as a result, they give us a clearer picture of the Rorschach responses of the entire childhood period. However, the children studied have been of higher than average or superior intelligence. Few studies have been restricted to the child of only average mental ability. Since many Rorschach factors seem to be influenced by, or to reflect, mental maturity, it is felt that results of studies based on the exceptional child cannot be indiscriminantly applied to the average child.

The purpose of this study is to set up tentative norms for nine year old children of average intelligence. Much care has been taken to control those factors which would distort the purpose of the study. The intelligence range has been restricted to normal limits, and an attempt has been made to exclude children with serious behavior or personality problems. It is also
intended that the responses of this group be compared with other Rorschach studies of school age children which have appeared in the literature.

The greatest value of such norms will be in evaluating an individual's record in relation to group expectancies. Only in this way can age or developmental characteristics be distinguished from individual personality traits.
CHAPTER II

REVIEW OF RELATED LITERATURE

Currently available literature on the Rorschach technique and its uses is voluminous. Clinical research includes studies of neurotics, individuals suffering from psychosomatic or physical illnesses, schizophrenics, paranoids, depressives and manics, delinquents and organics. The Rorschach has also been studied in relation to intelligence, namely with mental defectives, normals (particularly as controls in other studies), and with those of superior intelligence. Its use with regard to educational and vocational guidance has also been considered. Rorschach results have also been compared to other tests and psychological techniques.

This chapter will attempt to review and evaluate normative studies dealing with children. Until very recently those studies which dealt with children were largely exploratory and tentative.

In 1941, Hertz (13) criticized the then available research with children. From this research she concluded that the Rorschach had not been established as reliable for children under ten. She also felt the lack of norms for D, F+, P and O for
children under ten presented a decided shortcoming to its usefulness. Concerning the use with children of norms established for other age groups, she remarks, "It is obvious that what is normal or abnormal for the adult is not normal or abnormal for the child. Thus, one cannot find "abnormal" indications in the records of children, until one has a standard of normality for the group of like age." (13, p. 154) The then existing norms were criticized for their small, poorly defined populations, and the frequent failure to indicate variability or test procedure.

Some of the early research with children was summarized in 1938 by Davidson and Klopfer (16). At that time the authors expressed an awareness of the inherent shortcomings involved in comparing data from various sources. Lack of essential agreement on scoring, differences in administrative procedures, make norms derived from such comparisons of doubtful value. Nevertheless, they attempt to set up norms for children from five to fifteen from the data of these various studies. The number of cases were uniformly small and gaps between ages were evident. On the basis of these studies, Davidson and Klopfer indicate that the expected total number of responses will range from 19 to 46, with an average response total of 30, which the authors hold is comparable to adult expectancies. They also indicated that the number of whole responses increased with age, and that space responses were infrequent at all ages. The percentage of good form
responses ranged from 65 to 80. They noted much variability with regard to movement responses, but, in general, an increasing trend was evident. Pure color responses tended to decrease with age. A balance was noted between form-color and color-form responses, except in older groups where form-color exceeded color-form, as is expected with adults. Conclusions based on such divergent studies are of little value, aside from the broad generalizations which they offer.

Another early study by Klopfer (22) attempts to point out personality differences between boys and girls. Systematic studies with three, five, and seven year old children indicated that girls as a group react earlier to external emotional stimuli giving more color responses than do boys; they also indicated that the mature form-color responses are given earlier by girls.

In an attempt to assess the individual personality characteristics of very young children, Klopfer and Margulies (23) studied the Rorschach records of 155 children between two and seven years of age. These children were of above average to superior intelligence. The authors found, in contradiction to other studies of young preschool children, that an immediate inquiry was not necessary. They found that the mean number of responses increased rapidly with age, from two years where an average of eight responses are given, to five and six years where the total rose to eighteen. The tendency of very young children to
use only whole responses decreased with age. Although the percentage of children using human movement responses increased with age, its use was still infrequent with the average pre-school child. They concluded that below eight years of age, human movement responses are to be found only in superior children. Animal movement responses showed a proportionate increase, exceeding human movement at all levels. The authors regarded this as confirmation of their theory that FM represents instinctual drives. Minor movement and shading reactions occurred irregularly and could not be assumed to represent any special significance in early childhood. Pure color responses decreased with age, the other color factors showed no consistent trends.

In 1941, Paulsen (26) published an extensive study of first grade school children. The records of eighty-two children ranging in age from 5-11 to 6-10 were studied. Intelligence followed the normal curve, with IQ's ranging from 69 to 129. All but 28 per cent gave some color response, with color-form responses occurring most frequently. She found girls at this age to be slightly more extravertive than boys. Fifty-eight per cent of the boys at this level give at least one human movement response, while only 38 per cent of the girls give such responses.

In her discussion of results, Paulsen brings out an important point often stressed in early applications of the Rorschach with children, namely the high incidence of pathological
indications; or signs of abnormality. She found:

About half of the Rorschachs on these six-year-old children seemed in some degree pathological. It is obvious from this, that many of the signs which in older children would be indicative of disturbance, occur too frequently to be so regarded at the age of six. Confabulation, stereotypy, vague form perception, absence of M, or of C, explosive color reaction, are quite common at this age. A combination of these signs, however, does seem diagnostically significant. (26, p. 29)

General trends evident from Paulson's study are: the prevalence of the extratensive experience balance at the six-year level; the tendency for boys to give more movement responses, and for girls to give more color responses, despite much overlapping; and the tendency for boys to give more whole responses, and girls to give more large and small detail responses.

In reporting on a projected long range Rorschach study of the elementary school age child, Ledwith (24) discusses her results with six year olds. One hundred and sixty children between 6-6 and 6-10, with a mean IQ of 105.5 gave an average of fifteen responses. Their approach showed the emphasis on whole responses characteristic of young children. Sixty-two per cent of the children used human movement responses; the mean M was 1.2. Animal movement responses, of course, exceeded the human movement responses. Minor movement responses were infrequent, as were shading responses. Some color response was given by 93 per cent of group, with CF and C exceeding FC responses. The percentage of form responses was much lower than is usually reported
for young children (below 50 per cent). The Erlebnistyp was weighted on the extratensive side, but a latent potential for introversiveness was noted.

The intellectual aspects of personality development were investigated by Kay and Vorhaus (21). The Rorschach records of 131 children from two through six years were studied. The response total, large and small details, and whole responses increased steadily up to six years. Rejections decreased with age. The mean number of populars, as well as the percentage of children using popular responses increased with age. The percentage of organized wholes increased, whereas outline wholes decreased over this age period. The quality of the whole responses also increased.

A continuation of this study takes up the similarities between pre-school children and adults in their choice of location and their use of popular responses on the Rorschach (30). Vorhaus found that children use adult populars, in addition to populars peculiar to their age group. The use of details by young children depended largely upon the ease with which they could be segregated from the total blot.

The first real advance in the study of children's Rorschachs came with Ford's study (11). It was her aim to refine and simplify administrative procedures so that they would be more meaningful to young children; to relate determinants to chrono-
logical age with a view to establishing norms; and to study the reliability and validity of the test with young children. Modifications in administration included the use of a trial blot preceding the test proper, and restriction of card rotation. In regard to scoring procedures, Ford continued to use adult norms, as previous workers had done, since adequate age norms were not available for young children.

The population for Ford's study consisted of 123 children ranging in age from three to eight years. Individual intelligence test scores were available for each child; the IQ range was 90 to 157, with a mean IQ of 124.35. The socio-economic level of the group was above-average.

It was found that the number of responses, details, form, accurate form, and the percentages of movement, form and original responses showed a marked increase with chronological age. The percentage of whole responses, form responses, and the number of card rejections were found to decrease with increasing age. In regard to movement factors, both human and animal movement increased with age, the latter exceeding the former at all age levels. There proved to be an increase of all color factors with age. The observed developmental aspects of color responses tended to support Rorschach color theory. The major content categories were animal, nature, and human, with an increase in human responses occurring between five and seven years.
With regard to sex differences, Ford found no significant differences in the mean numbers of the variables; the variation within groups being greater than that between groups. She does note that pre-school girls give color responses earlier than do the boys; the pre-school boys, in turn, tend to give movement responses earlier than do the girls.

In regard to test validity with children, Ford investigated the claimed relationship between certain Rorschach variables and intellectual level. No relationship between the use of whole responses and intellectual level was found; the relationship between intelligence and animal content was also questioned. However, movement responses, the sum of color responses, and the percentage of good form and original responses showed some agreement with Rorschach claims. A good relationship was observed between intelligence level and response total, objects and organizational links.

The experience balance showed an increase in the percentage of children with introversive trends with increasing age. There was also a good correspondence between the ratio of movement and color responses and a scale measuring introversion and extraversion. Teachers' ratings of emotional adjustment and Rorschach color responses had a correlation of .50.

In conclusion, Ford asserted that the Rorschach is applicable to children three years of age and older. She found
that children tend to utilize the same responses as adults, but not to the same extent. Reliability was comparable to that found in studies with adults. Interpretative validity was partially substantiated, with certain modifications in interpretation being suggested, namely that children's whole responses are not related to intelligence, that popular responses are not related to social conformity, and that the percentage of form responses is not necessarily related to constriction.

Kerr (32) attempted a similar study to Ford's, with Negro children. Sixty Negro children, from three to nine years comprised the study group. An IQ range of 33 to 119, with a mean IQ of 103.2 was reported. Adult norms and scoring procedures were followed, although instructions were simplified and an immediate inquiry was conducted. In his group the total responses did not increase progressively with chronological age. The quality of whole and form responses improved markedly with age. Human movement responses increased with age, but were exceeded at all levels by animal movement. Color-form responses were used more frequently than form-color responses; in fact no form-color responses were elicited before five years. The author concluded that the results with Negro children were essentially similar to those with white children.

The most complete normative study to date has been that of Ames, Learned, Metraux and Walker (1). This study has been an
outgrowth of the developmental research of the Gesell Institute. Fifty Rorschach records at half-yearly levels from two to five and a half years, and at yearly levels from six to ten years were analyzed. Each group is relatively homogeneous, with socio-economic level being above average, and intelligence being high average or superior. An attempt to isolate characteristic age patterns, "two-year oldness", "seven-year oldness", was made.

Administrative techniques were simplified. Immediate inquiry was conducted with the pre-school children; the standard adult procedure for inquiry was followed with the school age children. The scoring system adopted was that of Locelli-Usteri. The main difference between this and Klopfer's system of scoring is the scoring of shading. The scoring of usual details, good form and popular responses was statistically determined for the group.

The results at each age level are statistically analyzed in terms of the mean scores, median, quartile, and range for the different variables. The percentage of children using chief determinants one or more times is also presented.

An over-all summary of Ames' results with regard to the use of location areas, indicates the prevalence of the whole responses. At every age level, except nine years, fifty per cent or more of the total are whole responses. The large detail responses range from 33 per cent of the total at four and a half
years to 43 per cent of the total at nine years. The high point for rare details is at six years, when 15 per cent of the total are unusual or rare details.

Human movement responses, minimal at two years, show a steady increase through ten years of age. An increasing percentage of children use these responses; at two years only 7.5 per cent of the children give human movement responses, while at ten years 70 per cent of the children give human movement responses. Animal movement responses show the same steady increase, and at every age they exceed human movement responses in number. Inanimate movement was variable, never averaging more than one response per subject. The high point for minor movement was at seven years, when 38 per cent of the children use this response, giving a mean of .32.

The sum of color responses increases steadily through seven years of age, and then begins to level off. Only at two years do pure color responses dominate. Color-form responses predominate thereafter. An over-all trend shows a steady increase for form-color, with a gradual decrease of color-form and color responses.

Ames found that shading responses occurred infrequently, except at the seven-year level, where an average of 1.14 shading responses were found. The percentage of animal responses decreases slightly, though irregularly from 55 per cent at two
years to 49 per cent at ten years. The percentage of human responses shows an increase from 3 per cent at two years to 16 per cent at ten years.

At every age the percentage of form responses remains above fifty, although there is a slight decrease with age. Card refusals decreased, and the percentage of popular responses increased steadily with age.

Sex differences were minimal and inconsistent. Ames indicates that, in general, the boys are more responsive throughout the entire period. They also give slightly larger percentages of whole responses, while the girls give more responses to rare details. Boys tended to give slightly more human movement responses. Inanimate movement responses occurred much more frequently in the records of boys. It was found that the girls give more adaptive color responses, although the sum of color responses tended to be higher for the boys. Sex differences with respect to shading were minimal, but when they did occur, it was the boys who exceeded the girls in their use. A corollary of the boy's greater responsiveness to other determinants is found in the higher form percentages of the girls.

The responses of Ames' nine-year old group will be brought out in greater detail in chapter IV, where they will be compared with the findings of the present study.

A normative study of eight-year old children has been
published recently by Carlson (14). One hundred eight-year old children of average socio-economic status and of average intelligence were tested. The mean age for fifty boys was 3-10, and for fifty girls 3-8. Administration followed Klopfer's procedures, although encouragement for more than one response on the first two cards was given when necessary, and the testing of limits was omitted. Mean percentages and standard deviations were computed for the group.

Carlson found that whole responses exceeded adult expectancies, but other location categories fell within the average range for adults. The response total for the group was 20.13. As regards determinants, F+ was not scored because of inadequate experience of what can be expected at children's level. The percentage of form responses was high, with 60 per cent of the responses being determined by form alone. Animal movement responses exceeded human movement responses; form-color responses and color-form responses approach equality. Animal content responses comprised 53 per cent of the total. In addition to Klopfer's populars, group populars were computed.

Carlson was very cautious about making conclusions because of the extreme variability of responses. The deviations from adult norms which occurred, she felt would be normally expected from eight-year old children.

A study by Thetford, Molish and Beck (29) attempts to
isolate the developmental aspects of personality structure of normal children from six to eighteen years. One hundred and fifty five children of normal intelligence were given the Rorschach test. The data was subdivided into three groups by the authors to represent the major developmental stages of growth in the child. The middle childhood period included children from six through nine years; the prepubescent period covered the period from ten through thirteen years; and, the adolescent period was considered to range from fourteen through seventeen years. Beck's system of scoring was used.

Within the intellectual sphere, a progressive increase in productivity or total responses was noted. The mean response total for the total group was 27.15, and for the six through nine year period, 21.93. Z or organizational energy, which Beck considers representative of intellectual drive, showed a similar increase with age. The F+ per cent, or the individual's reality construction was highest in the prepubescent, or ten through thirteen year period. The authors interpret this as a trend toward constriction in this group.

The mean whole percentage for the entire group was 12.55, with no significant differences between groups. The mean detail percentage was 74.25. Neither the usual detail nor the unusual detail categories showed any differences between the three groups. Mental approach for the three groups, as compared
with adult standards, shows a decided underemphasis on the whole response and a corresponding overemphasis on the detail response. These results differ markedly from other studies of the mental approach of children, adolescents and adults.

The mean percentage of animal content for the group was 45.95. It was highest in the middle group, again pointing to constrictive trends in the pre-pubescent period. The authors also point out that the mean Hd is greater than the mean H for this group, a finding which is contrary to results with normal adults. It is interesting to note that Ames (1) finds similar results in the nine-year old group. The mean number of popular responses was 4.54; a progressive increase with age was noted.

In the affective sphere, the writers found a decrease in impulsive, labile expression from the youngest to the middle group. Consequently, constriction was more evident in this middle group. This was followed by an increase in affective response (except for pure color responses) for the adolescent group. Of the color responses, form-color predominated at the two early periods, whereas color-form, indicative of greater affective lability, was most prevalent in the adolescent records.

Vista responses indicated that the self-appraisal tendencies were greatest in the adolescent group.

Concerning fantasy responses, human movement responses showed a progressive increase with age, with the adolescent group
producing three times as much human movement as either of the younger groups. The experience balance showed a constricted ratio for the prepubescent group.

In summary, Thetford, Kolish and Beck find the normal child shows a progressive increase in the amount of energy at his disposal to meet the demands of his environment. His ability to organize in a meaningful manner increases with age and is most pronounced in the adolescent years. The method of approach remains constant during this period. The amount of affective energy remains constant, but quantitatively is greatest during the adolescent period. At this time emotional lability is greater than during earlier stages of development. Fantasy living "becomes more personalized and autistic during the adolescent" period. The period immediately preceding adolescence appears markedly constricted.

In the same vein, Rabin and Beck (27) report on the genetic aspects of certain Rorschach variables. Their study was based on 131 normal, white, non-delinquent children ranging in age from six through thirteen years. An IQ range of 87 to 115, and a mean IQ of 103.1 is reported. Throughout this period the mental approach remains stable, and in comparison with adults the approach shows an underemphasis on whole responses, with an overemphasis on usual and unusual details. The authors account for this by saying these age groups have not yet attained the
generalizing capacity necessary to produce a higher whole per-
cent. The number of responses, populars, and the percentage of
good form responses increased with age. Affectivity decreased,
particularly the primitive (pure color) affect. Inner life
remained fairly constant with some increase after puberty. The
extratensive experience balance shows a decline with increasing
age.

A recent book by Halpern (7), though interpretative in
orientation, gives us some indication of what to expect from
children's records. The major portions of the book are concerned
with the Rorschach protocols and their interpretations, of both
well adjusted and poorly adjusted or disturbed children. The
author explains that the interpretations offered are based on the
experience of interpreting "literally thousands' of children's
Rorschach protocols."

Halpern recognizes the value of normative studies in
shedding light on the developing or "unfolding personality." How-
ever, she cautions that they be interpreted "in terms of
developmental factors and dynamic functioning" (7, p. 2). The
relation of Rorschach responses to the three periods of growth,
the two and a half to four year old child, the four and a half
to six year old child, and the six to ten year old child is
discussed. Outstanding in the early period is the inability of
the child to make discriminatory or objective judgments; in the
second period there is an emphasis on reality concepts, the finding of the self, and the internalization of concepts; the school age child is acquiring greater experience and increasing capacity for making adjustments.

In discussing the significance of various test factors Halpern (7, p. 22) holds that the mental approach is roughly in accord with the W:D ratio found in adults, somewhere between eight and ten years of age. Before that the tendency is to emphasize the whole response; the younger child lacks the necessary powers to make fine discriminations, so he deals with life experiences in an all-encompassing manner.

She also points out that with adults the form response is a formal one, involving objectivity and control. This does not hold for very young children who give a large number of form responses. Obviously, young children are not capable of the highly intellectual, nonemotional reaction which form responses generally indicate. The high form percentages are explained by the young child's fusion of reality and subjectivity. The poor quality of these form responses of young children is usually a result of the child's limited contact with the world. Halpern (7, p. 25) notes that the F+ percentage rises to about 70 per cent at about four or five years, and that by the time the child reaches school age, the accuracy of form concepts compares favorably with that of adults, with F+ per cent being as high as 30
per cent or better.

With regard to movement responses, she states, "The introduction of the human movement response marks the beginning of the child's identification with adult concepts, outlooks and attitudes. Until prepuberty there is relatively little of this as compared with his more immature perception of himself and his role." (7, p. 27) She holds that animal movement responses may be more representative of the child's feelings than that of the adult, and are usually more numerous until prepuberty or early puberty. In this regard, Halpern points out that many human movement responses in younger children's records is a sign of precocity, which may be healthy or unhealthy. Forced maturity, before a child's time, may be a destructive rather than a constructive factor in his development.

As to the developmental aspects of color responses, she has noted that "Between four and five the pure color answers become fewer and, from that time well into prepuberty, the CF responses are most numerous." (7, p. 29) She feels that true FC responses require a real capacity for feeling with and for others, and this rarely comes before the prepuberty period.

She found shading responses infrequent, even in the school age children, and concluded that most children under ten lack "the sensitivity necessary to perceive and respond to nuances of shading." (7, p. 31) When younger children do react
to the shading, it is considered a reflection of special needs and problems. Response to achromatic colors, particularly black, occurs frequently with young children, but she believes, normally levels off after six years.

The experience balance, she feels, is bound to show an emphasis on extraversion with children. Haltorn suggests that all movement responses (M, FM and m) be considered in relation to all color responses (both chromatic and achromatic). Such a procedure would give a clearer indication of the relative strengths of inner and outer pressures, in her opinion.

In describing the personality pattern of the school age child, she emphasized the child's grasp of objective reality, his ability to deal with experience on a fantasy level or in outside contacts, and his considerable intellectual and emotional control. In general terms, these traits are shown on the Rorschach by increased form accuracy, a shift from whole to detail responses until the mental approach approximates that found in adults, by an increase in color and movement responses, and in the appearance of adult popular responses. (7, p. 72)

More specifically, the well-adjusted school age child is described as being reality conscious, possessing good control shown in an $F+%$ of 80 per cent or better. They have sufficient resources to produce CF, FC, FM and M responses; as a result $F%$ is kept below 60. Emotional disorganization is rare; and by ten
the FC responses should equal or exceed the CF responses. Active inner life is shown by the FM responses which prevail through most of this period; M gradually increases until it equals or exceeds FM toward the end of this period. With the onset of prepuberty, at nine or ten years, a strong introversive tendency is apparent. (7, pp. 79-80)

Several other studies, though not primarily normative in design, add to our knowledge of the Rorschach reactions of children. Stravianos (28) investigated sex differences of school age children with the Rorschach. She found that both boys and girls in the youngest group (five to seven) overemphasized vague, undifferentiated wholes. The girls lose this tendency earlier, giving more detail responses than boys at all levels. The older boys gave whole responses of higher quality, while the girls gave more good, elaborated detail responses. At the youngest age level, it was found that more girls than boys gave movement responses. Girls from seven to nine showed more impulsive, uncontrolled emotional reactions. Mature color responses were more frequent in the boys records.

Gair (17) conducted a study of superior seven-year old children. She found that in both location and determinants, the seven year old group showed greater maturity than older children of normal intelligence. The seven-year olds also used more content categories, and had a higher percentage of human content.
The response total of 15.1 was considered to be above the expectancy for the chronological age. She also felt that greater maturity was shown in the percentage of form responses (41 per cent F), human movement (10 per cent M), and form-color (9 per cent FC). An increase in CF (8 per cent) emphasized the fact that emotional development of superior children does not always keep pace with intellectual development. Gair felt that the group as a whole was well-adjusted.

Another Rorschach study of superior children is that of Davidson (10). The Rorschach, among other psychological tests, was chosen to investigate the relationship between personality and socio-economic level. The group consisted of 102 children, ranging in age from nine to fourteen, and with IQ's ranging from 120 to 200. In comparing the mean Rorschach results for this group with a randomly selected group of adolescents, it was found that the bright, younger group tended to be more introverted, and to have a richer inner life than that of the average, normal adult or adolescent. Emotional and intellectual reactions showed sufficient control, while maintaining spontaneity. The young group was tactful, and able to recognize their problems. They were responsive to outside stimuli, but more often egotistical and impulsive than social in their reactions. They tended to be intellectually ambitious, and had the capacity for abstract thinking. Evidences of childishness and immaturity were present
but not marked. Although there were wide variations within the group, the group as a whole was superior in many respects to normal adults and adolescents.

Guppy (31) investigated the responses of feebleminded girls and attempted to relate their responses to those given by younger children of the same mental age level. He found that the feebleminded group gave fewer responses than do normal children. The majority of their responses were form determined, and many of these were of inferior quality. He felt that they lacked the mental maturity necessary to produce good form. Their mental approach emphasized the usual detail. The uncontrolled, pure color responses exceeded the more mature FC and GF responses. All movement responses occurred with less frequency than among normal children. Qualitatively, perseveration, arbitrary responses and personal references were characteristic of the group.

With regard to particular factors revealed by the Rorschach method, Hertz and Ebert (20) studied the mental approach of six and eight year old children. The location and mental approach of 242 six year old and 203 eight year old children were studied. The normal details for each group were statistically determined for each card. It was found that the six year old children give more whole than detail responses for all cards; whereas the eight year olds give more detail than whole responses for cards VIII, IX, and X. The mean number of re-
responses for the six year olds was twenty-two, and twenty-seven for the eight year olds. In agreement with other studies with children, it was observed that the whole responses tended to decrease, while the detail responses increased with age. The approach of the six-year olds emphasized 4%, whereas the approach of the eight year old children falls within the range for adults. In explanation, Hertz states, "Children six years of age are prone to view wholes or large sub wholes in a broad, general manner without analysis or concentration on the many specific parts constituting the whole." (20, p. 21) Their reactions tend to be free, easy and natural, resulting in many crude, vague and inaccurate forms. The eight year olds have an increased tendency to analyze the whole into parts, with considerable increase in form accuracy as well, and a more flexible approach.

Compared to adults and adolescents, Hertz concludes, "the characteristic manner of approaching objective situations changes little after eight years of age." (20, p. 22) The differences which do occur are qualitative, rather than quantitative.

With regard to movement responses, Levi and Kraemer (25) studied the Rorschach records of Child Guidance cases to determine the significance of the overproduction of human movement responses of children under ten. Records of forty-five children ranging in age from four to ten, and in IQ from 90 to
122 were analyzed. Four or more M in a record was considered overproduction. Five children of the larger group gave from four to thirteen M, with a mean M of six. Other characteristics of the records were that FM was consistently lower, the M were characteristically passive or blocked, and the experience balance was weighted on the introversive side.

Common factors of this group with excessive M were:
attention getting behavior and temper tantrums; a lack of drive to achieve; inability to conform at school; poor adjustment with other children; sexual trauma; and rejection by one or more parents, with the mother being over protective.

Since M is interpretatively related to maturity, it seemed evident to the authors, that "these children were forced to more mature behavior which was not compatible with their emotional level of integration. Their parents were probably unaccepting of their childish modes of behavior at the appropriate chronological age and they were forced to act more maturely without having really developed the necessary emotional resources for doing this." (25, p. 363)

Although the number of cases in the study is small, the results point to the need for children's norms and an appropriate frame of reference for interpretation.

Summarizing the available literature on the Rorschach responses of school age children, we can ascertain certain broad
trends evident in children's records.

With regard to the total number of responses, a general increase with chronological age is noted. Differences in results seem to be related to scoring and administrative procedures adopted by the different investigators. Ames and Halpern suggest that the mean number of responses for school children will be between fifteen and eighteen. A slightly higher response total is found by investigators using the Klopfer techniques. Klopfer and Margulies report eighteen responses at six years; Carlson reports twenty-two responses at eight years; Hertz finds twenty-two and twenty-seven responses at six years and at eight years. Studies using Beck's methods indicate that the number of responses is in the low twenties for children under ten.

The majority of investigators find that the vague, whole response is characteristic of the mental approach of young children. Ames reports a high W% for the entire childhood period. Ford, Hertz, Carlson, and Halpern indicate that the whole responses decrease with increasing age and they note that about eight years the mental approach is similar to that found with adults. Those studies using Beck's techniques report a reversal of these trends with details predominant and whole responses less frequent.

There seems to be agreement that both animal and human movement responses increase with age. Throughout the childhood
period, animal movement exceeds human movement, and appears to be the more natural way for children to express their inner needs and clothe their fantasy responses.

Halpern notes that CF is the prevalent color response before puberty. Ford and Ames' studies show agreement with this finding. Carlson notes an equality of FC and CF at eight years. Ames finds that the sum of color responses increases steadily up to seven years and then begins to drop off. This appears to be a function of the decrease in the heavily weighted pure color responses, which all investigators agree decrease with age.

Paulson, Thetford, Halpern, Carlson and Ames note that the experience balance is strongly extraversional during these years, but there is a potentiality for introversioness which appears with puberty.

Shading factors, according to all investigators, are too infrequent to warrant much significance in the childhood period.

Ford, Ames, Carlson and Halpern seem to agree that the F% will be near 60 per cent, although Halpern suggests that it should decrease toward the end of late childhood. However, Ledwith in a study of six year olds reports an F% below fifty and comparable with adult findings. It is generally accepted that the accuracy of form increases with age; Halpern suggests that it should be comparable to that of adults by eight or nine years.
The number of content categories increases with age, although the percentage of animal content remains around 50 per cent during the whole childhood period. The percentage of human responses increases with age. There is also agreement that the use of adult populars increases with age, as the child's experience increases.
The subjects for this study were nine year old children drawn from the third and fourth grades of three Catholic Parochial schools. Because of the normative nature of the study, intelligence and adjustment factors were considered in the selection of subjects, so that exceptional children, either mentally or behaviorally, would be excluded.

The intelligence range was restricted to the average; children with IQ's from 90 to 110, as measured by the Pintner General Abilities tests were included. Nine year old children meeting the intelligence criterion were then rated by their classroom teachers on the Haggerty-olson-Wickham rating scale. The California Test of Personality was also administered to these children. Eighty-seven children received these initial tests. Only forty-seven of this group met all the criteria; they comprise the population of this study.

This group included twenty-three boys, fourteen fourth graders and nine third graders; and twenty-four girls, eighteen fourth graders and six third graders. The mean age of the entire group is 112.72 months (SD 3.02), or 9.39 years. The mean IQ for
<table>
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<tr>
<th></th>
<th>Boys (N 23)</th>
<th>Girls (N 24)</th>
<th>Total (N 47)</th>
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<th>F†</th>
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*With 45 df a t of 2.02 would be significant at the .05 level of confidence, a t of 2.69 would be significant at the .01 level.

†With 22 and 23 df an F must reach 2.02 to be significant at the .05 level of confidence.

‡The elementary form of the test was administered to 32 fourth grade children, 14 boys and 18 girls. The primary form was administered to 15 third grade children, 9 boys and 6 girls.
the group is 103.46, with a standard deviation of 5.40. There were no statistically significant differences between the boys and girls for either the mean age or the mean IQ.

Different forms of the Pintner General Ability Tests had been previously administered in the three schools. Since the forms were comparable, the data on intelligence are obtained from the school records.

The exclusion of those children with personality or behavior problems was more difficult, but still necessary because the Rorschach records of such children might be expected to deviate significantly from those of normal children. A child may have personality problems not obvious to their teachers or other school authorities. The tendency of teachers to regard the noisy, mischievous child as a serious problem, and to ignore or praise the submissive, withdrawn child who creates no disciplinary problem, is well known.

As a measure of adjustment each child was rated by their classroom teacher on the Haggerty-Olson-Wickham Behavior Rating Schedules.\(^1\) Manifest problem behavior, ranging from dis-

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1 The test manual indicates the following standardization data. Reliability is indicated by an r of .86 for Schedule B through repeated ratings by the same teacher, and an r of .92 for single ratings. Validity is claimed by a correlation of .60 between Schedule A and Schedule B ratings. Another study indicated that 50 per cent of a group of child guidance cases had behavior ratings falling in the highest 10 per cent of the school population. Normative data are based on the ratings of 2163
interest in school, defiance to discipline, lying, to temper outbursts, is recorded as to frequency of occurrence. The test is so constructed that high scores would be indicative of numerous and serious problems, while low scores would indicate fewer and less serious problems. The children are also given a problem tendency score, which is based on ratings of intellectual, physical, social and emotional traits.

In the standardization of the original scale (13), it was observed that boys consistently received higher, less desirable scores than the girls. This fact is perhaps explained by the teacher's emphasis on aggressive behavior. Percentile scores have been computed which equate these differences.

It was arbitrarily decided that only children with percentile scores below 75 on both scales would be included. The mean percentile score for boys on the Behavior Problem Scale was 33.42, with a standard deviation of 21.44. The mean percentile score for the girls on this scale was 33.67, with a standard deviation of 13.01. On the Problem Tendency Scale, the boys received a mean percentile score of 36.39, with a standard deviation of 21.11. The mean percentile score for the girls was 34.92, with a standard deviation of 14.72. There were no significant differences for these two scales between boys and girls.

Children for Schedule A and 2367 children for Schedule B. The normative groups were not described.
To supplement the teacher's ratings, and to compensate to some extent for their limitations, the California Test of Personality was administered to the children. The primary series was administered to the third grade children, and the elementary series to the fourth grade children. The test purports to measure self and social adjustment. Although some attempt is made to disguise the purpose of the questions, the socially acceptable answer is still often apparent to the discerning or suspicious child. For this reason, as with all personality questionnaires, the results depend to a large extent on the subject's willingness to reveal his true feelings. Instructions to the children were geared to gain their cooperation; it was emphasized that the test would not affect their grades in any way, nor would their answers be shown to the teachers.

On the California test, it was arbitrarily decided that children with total adjustment scores of 25 per cent or lower would be excluded. The mean total adjustment score for the

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2 Reliability studies for the elementary and primary forms were based on 334 and 237 cases respectively. Reliability coefficients of .93 for Total Adjustment, .88 for self adjustment and .87 for social adjustment are reported for the elementary form. Studies with the primary form yielded r's of .92, .89 and .87 for total, self and social adjustment. Validity was claimed for all forms through careful selection of items and disguise of test items. No formal or experimental studies of validity are reported. Percentile norms are based on data from 2000 children from kindergarten through eighth grade in schools in and around the Los Angeles area.
fourth graders was 64.34, with a standard deviation of 15.99. Marked differences between the boys and girls were evident. The t ratio of 4.70 is significant beyond the .01 level of confidence (6, p. 209).

The mean total adjustment score for the third grade children was 30.00, with a standard deviation of 15.57. The t ratio for differences in means between boys and girls was 3.01, a difference which is significant beyond the 1 per cent level of confidence.

The norms supplied for use with the California (12) make no allowance for sex differences. However, in setting up norms, the authors found that for several components, the girls tended to receive higher (better adjusted) scores than the boys. They explain this difference, by saying:

Sex differences may be due to several factors, including the possibly greater docility and willingness of girls to adjust to certain types of situations. Such differences, on the other hand, may be accounted for by the fact that the school environment and other factors have combined to provide conditions which lead to better adjustment patterns in certain areas in the case of girls. (12, p. 14)

This tendency for girls to appear better adjusted, by earning higher scores on personality tests of the inventory type, as suggested by the authors of the California test, may be related to certain factors in our culture. Standards of conformity are generally stricter and more rigid for girls than for boys. Behavior which deviates from these standards may be tolerated
more readily from boys than from girls. For this reason girls may be more guarded and less likely to admit of any differences in themselves from the way they feel they should be. The problem of whether girls are really better adjusted than boys, probably will not be answered by paper and pencil questionnaires. Projective personality tests, like the Rorschach, will be more likely to reveal the differences, if any, in personality structure and adjustment patterns of boys and girls.

The Rorschach test as a projective technique, places the subject in an unfamiliar situation, one for which he has no ready or familiar response. His response to the stimulus, in this case ink blots, is an expression of his personality. Standard administrative procedures require that the ten Rorschach blots be presented to the subject in consecutive order, with the subject being instructed to tell what they might be. Interpretations are based on the subject's use of different scoring categories and the interrelationships between these categories. The structural aspects of the personality which may be revealed by the Rorschach, as explained by Klopfer (3, p. 196) are: the degree and type of control with which the subject regulates his experiences and actions; his relative responsiveness to emotional promptings from within and from without; his mental approach to problems and new situations; the richness or poverty of his fantasy life; the use of creative and imaginative capacities; his
intellectual level; the presence of anxieties and tensions; and
the level of maturity.

The administration and scoring for this study followed
the procedures suggested by Klopfer (6) for adults, in so far as
possible. In most cases the child had taken the California prior
to the administration of the Rorschach. At that time they were
told they had been especially selected from all the children in
the school to cooperate in this project. Since the testing in-
volved being excused from regular classwork, most of the children
regarded it as a privilege. As a result, rapport was easily
established.

After a brief discussion of the child's interests, the
Rorschach was introduced with an explanation of the construction
of the cards. This was immediately followed by the introductory
statements suggested by Klopfer: "People see all sorts of things
in these inkblot pictures; (I am going to show them to you, and
I want you to) tell me what you see, what it might be for you,
what it makes you think of." If there were any questions, perti-
nent parts of the introduction were repeated. The first card was
then presented. If the child stopped after giving only one re-
sponse, on either card I or II, he was encouraged to give more re-
sponses. If the child continued to hold the card, he was told
"You may turn the card over on the table when you have told me
everything you have seen."
After the child had given his responses to the blots in the Performance Proper phase of the test, an Inquiry was conducted. During this period, the responses are discussed with the subject so as to gain the necessary information for scoring. Questions referring to the location, determinants and content of the responses were asked.

In several research studies with children, the inquiry was conducted upon the completion of responses for each card, instead of deferring this process to the end of the free association part of the test, as is done with adults. It was felt that young children would lose interest and be unable to remember their responses until the end of testing. This procedure has been found useful with young, preschool children; however, most school age children have sufficient retentive powers to defer the inquiry, as is traditional in adult administration.

The child's responses, as well as remarks and significant behavior were fully recorded.

The scoring of responses followed the Klopfer rationale as outlined and explained in his manual on the Rorschach test (3). The responses are scored in three areas: location, determinants and content. A brief resume of scoring follows.

The location score indicates where the subject sees his concept. If the entire or whole blot area is used the response is scored W; when minor parts are omitted or cut-off the score is
w. The large, usual details, scored D, are those obvious subdivisions of the blot which are used frequently by normal subjects. Smaller, but still frequently selected sections of the blot area are scored d. The unusual details (Dd) are subdivided into four categories; tiny details (dd), inside details (di), edge details (de), and rare details (dr). When the subject utilizes and interprets the white space around the blot proper, the response is scored S.

The most important factors interpretatively are the determinants, those qualities which determine the essential characteristics of the subject's concept. If only the form or outline was involved, the response is scored F. The subject may enliven his response by introducing color, shading and movement factors. The movement factors include M (human movement), FM (animal movement), and m (abstract or inanimate movement). Color factors are scored according to their relation to the form. Those responses which show an integration of color and form are scored FC; those in which the form is indefinite, and the color primary are termed CF. Those responses which are determined by the color alone are scored C.

The shading nuances of the blots may be utilized in several ways. When the shading is used to project a three dimensional expanse onto a two dimensional plane, as in x-rays or topographical maps, the response is scored Fk, kF or k, depending
upon the relative integration of the shading with form. Shading as diffusion (clouds or smoke) is scored K or K'. FK responses involve the use of shading to create a three dimensional perspective or vista. Shading which leads to differentiation of surface or texture effects is scored Fc; when form is indefinite or excluded the score is cF or c. Achromatic surface color responses are scored F'C, C'F, or C', again depending upon the definiteness of the form involved.

The most frequently used content categories are H (human), Hd (human detail), A (animal), Ad (animal detail). Other categories are N (nature), Obj (object), Geo (geography), At (anatomy) and Pl (plant). Responses are also scored with reference to their popularity and originality.

To increase the objectivity of scoring, and the reliability of consequent analysis, all responses were rescored by another examiner. The results for the individual cases were then combined and analyzed statistically for the group. Statistical computations were also checked by an outside examiner.

The application of statistical techniques to Rorschach test data involves certain difficulties. Because of the holistic nature of the personality pattern derived from Rorschach results, separate scores, isolated from the whole record and treated as independent entities, lose much of their meaning in relation to the total personality. Cronbach (15) has pointed out other
difficulties in the application of statistical methods to Rorschach data. For example, small distributions, zero scores, and extreme scores, tend to invalidate means, standard deviations, and other measures for which a normal distribution must be assumed. For this reason, he suggests that the median, which is a counting procedure, will probably give a truer picture of the group.

The traditional means and standard deviations have been retained for this study, so that the results might be compared with other studies in the literature. The median and quartile deviation has been computed as well. The percentage of children using each variable has also been computed.

In an attempt to study sex differences, arbitrary cut-offs, at points where psychological significance might be assumed, were made and chi-square tests were applied.
CHAPTER IV

RESULTS OF THE STUDY

An over-all view of the results of the study, in terms of the means, standard deviations, medians and quartile deviations for the different Rorschach variables, is presented in Table II.

In the discussion of results, an attempt will be made to relate the statistical findings to their psychological significance.

The total number of responses has been found to vary greatly among normal subjects, and little significance is attached to the response total, per se. Klopfer suggests that the normal adult will give between twenty and forty responses, and that children under ten will average fewer than twenty responses. As to interpretative significance, the number of responses gives some indication of the subject's productivity, but the quality is considered more significant than the quantity of responses.

The nine-year old children in this sample have a mean response total of 22.64, with a standard deviation of 10.17. The group gave a total number of responses ranging from nine to forty-seven. Because of the weighting of extremely high scores,
### Table II

**Rorschach Test Characteristics of Forty-Seven Nine Year Old Children**

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<th>Mean</th>
<th>SD</th>
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the median may be more representative of the group than the mean. The median response total was 19.92.

The structural qualities of the separate blots seem to have some influence on the number of responses elicited. Some blots are so constructed that whole responses are readily elicited; other blots are easily broken down into details, and marked differences in shading and coloring lead to many responses. The greatest number of responses were given for card X, the fewest for card V. The rank order for responsiveness was: X, III, VIII, IX, II, VII, I, IV, VI, V. The children in this group were much more responsive to the colored cards than to the achromatic ones. Sixty per cent of the responses were elicited by the colored cards, while only forty per cent of the responses were given for achromatic cards.

In this group, rejections rarely occurred. Three children from the total forty-seven, rejected one card each. Cards II, V, and I were each rejected once. In each case the child recovered sufficiently to give an acceptable response during the inquiry.

The average time per response for this group was 29.76 seconds, with a standard deviation of 13.42. With adults it is expected that the average response time will lie somewhere between thirty and sixty seconds, probably nearer the thirty second limit. Children react more quickly to the stimuli; this may be
related to their greater impulsivity. Children rarely study or consider alternate interpretations, their responses are given as quickly as their associations. The average reaction time is often an indication of shock reactions. This is particularly true if there is a marked difference between the reaction time for achromatic cards as compared with colored cards. The mean reaction time for the achromatic, or black and white cards, was 13.49 seconds, with a standard deviation of 12.16. For colored cards the mean reaction time was 15.40 seconds, with a standard deviation of 21.76. The variability for this factor was so great that the mean or averaged scores are of little significance.

With regard to the location categories, the subjects may respond to the entire blot area, to the large obvious subdivisions, or to unusual, rarely used sections, or to the surrounding white area.

The whole response is generally considered to represent generalizing ability or capacity for abstract thinking. In adult records, many clearly perceived and elaborated whole responses are indicative of superior mental ability. Frequently, though W's are produced which are vague or non-committal, and of inferior construction. These poorly constructed W's are emphasized in young children's records, because of their inability to make finer differentiations, and their tendency to perceive situations as a whole. However, school age children should be able to
produce the higher quality \( W \), if they are so inclined. The nine year old children in this study gave an average of 5.95 \( W \), with a standard deviation of 3.38. The mean \( W \) per cent for the group is 30.33, with a standard deviation of 22.10. Only one child in the group failed to give at least one \( W \) response. The range for \( W \) is 0 to 18.

In determining intellectual level, the qualitative level of the \( W \) response is more decisive than the actual number. Klopfer (3, pp. 38-91) discusses the construction of the \( W \) response. An arbitrary \( W \) response is one which fails to take into account the particular qualities of the blot, a concept which is indiscriminately or perseveratively assigned to the blot. Only two out of forty-seven children gave responses of this type. On the next level we find the inaccurate, unorganized, outline \( W \), which considers the general outline of the blot in a crude, primitive way. At the next level we find the unelaborated, fairly accurate outline \( W \). These two types of responses were given by some of the children, but their total was insignificant. Crude, determinant \( W \)'s are those in which the form qualities are more or less ignored and the color or shading effect is the basis for the concept. This construction was infrequently used.

The most frequent \( W \) constructions, used by the nine-year old children of this sample was the popular level \( W \). Approximately two-thirds of all \( W \) responses, for this sample, fall in
this category. Superior W constructions occur where there are unusual elaborations or organization.

Qualitatively, the whole responses at this age level are on a popular level. It appears that nine-year old children can perceive whole responses clearly and give adequate elaborations. Superior constructions occur occasionally among this group. Inferior W constructions are not characteristic of this age level.

With regard to usual details, it is generally assumed that two-thirds of the total responses of adults should consist of D and d. Their use generally represents an interest in concrete, specific facts as opposed to generalization, and as such indicative of a common sense approach. For this group, the mean D was 12.94 (standard deviation 7.31). This represents 53.86 percent of the total responses (standard deviation 17.43). The median D percent was somewhat higher, 60.28. D responses were given by all but one child; the range was 0 to 30.

The small, usual detail responses were used by 51 percent of the children. The mean d was 1.51, with a standard deviation of 2.43. This represents 5.53 percent of the total responses (standard deviation 6.31). The range is 0 to 11.

The use of usual details, though slightly below the expectancy for adults, implies a definite awareness on the part of nine-year old children for obvious, common-sense details and
facts.

The use of unusual details may be an indication of artistic responsiveness or intuitive sense for the unusual, or it may be significant of some disturbance. For this group the mean number of Dd responses is 2.13, with a standard deviation of 2.90. The range for such responses is 0 to 13, with 66 per cent of the children using the Dd category. A further breakdown of the Dd responses indicates that: 10 per cent were do or oligophrenic details; 19 per cent were dd or tiny details; 3 per cent di or inside details; 5 per cent de or edge details; and 63 per cent dr or rare details.

Responses to the white area around the blots is considered indicative of oppositional tendencies; twenty-four per cent of the children give main S responses; the mean is .36, with a standard deviation of .72. While these main S concepts are minimal, many children do incorporate the white spaces into their concepts, combining them with other areas. Fifty-one per cent of the children gave additional S responses.

In computing percentages, the Dd and S responses are combined; such responses rarely make up more than 10 per cent of the total responses of adults. Halpern (7, p. 23) also holds that their use is rare in healthy children, and when they are present to any extent, they indicate efforts at escape or avoidance. The mean Dd+S per cent for this group is 9.37, with a
standard deviation of 8.97.

The individual's use of these different location areas is often indicative of his approach to problems. An over-emphasis on W, depending on the quality of the responses, may indicate superior intellectual ability, superficial thinking, or ambition to achieve beyond one's capabilities. Individuals who emphasize the D response are generally practical minded, common-sense types. The balanced mental approach of the healthy adult, as described by Klopfer, includes 20-30 per cent W responses, 45-55 per cent D responses, 5-15 per cent D and less than 10 per cent Dd+S responses.

Although the group as a whole closely approximates those adult standards, within the group differences are great. The balanced approach as described above, is given by only 3 per cent of the group. Whole responses are emphasized by 28 per cent, and the D or common-sense approach is emphasized by 32 per cent of the group. Another 13 per cent emphasize Dd and S, showing an arbitrariness of mental approach. Eight per cent emphasize both W and Dd+S, showing too much concern with mental activity, and too little concern with practicality. Six per cent emphasize the usual details and unusual details, indicating hesitancy in drawing conclusions, and a preference for the facts. The remaining 6 per cent emphasize d and Dd+3, showing some tendency toward escape from reality.
Thus we can see that the mental approach of the nine-year old children in this sample is extremely variable, and more revealing of individual differences in approach to life situations, than it is of age or developmental status.

In Rorschach theory human movement responses are considered to be representative of the inner life of the individual, the richness of his fantasy, his creative powers, and his acceptance and use of inner promptings. For healthy adjustment Klopper considers at least three M necessary for adults. M is rarely produced by very young children, but as with most variables, M has been found to increase with chronological age. The mean M response for this group is 1.60, with a standard deviation of 1.38. The range for this variable was 0 to 3. Thirty-two percent of the children gave no human movement response, 45 percent produced one or two M, and 23 percent produced three or more M.

Approximately one-third of the M responses involve unrealistic or fairy-tale creatures, such as monsters, giants, elves and witches. Halpern (7, p. 39) discusses the child's "identification with these supernatural and fairy folk," as natural and related to developmental processes, "through his identification with unreal characters, the child can compensate dramatically and satisfyingly for the feelings of inadequacy, ineffectiveness and frustration which he so frequently experiences."
The direction of M is often revealing of basic drives and attitudes. The submissive or bending position responses are traditionally classified as flexor M, and are indicative of a submissive or passive attitude toward the environment. Sixteen per cent of the total M are flexor. Examples of flexor M are: angels kneeling, men warming their hands over a fire, someone bending over to pick something up. The more aggressive or outward moving responses are designated as extensor M; 43 per cent of the total M were extensor. Examples of extensor M are: men pulling a rock apart, a monster about to crush someone, Indians battling. The remaining 40 per cent of the M responses are more or less static, and involve such activity as talking, standing, sitting down or sleeping.

Animal movement responses have been accepted as representing "instinctual needs" and are understood to be a less mature expression of inner life or fantasy. Interpretatively, when FM is greater than M, it appears that the individual is ruled by immediate needs for gratification, rather than by long range goals. This is the expected pattern for normal children, who tend to act on impulse and have little capacity for postponement. The nine-year old children show this pattern clearly. The mean FM is 3.36, with a standard deviation of 2.74. This figure is approximately two and one half times greater than the mean M (1.60). Ninety-two per cent of the children make use of
this variable. The range for FM is from 0 to 14.

Frequently the responses are merely designated as an animal in some activity, with little more description than it has four legs, a head and a body. Other animals more clearly designated included; birds, bugs and butterflies; circus type animals such as monkeys and elephants; fanciful or unusual animals such as dragons or dinosaurs; domesticated or tame animals such as dogs, rabbits and kittens; and wild animals such as wolves and lions.

The direction of the FM responses indicates that the children are much freer in their use of animal movement, with outgoing or extensor movement predominating. Such responses include climbing, grabbing, flying, trying to catch something, trying to get away, and fighting. More inhibited, flexor movement is seen in responses such as rabbits hiding behind bushes, and birds ducking into water. More stationary FM included such responses as standing, lying down, and looking at each other.

Inanimate or abstract movement responses are usually associated with hostile forces or tension within the individual. Its use is relatively infrequent in the records of normal adults. The mean m for this group is .79, with a standard deviation of .92. Forty-seven per cent of the children use m; the range for m is 0 to 3. Additional m responses occur somewhat more frequently, with 66 per cent of the children using either m or
additional m, or both. Almost 20 per cent of the m responses involve explosions—volcanoes exploding, planets blowing up in space, or bombs going off. Responses involving cannons or rockets shooting occurred with less frequency. Frequent natural movement was found in such responses as falling leaves, splashing water, and trees blowing in the breeze.

Responsiveness to color has traditionally been associated with emotional responsiveness. The individual's use of color on the Rorschach is supposed to represent his emotional reactions to his environment, to outer reality. FC responses are supposed to represent controlled responsiveness to emotional stimuli. The CF responses represent less controlled, more uninhibited, egocentric types of reactions. For good adjustment, it is expected that adults give more FC than CF responses; the reverse is usually accepted for children. Pure C responses generally indicate an explosive lack of control and are found principally in the records of severely disturbed people or very young children.

The mean FC for the nine-year olds in this sample is 1.26 (standard deviation 1.54). The mean CF is 1.06 (standard deviation 1.06). Pure C responses are very infrequent; one child in the group gave a Cmn. response. Fifty-nine per cent of the group use FC responses, whereas 64 per cent use CF responses. Eighty-four per cent of the children give some color response.
The range for FC is 0 to 7, and 0 to 4 for CF. Examples of FC responses include the red bow on card III, the colored butterfly and Christmas tree on VIII, well elaborated landscape scenes on IX, and the caterpillar on X. CF responses include fire from explosions, sun-baked earth, leaves, flowers and designs.

Children at this age seem to be achieving a balance between the free, uninhibited emotional response characteristic of the younger child, and the rational control over emotions expected from older persons. Primitive or explosive pure C responses are not typical of the nine-year old child.

A concentration on the purely formal qualities is taken to represent a control over, or repression of the less formal, more personal, or spontaneous reactions. In adult records, if over 50 per cent of the responses are determined by form, constriction is evident. Such constriction is characterized by a fear of emotional impulses, repression of spontaneity, and the adoption of a cold, impersonal, matter-of-fact way of handling experiences. As the amount of F increases, the degree of stereotyped behavior can be expected to increase. A minimum of 20 per cent form responses is considered necessary for efficient control.

These figures apparently do not hold for children, as high F percentages in young children do not indicate a highly intellectual or rigid control. Very young children lack the
capacity to make the finer distinctions necessary for freer use of other determinants.

The nine-year old group approaches adult standards; the mean \( F \) percentage for the group is 49.31, with a standard deviation of 16.26. The large variability for the group is seen in both the standard deviation, and the range which extends from 15 to 90 per cent. Thus, the degree to which children concentrate on the purely formal aspects, or respond to the other determinants is a reflection of individual traits, rather than age characteristics.

The shading factors, with a few exceptions, play a minimal part in children's Rorschach reactions. Diffusion (k) and toned down shading effects (k) occur most infrequently in children's records. Only twelve children, or 26 per cent of the group use either of these scoring categories. FK or vista responses are considered to be a sign of introspective tendencies. These responses were rare for the study group; a mean FK of .43 with a standard deviation of .64 was found. FK responses were given by 34 per cent of the group.

The infrequency of shading responses in children's records is not necessarily contraindicative of anxiety. It is more likely that children are not able to make such differentiations, and therefore express their anxieties in different ways.

Fc or texture responses do occur more frequently within
the group. Such responses are generally indicative of sensitivity to one's surroundings, and may represent tact in social situations. The mean Fc for the group is 1.15, with a standard deviation of 1.46. Fifty-one per cent of the children use the shading in such a manner as to produce Fc responses. The range for this variable was 0 to 5. Texture responses, without consideration for form, occur rarely.

The use of achromatic color responses indicates a withdrawal from the brighter or more emotional elements of a situation and is therefore considered a sign of depression. For this group the mean C' is .31 (standard deviation .94). The range for C' responses is 0 to 3, and they are used by 51 per cent of the children. Eighty-three per cent of the children give some response to the shading qualities of the blots.

The ratio of human movement responses to the sum of all color responses is called the Erlebnistyp or experience balance. It has been associated with the direction of personality, that is, the readiness of the individual to respond to promptings from within as opposed to responsiveness to outer reality. Those who respond more readily to the kinaesthetic qualities of the blots are considered to be introversive, whereas those who are more responsive to color are felt to be extratensive.

Individual differences for experience balance are most apparent in this group. The Erlebnistyp for each individual has
been rated according to the classification set up by Hertz (19).

**Extratensive Type**

A. Pure and very extratensive, where sumC is greater than M by 3.0 or more and no M is given. (Three children show this pattern)

B. Very extratensive, where sumC is greater than M by 3.0 or more and M is greater than 0. (Three children show this pattern)

C. Extratensive, where sumC is greater than M by less than 3.0, but the formula is not constrictive. (Pattern present in eight cases)

D. Pure extratensive, where sumC is greater than M by less than 3.0, i.e. by 1.5 to 2.5, and no M is given. (Pattern present in two cases)

Total extratensive: sixteen children.

**Ambiequal Type**

A. Very ambiequal, where M and sumC are approximately equal and have values of 3.0 or more. (Not present in this group)

B. Ambiequal, where M and sumC are approximately equal and have values from 1.5 to 2.5. (Pattern present in four cases)

Total ambiequal: four children.

**Constricted Type**

A. Very constricted, no movement nor color given. (Three children show this pattern)
B. Constrictive, approximately no movement nor color given, 0 to 1M:0 to 1sumC. (Eleven children show this pattern)
   Total constricted: fourteen children.

   Introversion Type

A. Pure and very introversion, where M is greater than sumC by 3.0 or more and no color is given. (Pattern present in four cases)

B. Very introversion, where M is greater than C by 3.0 or more and sumC is greater than 0. (Pattern present in three cases)

C. Introversion, where M is greater than sumC by less than 3.0, but the formula is not constrictive. (Pattern present in six cases)

D. Pure introversion, where M is greater than sumC by less than 3.0 and no color is given. (Not present in this group)
   Total introversion: Thirteen children.

The above classification indicates that 34 per cent of the children could be considered extratensive, 39 per cent constricted, 20 per cent introversion, and only 8 per cent ambivalent.

The \( F_{M+m:F+c+c'} \) ratio has been suggested by Klopfer as being helpful in confirming the trend of the \( M:\text{sumC} \) ratio, or in pointing out conflicts or transition. Since children express their fantasy life much more readily in animal movement than in human movement, this ratio should be carefully con-
considered. The individual records have been studied to find the
number in agreement with the M:sumC ratio, and those in which a
transition is indicated.

Of the sixteen children who exhibited extratensive
tendencies only three have extratensive FM+m:Fc+c+C' ratios. Two
of these children show ambiequality and another two show con­
striction in the secondary ratio. Nine children from this ba­
sically extratensive group show secondary introversive tenden­
cies. Of the four who showed ambiequality, two remained con­
sistent and another two were heading toward greater introversion.
Among the fourteen children whose experience balances' showed constriction, three remained constrictive, one was ambie­
qual and ten were becoming more introverted. The introversive
group shows the greatest stability with eleven of the thirteen in
the group remaining introversive and only two showing a transi­
tion to a more extratensive adjustment.

In summary over half of the group, on the basis of the
supplementary ratio, appear to be tending toward a more intro­
versial adjustment. Inspection of the data indicates that the
introversive group shows the greatest stability. There seems to
be a pronounced introversial swing, with two-thirds of the group
either showing introversial traits or possessing latent intro­
versial tendencies.

The percentage of response to the last three cards also
seems to show the degree of responsiveness to outer stimuli. Nineteen per cent of the group underproduce on these cards, 30 per cent overproduce, and the remaining 51 per cent produce within the expected limits. The mean percentage of response to these cards is 36.63, with a standard deviation of 8.03.

The relationship of \( W \) to \( M \) indicates the relationship between mental activity and inner life and is considered a measure of intellectual efficiency. The optimum balance, suggested for adults, is one where there are at least five \( M \), and twice as many \( W \). The children of this group tend to produce three or four times more \( W \) than \( M \). Klopfer suggests that such a ratio is indicative of a failure to make good use of creative powers. However, it is doubtful if the \( W:M \) ratio carries the same significance with children as with adults. The high production of \( W \), characteristic of most children, and the corresponding limited use of \( M \) before puberty, would tend to invalidate this ratio for children.

The content of an individual's responses is considered an indication of his range of interests. Twenty-two different content categories are used by the nine-year old group, with an average number of 7.02 content categories per child. The \( A\% \), which is considered an index of stereotyped thinking, is 50.20 for the group (standard deviation 12.32). Fifteen per cent of the responses have human content. The only other content cate-
gories used with any frequency are the Object, Plant, Nature and Anatomy categories.

The ratio of \( H+A:Ad+Ad \) has been considered an indication of an over-critical attitude when the detail responses exceed half the number of whole figures. The ratio for this factor, for the nine-year olds is approximately three to one, with whole figures predominating. However, when \( H \) is compared to \( Hd \), the balance is shifted; here the ratio is approximately four \( H \) to three \( Hd \), indicating critical tendencies directed toward the self and others. This may be another facet of the prepubertal personality, in which an attempt is made to reevaluate the self in relation to others.

Since the child's world is not identical with the adult's world, it cannot be assumed that adult popular concepts will be popular in children's records. However, by nine years, the child's thinking should show some conformity with adult thinking and some adult populars should be produced. The mean number of popular responses for this group is 3.76 (standard deviation 1.43). The range is from 1 to 8.

Card V, which is easily interpreted as a butterfly or bat is seen by 77 per cent of the children. The marked tendency of the children to use FM is seen in the 68 per cent who give the popular FM response to card VIII. The bow-tie or butterfly on card III is seen by 60 per cent of the group. The spider on card
x and the winged figure on card I are seen by about half of the children. The human movement response for card III, the animal on card II are seen less frequently. The other populars listed by Klopfcr are seen so infrequently by the children that they cannot be considered as popular responses for this group.

An analysis of the language employed by the children gives some clue as to the security or insecurity and anxiety with which the child approached the test situation.

Over one-third of the responses were introduced as simple, declarative statements, such as "a butterfly" or "two little puppies". Another third of the responses indicated an attempt to compare the blot to the concept in terms of "it looks like". The next most frequently encountered verbalization, accounting for over 10 per cent of the responses was "It looks something like", showing an even greater tendency toward qualification. Other examples of qualification, related to insecurity, elicited from the group were, "it might be", "maybe", or "it could be". Others attempt to relate the concept to themselves by saying "To me it is", or "It reminds me of". Occasionally the children are extra-positive and say "That's a bat definitely". Critical tendencies were also shown, with statements to the effect, that "if you cut that off, it would be". Others tend to cover up by saying "This may be silly, but to me it looks like."

Another tendency occurring with some regularity is the
repetition of the same statement after giving the responses for each card, such as "That's all I can see" or "I can't think of nothing else". Others refer to the ease or difficulty in seeing concepts. Some children tend to act out their responses, like the girl who waved the card back and forth in the air to demonstrate the flying butterfly. Emotional remarks in reaction to the cards were relatively infrequent, but did occur occasionally in girls' records.

Table III compares the means and standard deviations of the boys and girls in the group. Differences were tested for significance by chi-square. None of the differences proved to be statistically significant, indicating that sex differences are not pronounced at this age level.

However, there are certain trends apparent in the data that are of some interest. The boys as a group tend to be more responsive. They also produce more W, whereas the girls produce slightly more D. The girls are freer in the use of FM, while the boys use more M and n.

With regard to color, 95 per cent of the boys give at

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1 For each variable tested, the data was dichotomized at a point where psychological significance might be expected, and the chi-square formulae, with corrections for small samples, were applied. In general, chi-square is a test of the null hypothesis, i.e., an assumption that there is no true difference between the groups being compared, and that the true samples differ only through sampling accidents.
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<td>sumc</td>
<td>1.94</td>
<td>1.23</td>
<td>1.50</td>
<td>1.59</td>
<td>3.17</td>
</tr>
</tbody>
</table>

*With one degree of freedom, chi-square must reach 3.84 to be significant at the .05 level of confidence.
least one color response, either FC or CF; while only 71 per cent of the girls give some color response. The girls tend to be more stereotyped; 63 per cent of the girls give over 50 per cent animal responses, while only 39 per cent of the boys give over 50 per cent animal content.

Card rejection was infrequent; three boys rejected one card each, there were no rejections by the girls. Do responses were also infrequent, but occurred slightly more frequently in the girls' records.

With regard to experience balance, there are approximately as many boys who are extraverted as introverted. Very few boys showed ambiequal or constricted records. Constriction and extraversion are the two most frequently found patterns among the girls. Relatively few of the girls are introverted or ambiequal.

The use of the different popular figures seems to show some relation to sex. The butterfly on card V was identified by 87 per cent of the boys, and by only 66 per cent of the girls. The girl's frequent use of the FM concept is seen in the 75 per cent who saw the FM figure on card VIII; 61 per cent of the boys saw this popular. The greater readiness of boys to use M is seen in the fact that 56 per cent saw the human figures in movement on card III, while only 16 per cent of the girls saw this popular.

Although these differences lack statistical verification, in general, it would appear that the boys are more pro-
ductive and somewhat freer and more spontaneous in their re-
actions than the girls. Although the differences are slight in
the location area, it would appear that the boys tend to gener-
alize more than the girls; the girls may be described as being
slightly more practical, preferring the common sense approach.

In the movement area, the boys give slightly more M, the more mature expression of fantasy, while the girls are freer
in the less mature FM response. Although the boys continue to
produce more FM than M, we may speculate that the more mature re-
sponse is developing more rapidly for the boys. There is also a
tendency for the boys to use more inanimate movement than the
girls. Although the chance factor cannot be overlooked, it
would seem that boys experience and express somewhat more hosti-
licity and tension.

Both boys and girls give slightly more FC than CF, show-
ing an increasing control exerted over emotional reactions.
Boys give relatively more FC and CF responses, another indication
of greater spontaneity. Neither boys nor girls use shading re-
sponses with much frequency.

Table IV brings out the similarities between Ames (1)
nine-year old group and the present study. As to the population
samples, the two groups are fairly comparable in size. The main
difference between the two groups appears to be in intellectual
level. As previously stated, the data in the present study have
been collected from children of average intelligence (mean IQ 103.5). Ames' group is described as having median and modal intelligence ratings of superior, with three-fourths of the children rating above average in intelligence.

The scoring systems employed by Ames differs slightly from that of Klopfer. The main difference is in the scoring of shading responses. Non-dysphoric shading, including surface shading and vista, is scored F(C) by Ames. Responses based on the diffusion or darkness of the blots are scored GlobF or FClob. The scoring in location areas is not directly comparable because large usual details are determined statistically in Ames groups, whereas Klopfer's scoring of D is descriptive.

Since the two groups differ so in composition, and since the data are not available for a more direct comparison of cases, the following apparent differences cannot be considered definitive.

The present study group appears to be slightly more productive than that of Ames. However, median scores are more comparable. Considering the higher intellectual level of the children in Ames' group, it might be expected that the brighter children would give more responses, but the reverse has been found to be true.

With regard to mental approach certain differences are apparent. Ames notes that at nine years the D% exceeds W%.
Nevertheless her group still shows a decided emphasis on W and underemphasis on D, as compared with adult expectancies. The children of average intelligence in the present group have a mental approach more comparable to adult norms, and as such more in keeping with Hertz (20) findings that by eight years of age the mental approach is much like that found in adults. The
differences between the approach of Ames' group and the present one may be related to intellectual differences. Many W's are commonly a sign of higher intelligence. If we can assume that the whole responses of Ames' nine-year old group are well-elaborated and superior to the quality normally found in children's W responses, the greater emphasis on W, found in her group, may be explained by their higher intelligence.

In the movement area, the mean number of M responses, and the percentages of boys using M as compared with girls are comparable for the two groups. Greater differences in the use of FM are apparent. In Ames' group the excess of FM over M is very slight at the nine-year level. The children in this study give two and a half times more FM than M. This may possibly indicate greater immaturity in nine-year olds of normal intelligence as compared to those of higher intelligence. Minor movement also occurs about twice as frequently with the present group as compared to Ames. However, median scores of 0 occur for both groups. In general, though, the children in the present study use all movement determinants with more freedom than do the children in Ames' study.

There is also a marked difference between the groups in the use of color responses. Ames records a much higher sumC than does the present investigator. However, FC and CF responses occur with greater frequency in the present group. Pure C re-
responses which occur quite frequently in her group, are virtually absent from the present group. Scoring differences account for much of this difference. Although she defines color responses in the same way as Klopfer, in practice many responses are scored C, which would be scored CF in the Klopfer system. Klopfer reserves the pure C response for repeated, arbitrary assignment of a certain response to a certain color, such as blood or fire for all red areas or sky to all blue areas. Such responses did not occur in the present study. In a breakdown of color responses at the nine-year level, Ames scores paint, blood, fire and food responses as C. Blood and fire responses occurred in the present group, but in all cases were referred to as blood dripping or something bleeding, or flames rising or something burning, and as such were scored CF.

Shading and texture responses cannot be compared adequately because of the differences in scoring. However, if we include Fc and Fk as being roughly comparable to the F(C) responses of Ames, we find that the mature shading responses occur twice as frequently in the present group as compared to Ames. If we compare the diffusion (k,K) and the achromatic (C') responses with Ames' FClOb and ClobF responses, we find that they occur about three times as frequently in the present group as in Ames group.

The higher F% which she reports for her group (67 per
cent as compared with approximately 50 per cent for the present group) results from the less free use of other determinants. One possible explanation is that Ames' group has reached the pre-pubertal stage where greater constriction is expected. However, at only one age level does she report an F2 which approaches normal limits (52 per cent at seven years). Therefore, it would seem that the children in her group were considerably more constricted than those in the present study.

Greater agreement is found in the content area. Percentages of animal and human content are nearly identical for the two groups.

Ames also indicates that at nine years, qualification of responses reaches a high point. Much qualification was also found in this group. Ames relates this to the difficulty in making decisions and uncertainty which is characteristic of the nine-year old.

She describes the nine-year old period as being a very variable age, where individual differences are clear-cut. This is equally apparent in the present study, and is seen most clearly in the large standard deviations for all scoring categories.

With regard to sex differences at this level, both studies indicate that boys produce slightly more W and less D and Dd than do girls. There is also agreement that F2 is more active than M in girls' records. Ames reports that sumC is
larger for girls than boys; this does not hold for this group, the boys consistently give more color responses than girls. She also felt that shading responses occurred more frequently in girl's records; for this group the opposite is true.

Table V presents data comparing Carlson's (14) eight-year old group with this nine-year old group. The two groups have been compared because of comparable populations and similar scoring and administrative procedures. If it is assumed that age is the only difference between the two groups, a slight increase in productivity is noted at nine years as compared with eight years.

**TABLE V**

A COMPARISON IN TERMS OF PERCENTAGES OF VARIOUS RORSCHACH CATEGORIES OF EIGHT-YEAR OLD AND NINE-YEAR OLD CHILDREN

<table>
<thead>
<tr>
<th>Variable</th>
<th>Carlson's 3-yr old group N 100</th>
<th>Present study 9-yr old group N 47</th>
<th>Variable</th>
<th>Carlson's 3-yr old group N 100</th>
<th>Present study 9-yr old group N 47</th>
</tr>
</thead>
<tbody>
<tr>
<td>R</td>
<td>20.13</td>
<td>22.83</td>
<td>FK%</td>
<td>.75</td>
<td>1.66</td>
</tr>
<tr>
<td>W%</td>
<td>35.86</td>
<td>30.36</td>
<td>F%</td>
<td>60.62</td>
<td>49.81</td>
</tr>
<tr>
<td>D%</td>
<td>51.30</td>
<td>53.86</td>
<td>Fc%</td>
<td>3.70</td>
<td>4.36</td>
</tr>
<tr>
<td>d%</td>
<td>6.50</td>
<td>9.57</td>
<td>c%</td>
<td>.02</td>
<td>.06</td>
</tr>
<tr>
<td>Dd+S%</td>
<td>6.50</td>
<td>9.57</td>
<td>C'2%</td>
<td>1.53</td>
<td>3.32</td>
</tr>
<tr>
<td>R%</td>
<td>6.54</td>
<td>7.26</td>
<td>FC%</td>
<td>4.32</td>
<td>4.62</td>
</tr>
<tr>
<td>F%</td>
<td>15.15</td>
<td>17.61</td>
<td>CF%</td>
<td>4.32</td>
<td>4.62</td>
</tr>
<tr>
<td>m%</td>
<td>1.23</td>
<td>3.76</td>
<td>C%</td>
<td>0.00</td>
<td>.06</td>
</tr>
<tr>
<td>k%</td>
<td>.51</td>
<td>.53</td>
<td>A%</td>
<td>57.56</td>
<td>50.20</td>
</tr>
<tr>
<td>K%</td>
<td>.41</td>
<td>.53</td>
<td>H%</td>
<td>13.66</td>
<td>15.00</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>P%</td>
<td>22.56</td>
<td>16.40</td>
</tr>
</tbody>
</table>
The mental approach at nine resembles that expected for adults more closely than at eight years. In the use of determinants we find a slight increase in M from eight to nine, some increase in FM, and a decided increase in n. All of which supports the opinion that at about nine or ten years an introversial swing occurs.

Slight increases in the use of color responses are also apparent. At both eight and nine years the more mature FC responses slightly exceed the less mature CF responses. Pure C responses are virtually absent at both levels. Fc and FK responses both show an increase from eight to nine years, indicating that the children are developing the discriminatory powers necessary for giving responses which differentiate shading nuances. There is also a greater use of achromatic color at nine than at eight years.

F% shows a marked drop from eight years to nine years. This is a result of the greater spontaneity and freer use of other determinants at the nine-year level as compared to the eight year level. A% shows a similar decrease, pointing to slightly greater maturity of interest at nine years as compared to eight years.
CHAPTER V

SUMMARY AND CONCLUSIONS

This study was undertaken with the purpose of setting up tentative norms for nine-year old children of average intelligence. It was felt that greater knowledge of the normal child's responsiveness to the Rorschach test would increase the clinical usefulness of this instrument, particularly in distinguishing between the normal, well-adjusted and the disturbed, poorly adjusted child.

With this purpose in mind the Rorschach test was administered individually to forty-seven third and fourth grade school children. The group comprised twenty-three boys and twenty-four girls, ranging in age from 9-0 to 9-11, with a mean age of 9.39 (with a SD of 3.25 months). All of the children were within the average intelligence range, with IQ's between 90 and 110; the mean IQ for the group was 103.5. These children were also rated by their teachers as being relatively free from personality and behavior problems. As an added selective device, the California Test of Personality was administered so that the overly withdrawn, conforming child might be detected and excluded from the final group.
The Rorschach test was individually administered to all of the children meeting the above criteria. Administration followed adult procedures as closely as possible. Deviations from the Klopfer method included encouragement for more than one response for the first two cards, and the omission of the testing of limits. The scoring procedures suggested by Klopfer were followed. The records were then analyzed with the purpose of discovering quantitative and qualitative aspects of the nine-year old child's Rorschach record.

Extreme variability, with marked individual differences was characteristic of this group. The total number of responses at this age was 22.33, a figure which is in the lower limits of normal adult expectancies. If we consider the standard deviation as setting up limits for the normal range of responses at this level, we find that the nine year old child normally gives from twelve to thirty-two responses.

The manner of approach shows some similarity to the expected percentages for adults. The mean W percentage of 30.88 is at the upper limits for adults. The mean D per cent of 53.36, and d per cent of 5.53, and Dd+S per cent of 9.37, are all quantitatively comparable to adult expectancies. From this we would conclude that the child of nine is developmentally capable of giving the expected approach. Marked differences from this balanced approach can and do occur, and are another indication of
the child's individuality manifesting itself in approach to mental problems.

In the use of determinants, we find that the child utilizes the same scoring categories as does the adult. However, quantitative and qualitative differences do occur. Form responses account for approximately half of the total number of responses; a mean F% of 49.31 was found. The range for this variable was wide. Normal limits for F% might be considered to range from 25 to 65. Using these considerations we find that mild constriction is characteristic of approximately half the nine-year old group.

Movement factors indicate that although the nine-year old is able to give mature human movement responses, he will be more free to his use of the less mature animal movement responses. Inanimate responses do occur, but the mean is less than one per child. There is a slight tendency for the boys to use more M and m than the girls. The girls exceed in the use of FM, showing somewhat less maturity than the boys in this area.

Color factors show that FC responses slightly exceed CF responses. Pure color responses are practically non-existent among normal children at this age level. Nine years appears to be an age when control is beginning to exert itself over the uninhibited, impulsive emotional response which is so characteristic of early childhood. Boys use both FC and CF more freely than do girls, showing somewhat greater emotional spontaneity.
The interrelationship of the movement and color responses for the individual cases was investigated. It was found that the M:sumC ratio was extratensive in sixteen cases, ambiequal in four cases, constrictive in fourteen cases, and introversive in thirteen cases. In comparing the primary M:sumC ratio with the direction indicated by the secondary FM+m:Fc+c+C' ratio, we find that the introversive group exhibits the greatest stability. It was also noted that over two-thirds of the group are exhibiting a trend toward greater introversiveness. These findings tend to support the theory that with the coming of the pre-pubertal period, the child tends to become more introversive, by making an effort to turn his thoughts inward in an attempt to re-evaluate himself in relation to others.

The use of shading factors is not pronounced at this age level. However Fc and FC' responses do occur with some frequency in the nine-year-olds records. Both these scores, as well as FK, are used more frequently by boys than girls at this age.

Many content categories are utilized, pointing again to the individuality characteristic of this age level. Animal content, normally indicative of stereotyped thinking and immaturity, is near the upper limits for adults. Other content categories used frequently are the human, object, plant, nature and anatomy responses.

Rejections occur very infrequently. However, there is
a marked tendency for the nine-year old to qualify his responses or to reinforce his concept with outside verification.

In general, sex differences are not pronounced at this level. However there is some evidence that the boys show greater maturity in the movement areas and somewhat greater emotional spontaneity. The girls tend to be slightly more constricted and stereotyped in their thinking.
BIBLIOGRAPHY

I. BOOKS


II. MONOGRAPHS AND MANUALS


### III. ARTICLES


IV. UNPUBLISHED MATERIAL


#1. Fourth grade boy, nine years, seven months, IQ 109.

I. 3"  
A. A two-eyed cat.  
1. Like two cats, two W F Ad  
   eyes here, the S FC  
   black things could  
   stand for whiskers,  
   two ears, one on  
   top of another, one  
   is bigger. Only the  
   face shows.  

II. 14"  
A. Red ink looks like  
   machine gun bullets  
   shooting out.  
   42"  
1. It shoots out, D Fn obj  
   points like red  
   fire coming out.  

III. 5"  
A. A butterfly.  
1. The wings, the D F A P  
   little tiny body.  
2. Just the face of  
   it, a monster with  
   big eyes, teeth,  
   nose and horns.  

IV. 15"  
A. A medal, like the Army  
   uses, or something  
   like that.  
1. I've seen them like W F Obj  
   this in War Comics,  
   it could have wings,  
   it looks like a  
   medal seen in the  
   comics.
2. Like a big clown with big shoes.

1. A butterfly, I guess.

That's all.

VI. 20"

1. Sort of like a medal, too, like the Air Forces use.

33"

VII. 6"

1. Two little chickens or Indians with feathers, talking.

12. A little house in here, smoke is coming out.

27"

VIII. 9"

1. Looks like a medal to me.

12. A queen's hat or a soldier's hat.

2. Just the legs and big feet.

1. The body, tiny legs, W F A P little face, touchers going out. Wings are pretty big.

add. 1. It looks like a (d F Ad) crocodile face.

1. It has wings.

add. 1. Elephant's feet (d Fc Ad) coming out, kind of wrinkled, straight, flat feet.

1. More like Indians, D M H faces feathers up here, the body, the hand. They're standing and staring at each other like they're talking.

2. Sort of a fairy tale W FK Arch house, its on fire. KP smoke

The house is in the background with smoke all around. The smoke is sort of gray and has bumps in it. The smoke is coming toward us, the house is far away.

1. A Marine medal. W F→H obj

Could be a man crawling on ground like marines.

2. Around here, with Dr FC obj gold sticking up, blue cloth, with bar sticking up
3. A little mouse or something crawling up.

4. This down here, looks like a butterfly.

A little mouse or something crawling up.

The color of wings, not much of a body, little tiny legs. The butterfly has four wings.

A butterfly, I guess, not too much like one.

The wings, little body. Wings are flying, they are up. Lines in the body look like speed to show movement.

The wings, little body. Wings are flying, they are up. Lines in the body look like speed to show movement.

Eyes, maybe its an Indian the hair is sticking straight up, the green is the bush.

Somebody in a bush, and pecking out, you can see two eyes pecking out.

Eyes, maybe its an Indian the hair is sticking straight up, the green is the bush.

Two beetles.

Sort of like dogs.

Leaves on a tree.

Leaves on a tree.

Body and legs sprouting all over.

Heads are up like they are trying to show off.

Leaves are green in the spring, they have a little stem.

Body and legs sprouting all over.

Heads are up like they are trying to show off.

Leaves are green in the spring, they have a little stem.

Fourth grade girl, nine years, six months, IQ 103.

A bird on that one.

An eagle, the wings and beak, hands and feet.

Looks like some ladies. I was going to say chickens.

Ladies with their hands together, talking to each other. Mouths open, have hats on, feet
III. 10"
41. A skeleton.

Thats all
48"

IV. 7"
41. That looks like a giant.

I think thats all.
34"

V. 2"
41. A moth and a butterfly,
I think.

Thats all
13"

VI. 20"
41. The top looks like a totem pole.

And thats all.
42"

VII. 6"
41. I think some dogs.

1. They go like that when they beg. The body and his feet, no head.

42. An elephant.

And thats all.
34"

VIII. 16"
41. Something like a mountain.

1. The top peak, just the peak.

>2. Some kind of animal. I can't think of its name.

2. His head, body, feet, I can't think of his name. Going sideways, climbing the mountain.
IX. 90"
1. This looks something like an animal.
2. Something like a tree.
124"

X. 9"
1. They look something like insects, some spiders and some worms.
And that's all.
42"

#4. Third grade girl, nine years, four months, IQ 102.

I. 15"
1. I think it looks something like a bird, sort of.

II. 23"
1. Sort of silly, but it looks like a church far away.
2. That looks like a lady there.

God! I can't make that
out either.

67"

III. 28"
\^1. It looks like French poodles.

\^2. That sort of looks like a mask, a scary one.

113"

IV. 20"
\^1. It looks like a man without any head. (laughs)

\^2. I know, it looks like a tree, sort of.

62"

V. 13"
\^1. It looks like a high hill sort of, with something on the top of it, a real crazy path of some kind. A big mountain sort of, it goes up and down.

96"

VI. 3"
\^1. This looks like a totem pole.

\^2. When its upside down, it looks like the shadows of something.

85"

dressed up.

1. He needs another leg, D FM A here's his head, his neck and three legs. He's like a poodle because he stands up so straight.

2. The teeth, scary D F Mask eyes the kind you wear for Halloween.

1. Sitting down, He has W M Hd a heavy suit make of wool or deer skin, has a zipper in it, The suit looks heavy and full. Maybe that could be his arms hanging down, his legs are out like he's sitting.

2. With branches and D F Pl the trunk, can't see the top of it.

1. Real slanty, keeps F N going up and down.

1. Looks sort of like a face up here and feathers sticking out of it.

2. Shadow of a person, D F (H) looks like its against a wall, sort of shaped like a person.
VII. 21"
1. It looks something like a valley from way up, if you were in the sky looking down.

2. It looks like a little dog, except his ears are sort of high.

VIII. 90"

1. Looks like there are rocks coming up and down, you can see way back, you could see more if you were closer.

2. His tail, his face, his body and legs are sort of together.

VIII. 34"

1. Sort of silly, but it looks like a bear crawling on something.

IX. 120"

1. Or else a mountain lion. Here's his face, legs are crawling, looks like he lost one leg.

2. His tail, his face, his body and legs are sort of together.

IX. 10"

1. That looks like a candle burning.

2. Looks like little men laughing, with long noses.

3. That looks something like a bear standing up.

X. 20"

1. That looks like a dog laying down.

2. A hammer, sort of if
this wasn't there. (held card for long time before placing it on table)
132"

#4. Fourth grade boy, nine years, four months, IQ 104.

I. 25"
  1. The body and wings W FC' A P
     of the bat or eagle, mostly like a bat,
     most bats are black.

  2. Its the shape of W FC' ash
     ashes from a fire, when they burn leaves
     or papers, its all black after its burned.

II. 10"
  1. These look like ani-
     mals here, with hands
     together, and they're
     blowing something away
     from them. This ink blot
     looks like they're start-
     ing on fire.

  26"

III. 7"
  1. The insides of the
     body, ribs, stomach
     and all the bones in
     the body.

  53"

IV. 6"
  1. That looks like a man
     sitting on a little
     bench, like a barber's
     chair.

  1. His legs, his body, W M H
     his arms here are
     sort of little, head
     is little too. He's
25"

V. 9" 
1. That looks like a fairy in there, a little elf, has two big wings.

VI. 7"
1. That looks like a bear rug up there.
2. And that looks like an Indian skin wrapped up, a wolf or fox skin.

30"

VII. 13"
1. Two clouds floating into each other, these other two are floating away from each other.

VIII. 15"
1. Two animals climbing up the side of a mountain or top of a cave.

IX. 19"
1. Something like one of those big clubs with strings attached.
2. Part of a tree, the green.

sitting, he has feet cut out on the side, bench is here.

1. Little feelers, W F (H) like elves have.
2. That was his feet, D Fc Aobj P front legs, back legs, head. Laying flat on a floor. Has fuzz all over it.
3. Mostly like a deer D Fc Aobj skin, a hide of some animal. Rug facing the wrong way.
4. Shape of a cloud, W XF cloud a kind of dark rain cloud, coming together, and these two are going off in different directions.
5. Have their feet W FM A P on ground. This is mountain or cave, they're climbing.
6. Fat here, skinny D F obj here by the handle. A club that a cave man would use with strings tied to it.
7. The trunk, branch- D FC Pl es, and leaves.
3. These here look like flowers of some kind.

1. Place where bud blooms out, folded up when it first comes out. Sort of wild yellow flowers.

2. Caterpillars or worms, shaped like them, eating this insect here. Some caterpillars are green.

3. Grabbing something, eyes, mouth, some of the legs.

4. Sort of greenish color. Look like grasshoppers I have caught.

5. The ink sac, they blow it up to hide themselves. Makes water real dark blue, so no one can see the octopus.

6. Ribs here and the lungs, shaped like it.

7. Sort of brownish color, sort of shaped like leaf.

1. Little buds of flowers.

2. Two caterpillars eating up a huge bug.

3. Spiders, huge spiders that have something to eat.


5. Blue ones look like ink that comes out of octopus.

6. The ribs and lungs of body.

7. Sort of brownish leaves falling off trees in the autumn.
The thesis submitted by Catherine J. Ivis has been read and approved by three members of the Department of Psychology.

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

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

June 2, 1954

Signature of Adviser