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An Experimental Study of the Effect of Trial Blot Administration of the Rorschach Test with Seven-Year-Old Children

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AN EXPERIMENTAL STUDY OF THE EFFECT OF TRIAL BLOT
ADMINISTRATION OF THE RORSCHACH TEST
WITH SEVEN-YEAR-OLD CHILDREN

by

Leonard Andrew Setze

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

June
1954
Leonard Andrew Setze was born in Chicago, Illinois, July 12, 1929.

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CHAPTER I

INTRODUCTION

It is nearly one hundred years since Justinus Kerner accidentally discovered that ordinary ink blots, unplanned and unstructured, tend to assume meaningful forms for an observer. Since then, there has been a considerable evolution and refinement of the initial uses and insights of the pioneer investigators toward a whole and new theory of personality testing using projective techniques. Although due credit must be given such men as Binet, the founder of modern intelligence testing, for applying wider and more systematic methods to ink blot usage, and Whipple, who published the first standardized series of blots, Herman Rorschach, a Swiss psychiatrist, stands out as the practical founder of the method which uses ink blots as unstructured stimuli upon which a subject projects his own unique personality structure. Rorschach's ten year long experimentation with ink blots finally culminated in the publication of his famed Psychodiagnostik (1921) and in the subsequent international adoption of his standardized series of ten blots. His method of administration of this ink blot test which bears his name, together with his interpretational theory, underlies all present day professional use of the test as
Because of the eventual international acceptance of Rorschach's test, the literature in the field has grown to enormous proportions both in America and abroad. American psychologists and psychiatrists were introduced to the Rorschach method by Levy. Many other workers in this country such as Beck, Klopper, and Hertz, have become well known through their significant contributions in the field of Rorschach administration and interpretation. In 1936, much consolidation of effort and theory was accomplished when the Rorschach Research Exchange, a quarterly publication now called the Journal of Projective Techniques, was begun. After this, the method took hold so rapidly with psychiatrists and psychologists that, in 1939, there was formed an international professional organization, the Rorschach Institute, as a research and training institute. Since this development much of the early skepticism about the method has been allayed by the wealth of positive communal research brought forth.

Until a few years ago, Rorschach research was confined to adult subjects who were in large majority mentally disturbed either in neurotic or psychotic degree. Within the past ten years, interest has developed in using the Rorschach Test with children. The recognition of and sensitivity to the emotionally disturbed child at home and in the school gave impetus to this new trend. Psychologists working in child guidance clinics and centers had long since recognized the need to approach and to study the young
child by indirect means within simulated play settings. The game-like administration of the Rorschach Test, together with its inherent interest-provoking features, made it appear to be theoretically useful. The greatest obstacle to such use of the Rorschach Test with children was that of norms. Certain preliminary questions needed answering. Does the child make use of the ink blots in the same manner as the adult? If he does, to what degree? Must the ordinary adult administration be changed to better orient and interest the child? Do the child's imaginal productions to the blots show a trend toward those of the normal adult as the child matures physically, socially and mentally? These and many other similar questions had to be answered before any valid use could be made of the Rorschach Test with children. The great need was for normative data.

The first studies demonstrated that children respond well to the blots but that adult norms were not applicable to the Rorschach protocols of children within an age range of several years, and afforded some evidence that developmental trends existed for which no single norm standard could be utilized. A sliding scale of norms was needed which would take into consideration the child's whole stage of development. Normative data on the average child within very limited chronological age ranges were required. Despite this need, the large majority of studies done to date have dealt with rather select groups of children of superior intelligence and socio-economic backgrounds and cannot be properly viewed
as normative, however valuable they might be for other purposes.

The present study attempts to evaluate, chiefly through quantitative analysis, one presently used administration method of the Rorschach Test with young children, Mary Ford's trial blot method (12). This method introduces the child to the ten standard Rorschach cards by giving him a specific sample or trial blot on which to practice first. This method Ford believes to serve as an excellent nonverbal orientation to the test for the child. Hertz (21) has also expressed a belief in the value of such orientation. She feels that the first Rorschach card serves in many instances as a practice card through which the subject comes to learn what he is expected to do with the blots, and that an initial orientation renders the first card productions more comparable to the other nine.

The design of the present study is an experimental one, with a control group of children being given the Rorschach Test without the trial blot and an experimental group given the test with Ford's trial blot preceding the first Rorschach card. The primary purpose is to shed light on the value of the Ford trial blot method of administering the Rorschach Test to young children. To date, the method has not been subjected to similar objective scrutiny.

A secondary aim of the study is to contribute normative

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1 The term normative is to be applied to the present
data on the responses of the average seven-year-old child on the Rorschach Test. The entire population of seventy-two children will be selected with this aim in mind. By using normative selection criteria, it is hoped that valuable normative data might also emerge from the study. The amount of such data will depend upon the results of the statistical analysis of the data gathered from the control and experimental groups. Should there be no statistically significant differences between the two groups receiving the different administrations on the various quantitative scoring elements of the Rorschach Test, then the two groups could be considered homogeneous and be merged into a fairly large group of seven-year-old children with normative characteristics.

study as descriptive of the average seven-year-old in terms of intelligence, urban socio-economic background, and behavioral school adjustment. Since the seventy-two subjects were selected under these criteria, they should not be taken as a strictly representative sample of the universe of American seven-year-olds.
CHAPTER II

REVIEW OF THE RELATED LITERATURE

Although the Rorschach Test has been used with American children for little more than a decade, a considerable literature has grown up within this new field. A number of studies have already been carried out which have demonstrated that the Rorschach method need not be restricted to adult subjects and that Rorschach protocols of children are potentially valuable to clinicians.

Even a brief survey of the findings of previous studies of children's Rorschach responses serves to highlight certain general trends related to children's maturational levels of development. The discovery that the young child's Rorschach record differs considerably from that of the average adult has emphasized the need for children's records to be evaluated in the light of different standards or norms. The aim of the large majority of the studies to date has been to contribute bases for these new standards. Unfortunately, most of the studies have focused their attention on rather select groups of children rather than on normative populations.

A review of the important studies on the Rorschach method with children not only points up the special problems involved
in using the Rorschach Test with children, but also makes apparent the difficulties met in attempting to integrate the previous re-
search. Differences in age level and intelligence of the subjects and variations of administration procedures are to be found. The quantitative data reported from these studies are not necessarily comparable, and basic differences in the respective samples of children studied must constantly be kept in mind. Due to the var-
iations in scope of the reported studies, they are grouped below according to their developmental, normative, or specialized char-
acteristics.

Developmental Studies

Developmental trends have been found in the Rorschach patterns of children of different ages. Rorschach workers, in at-
tempting to identify and describe these general trends, have ex-
amined the records of heterogeneous groups of children.

In studying the Rorschach records of 205 preschool chil-
dren ranging in age from two to seven years, Klopfer and Margulies (29:7) found three successive "stages" in the Rorschach patterns of this age range. The authors termed the first stage, found pri-
marily in the two-year-old child, "magic repetition," wherein the child simply repeats some word in response to each card, disregar-
ding the differences among the cards. The second stage, generally occurring in children between three and five years of age, was found to be characterized by "magic key" responses, in which the child rejects seemingly uninteresting cards and responds to cer-
tain others by repeating a set word or phrase. In this second stage, improved attention to particular cards is noted, together with indications of crude perceptual differentiation. The final stage is reached by the five-year-old, in which the child perceives and gives sufficient attention to each card so as to give a variety of responses.

The number of responses made to the cards by these very young children increased with the child’s age. An average of eight responses was given at the two to three-year level, twelve at the three to four-year level, sixteen at the four to five-year level, and eighteen at the five to six- and seven to eight-year levels. Form accuracy was also found to increase with age. Card refusals or rejections decreased with age. Though a few pure color responses were present, the very young children studied gave few movement or color responses.

It should be pointed out that the above study was not normative, since its subjects were in most instances of superior mental ability or from higher than average socio-economic backgrounds. This investigation, however, was one of the first to describe the difficulties entailed in administering the Rorschach Test to young children. The young children were found to require continued encouragement as well as patiently employed and individualized motivating techniques for them to persevere in the task. Their very limited attention spans had also to be recognized and it was sometimes found necessary to allow the child periods of
relaxation during the test.

Kay and Vorhaus (27) also examined records of preschool children, with a view toward ascertaining developmental factors to be found in the Rorschach responses of young children. The data, collected by other workers, were based on the Rorschach responses of 138 children ranging in age from two years to six years, eleven months. The data available on the intelligence of these children were said to be inadequate and were, therefore, not reported. The authors described the results of their analysis of the records in terms of apparent developmental trends through early childhood. The number of responses were found to increase with age. The number of detail and popular responses also increased with age. Rejections, perseveration, and arbitrary responses decreased with age, while the quality of form and whole responses improved with the child's increasing age.

A year later, Vorhaus (43) reported her findings based on a further examination of these 138 records. In this study, she focused on location categories, form level, and content. She found the young child's use of details to be closely related to his interests, mental maturity, and ability to organize. Also found important to the child's eliciting detail responses were the size and color of pertinent blot areas as well as the degree of ease with which details could be segregated from the whole blot. Perseveration tendencies were found to be limited to the last three chromatic cards.
In a study by Paulsen (33), the Rorschach records of eighty-two first-grade children ranging in age from five years eleven months to six years ten months were collected. The IQ range in this sample of children was 69 to 129 for the forty-seven girls, with a mean of 97.7, and 71 to 120 for the thirty-five boys, with a mean of 98.2. The average number of responses of these children to the Rorschach cards was fifteen. No further data were reported in terms of the means of other categories. A large majority of these children displayed an extraversion M to Sum C ratio. The quality of form and whole responses, the number of human and animal movement responses, the number of form-color, human, and popular responses were found to be positively related to intelligence. Not only were no significant sex differences found, but the individual differences within a sex group were found to be greater than differences between the sex groups.

The findings of Davidson and Klopfer's early report (17) surveying the literature in child Rorschach studies in America and abroad have been in the main corroborated by the more recent developmental studies. The authors, who were among the first to note that children tend to give fewer responses to the Rorschach than do adults, then pointed out the tendency that children give an increased number of organized whole and human movement responses with increasing age, with a decreasing number of pure color responses.

Hertz and Ebert (25) studied the Rorschach records of
242 six-year-old and 208 eight-year-old children, concentrating on the manner of approach of these age levels. The mean IQ of the six-year-old group was 117; the mean IQ of the eight-year-old group was 124. The authors found that the six-year-old children more characteristically responded to the whole blot area, often uncritically, while the eight-year-old children showed ability to analyze the whole into its more obvious detailed features, in addition to being able to embrace the whole blot somewhat less crudely. Forty-one per cent of the responses of the six year group were wholes, whereas only twenty-seven per cent of the responses of the eight year group were wholes. Details comprised thirty-nine per cent of the responses for the younger group and fifty-two per cent of the responses of the eight-year-olds. Small and unusual details made up seventeen per cent of the responses of both groups. White space comprised two per cent of the responses at the six year level and four per cent of the responses at the eight-year level.

A study by Mary Ford (12), one of America's pioneer investigators in the field of child Rorschach records, analyzed the Rorschach protocols of 123 children ranging in age from three to eight years, with twenty-three of the children at the seven-year level. The 123 subjects ranged in IQ from 90 to 157, with a mean IQ of 124.35 and a standard deviation of 14.20.

Ford's administration followed that prescribed by Rorschach, with two important modifications because of the young age
of the subjects. In a preliminary investigation, Ford found that young children frequently and excessively occupy themselves during the test with gross manual manipulations of the Rorschach cards. To remedy this tendency, the children were given the blots with the explicit instructions "You hold it this way" (12:18) upon their first attempt to turn one. And though this obviated blot rotation, it did not appear to decrease significantly the number of responses the child would give as compared to the number of responses given by other children of comparable age not so limited.

The second important modification, and one which raised a question basic to the present investigation, was that of introducing the children to the Rorschach Test with a homemade standard achromatic practice or trial blot, which was thought to serve well as a nonverbal orientation to the child, eliminating the need for lengthy preliminary verbal instructions. The child, it was felt, could quickly learn what was expected of him during this initial practice period. The setting was arranged to secure maximum cooperation of the child. Records were later scored using adult norms, though this was recognized as undesirable.

A more detailed description of Ford's findings with regard to her seven-year-old subjects will be found in the chapter on the analysis of the data.

Normative Studies

Many studies have been conducted using the Rorschach method with children which have been presumed to be normative in
design. However, these studies have very frequently dealt with
groups of children which were highly select in intelligence or in
socio-economic status.

One such study, conducted by Swift (38), gathered Ror-
schach records of eighty-two preschool children ranging in age
from three years one month to six years four months. The IQ range
of these children was 92 to 165, with a mean of 124.6. The majori-
ity of the children were from "professional" homes. Though the
study was classified by the author as normative, the children com-
prising it were admitted to be a "sophisticated group." The me-
dian number of responses for the group was eleven, with a range
from one through twenty-two. The majority of the responses were
given on colored cards. Whole responses predominated, with little
use of detail reported. Pure form responses were also high, with
few movement or shading responses occurring. Animal responses ex-
ceeded human responses. Blood and fire responses appeared in six-
ten per cent of the records. The mean number of popular respon-
ses was 2.02. Categories found to be positively related to chron-
ological age were: animal per cent, movement responses, and the
number of popular responses. Categories found positively related
to mental age were: percentage of whole responses, percentage of
form-determined responses and popular responses. Significant sex
differences at the five per cent level of confidence were found in
the number of form-color responses elicited (higher in girls), an-
imal responses (more in boys), plant and object responses (higher
number of plants in boys, higher number of objects in girls), number of rejections (fewer in boys), percentage of details (higher in girls), and percentage of responses to the last three cards (higher for girls). Oddly, rejections were found more frequently with older children. Parts of humans and animals also were more frequent in the older group (38:80-82).

Swift introduced her subjects to the test rather unconventionally, with her initial instructions beginning "I have some funny pictures to show you" (38:75). (Many Rorschach workers have objected to the use of the term pictures in describing the blot materials.) Another administrative procedure used by Swift, which has received wider acceptance, was that of an immediate inquiry, wherein the child's full response to a blot was immediately followed by an inquiry about the perception or perceptions elicited. This latter adjustment was made to avoid presenting the series of blots to the child a second time, a procedure frequently found to be annoying or confusing to the young child by previous workers.

Meyer and Thompson (32) have published a summary of the results of a normative study of kindergarten children. The average age of the children in the study was five years nine months. The mean IQ of the group was 103, and the socio-economic background of the subjects was estimated to be somewhat higher than average.

The median number of responses of this group of children was fifteen. Per cent of whole responses was 48.9, per cent of usual detail responses 39.5. Unusual details made up 11.8 per
cent of the responses. Pure form responses were 74.5 per cent. Also found was an excess of animal movement (mean 0.9) over human movement (mean 0.3), and of color form and pure color (1.1) over form-color responses (0.5). Shading responses were infrequent (0.4). Pure form totaled seventy-two per cent, animal responses 44.4 per cent, and human responses 10.7 per cent. The average number of popular responses was 1.8.

One hundred eight-year-old children were studied by Rae Carlson (15), with a range in age from eight years to eight years eleven months. The mean age of the fifty boys in the sample was eight years ten months; of the girls, eight years eight months. The intelligence of the boys and girls together was estimated as average, since the entire population approximated the fiftieth percentile on the Otis group intelligence test, norms being based on their city's (Seattle) third-grade children. Twenty children, ten boys and ten girls, were chosen from each of five socio-economic sections of the city. Six per cent of the original group selected for study had to be eliminated because they were viewed as serious personality problems by their school principals. A small number with consistently low grades were also eliminated. Administration and scoring of the Rorschach Test followed the procedures of Klopfer (9).

The mean number of responses given by Carlson's group of eight-year-olds was 20.13 (SD 12.2). One or more rejections occurred in twenty-seven per cent of the records. Large detail re-
Responses predominated (57.63 per cent), but each child gave at least one whole response (average 35.88 per cent). Human movement comprised 6.84 per cent of the determinants, animal movement averaged 15.15 per cent and inanimate movement 1.23 per cent. Shading was rarely used. Over fifty per cent of the children gave one or more form-color responses (mean 4.88 per cent). Color-form responses averaged 4.35 per cent of the records, but no pure color responses occurred. Pure form responses totaled 60.62 per cent. Over half of the responses were animal, and 13.66 per cent were of human content.

In sum, Carlson found the Rorschach records of eight-year-olds to be quite variable and replete with deviations from adult expectancies.

Thetford, Molish, and Beck (39), in a research project of the Michael Reese hospital in Chicago, collected and analyzed the Rorschach records of 155 children in Chicago Public Schools. The children comprising this normative study were first screened so as to be of normal intelligence, free from overt behavior problems discernible by their teachers, and of average academic achievement. Intelligence ratings were based on scores from differing tests given in the schools and a mean IQ for the group was not reported. The children studied were of three age groups, presumed to be the three important growth periods in childhood. The first group ranged in age from six to nine years, the second from ten to thirteen years, and the third from fourteen to seventeen
years. Statistics were reported in terms of these group divisions.

Their results indicated a progressive increase in some of the quantitative Rorschach Test components through the three age ranges compared. Though fluctuations in productivity occurred, the number of responses given generally increased with age (mean number of responses for the six to nine group was 21.93, for the ten to thirteen group 27.40, and for the fourteen to seventeen group 41.35). Animal per cent was highest in the middle group (47.95 per cent). Human content also increased progressively with age, with a consistent predominance of human detail over whole human responses. Impulsive and labile expressions decreased with age. The greatest amount of shading occurred in the adolescent group. Movement also increased with age, with three times as many movement responses occurring in the oldest group as in the two younger groups. Experience balance differed markedly in the three groups. The youngest group was primarily coarcted, the prepubescent group was constricted, and the adolescent period displayed no consistent type of experience balance. The greatest variability in productivity occurred in the youngest group.

Easily the most ambitious study of child Rorschach responses yet published is that of Ames and her co-workers (1). Six hundred fifty Rorschach records were collected of children from two to ten years of age. The data analyzed include that of fifty records at half-yearly age levels from two through five and one-
half years, and fifty records at yearly age levels from six through ten years. Though the avowed purpose of this study was to present "practical age norms" (1:3), the "great majority of these children are above average in intelligence and in social class status" (1:23). The mental rating estimate was largely based on a vaguely described set of "developmental examinations" (1:25).

Scoring methods employed are generally comparable to Klopfer's, though there are some variations stemming from the authors' attempts to depart from scoring the records on the basis of adult norms. Scoring of usual details, form-plus determinants, and populars was based on an analysis of the 650 collected records and on Hertz's frequency tables.

At the seven-year level, Ames points toward a significant increase in human movement responses to a level higher than found at any other age in the first ten years. Along with this marked increase in introversion, there occurred a decrease in the variety of content used, despite this age being found the second most productive of responses (mean 18.32) compared to the other thirteen age levels tested. Form percentage (fifty-two per cent) was found to be lowest of any age; form-plus per cent was eighty-two. Sum C was higher than at other ages, with a mean of 2.89. Color form led the color determinants, appearing 1.34 times per record; pure color was next (.76) and form color last (.74). Shading responses also were found to occur more than at any other level.
"Clob" responses, those based on a diffuse impression of the blot and stemming from its darkness (similar to Klopfer's C category) occurred more than at any other age (.50). An animal per cent of forty-two was low in comparison with other ages, and the human content per cent of fourteen was higher than any previous age level. Ames views the seven-year level as "the age of extremes" (1:223) in categories used. Rather marked sex differences are reported on various categories, but these are given in terms of means without tests for the significance of these differences. The results on the M to Sum C ratio were reported in terms of the means of these two factors, rather than in terms which are properly descriptive of the weights of these factors in individual records. More detailed quantitative results of Ames' study are given in the chapter on the analysis of the data of the present study.

Another important research presently being carried out is the long range normative study conducted by Nettie Ledwith (31, 47). This study, initiated in 1946, is longitudinal in design with a plan to follow a group of children through their elementary school years. Progress reports have been published, but only unpublished summary data on seven-year-olds have been forthcoming to date. These data are based on a sample of one hundred thirty-eight children, with a mean age of seven years eight months. The mean IQ for the whole parent group, based on individually administered Stanford-Binets, was 104.6, with a standard deviation of 13.95. The results of this study are reported in detail, in terms of the
sub-group of seventy-five average children (IQ range 90-109), in the chapter on the analysis of data, where comparisons are made with other important studies of seven-year-old children.

Studies With Special Groups

Gair (19) compared the Rorschach records of twenty-nine mentally superior seven-year-old children with those of a more average group of children ranging in age from seven to eleven years. The mean IQ of the gifted children was 146, and the mean age of the group was seven years three months. Greater productivity was found in the superior group, with a higher percentage of whole responses (51 per cent) and a somewhat lower percentage of detail responses (47.6 per cent). Unusual detail and white space responses occurred very rarely (two per cent and one per cent respectively). The percentage of human and animal movement responses of the bright seven-year-olds was close to that found in the mentally average children nine to eleven years of age. Animal movement still exceeded human movement in the mentally superior group. The number of form-color and color-form responses was higher in the superior children, but color-form responses remained predominant.

Guppy (44) examined the Rorschach records of fifty mentally retarded girls ranging in age from eight years to fifteen years three months. Stanford-Binet IQ's ranged from 43 to 70, and mental age ranged from four years seven months to twelve years nine months. The mean number of responses was 17.35, with a stan-
standard deviation of 5.92. Usual detail location categories predominated. Only half the group gave any movement responses, and shading was very rarely used. Over fifty per cent of the responses were of pure form. Form was used rather crudely, however, with sixty-four per cent scored minus. These subjects were found to be more responsive to chromatic than to achromatic cards. Pure color responses exceeded form color and color form combined, with color naming responses used quite frequently. More popular responses were given by the older girls. Perseveration in responses occurred at all ages.

Negro children have been studied by Sunne (35) and by N. Kerr (46). Sunne's study had a sociological orientation, in that it compared the Rorschach responses of white, Negro, and mountain children. Kerr studied sixty Negro children ranging in age from three to nine years, with a mean Binet IQ of 103.2 (SD 4.2). Though his Negro group was found to utilize all the characteristic types of responses that white children of comparable age utilize, with certain qualitative improvements with increasing age, productivity was not found to increase with age. Detail responses were given with greater frequency than whole responses. Animal movement and animal content exceeded human movement and human content. Shading was seldom used.

Troup (13) tested twenty-two pairs of identical twins in the sixth, seventh, and eighth grades, and retested ten of these sets of twins a year later on the Rorschach Test. She found that
though the subjects had identical heredities and similar environments, wide differences in personality development were discernible from their Rorschach patterns. Troup concluded that subtle influences of slightly different environmental climates were likely responsible for the personality differences.

This study was also a validation study in which judges were able to match records of the test and retest of the same subject with high consistency. High correlations were also found between the main scoring categories on the test and retest.

**Trial Blot Studies**

Hertz (21) first suggested the use of a trial blot with the Rorschach Test. In preliminary casual observations of adolescent subjects, she noticed that the attitude of these subjects seemed to influence their responses on the initial Rorschach card. She commented:

> Amusement at the novelty of the task, suspicion, shyness, fear, doubt, and superior attitudes all influenced the test results and in particular the responses to the first card. In order to make the first card more comparable with the rest and to establish a favorable mental set at the beginning, it was decided to introduce a trial blot before passing to the regular series. (21:244)

Accordingly, Hertz made use of several homemade ink blots of black ink on white paper. These blots differed rather obviously from the Rorschach series due to their homemade characteristics. One such trial blot was used with each subject. This novel method of introducing the Rorschach Test appeared useful in rendering the first Rorschach card more comparable to the other nine, but no at-
tempt was made to verify this by way of controlled experimental observation.

One other worker, Mary Ford (12:18), favors a trial blot administration, but for different reasons. Ford used the same homemade symmetrical achromatic blot with 123 children to serve as a "nonverbal orientation" to the task for her young subjects. Making use of the common observation that children are easily distracted and are apt to tire of a task requiring sustained attention, Ford concluded that it was essential to get the test under way as quickly as possible and that lengthy instructions or explanations were undesirable. It was toward this end that she introduced her subjects to the test by way of a practice blot. As with Hertz, no attempt was made to validate its usefulness through a controlled study.

Validation and Reliability Studies

The measuring of the validity and reliability of the Rorschach Test is a critical issue and one beset with special problems. The subtlety of the test, with its underlying global interpretative principles, does not well lend itself to the usual validity and reliability measures.

Validation Studies

To verify that the Rorschach Test validly assays personality factors it purports to measure, studies have been done comparing subjects' Rorschach performances with other source material on the subjects' personalities. The bulk of these external val-
validating criteria has been made up of various kinds of pertinent clinical data such as other psychological test results, case history materials, and psychiatric diagnoses. And though there has been no systematic validation of the test, score by score or trait by trait, a generally satisfying relationship between Rorschach interpretations and otherwise obtained clinical data has been demonstrated (3:135).

Blind diagnoses, made from Rorschach Test protocols alone, have been successfully matched with previously obtained clinical or psychiatric reports on a patient. One such study was reported by Hertz and Rubenstein (26) in which an unidentified Rorschach record was submitted to three noted Rorschach experts: Beck, Klopfer, and Hertz. A later comparison of the Rorschach analyses showed a high degree of agreement among themselves and with other clinical data.

Benjamin and Ebaugh (14) also reported on the success of matching methods in a validation study in which blind interpretations of Rorschach protocols were, with high reliability, successfully matched with psychiatric diagnoses.

Swift (37) reported teachers' ratings of unidentified preschool children, matched by an experienced Rorschach worker with personality descriptions based on Rorschach interpretations, significantly more successful than chance might allow (at the one per cent level of confidence).

Krugman (30) reported highly significant successes of
There have been frequent but generally unsuccessful attempts to validate the Rorschach Test as a whole against results of other psychological tests. However, specific scoring elements of the test have been found to relate closely with other measures. Hertz (24), working with adolescent subjects, found high correlations between Allport's Ascendance-Submission scores and Rorschach extratensive-introversive types. Vernon (42) made blind estimates of IQ from subjects' Rorschach records which correlated .78 with Binet IQ's.

Reliability Studies

Reliability studies of the Rorschach Test, which attempt to gauge the consistency of stability of a subject's performance on the test, have been carried out employing, for the most part, one of two major techniques: test-retest or split-half methods. The test-retest method is said by Piotrowski (34) to be the only satisfactory method, despite interim personality changes affecting the scores. M. Kerr (28), using this method with children, with a year elapsing between the first and second tests, found moderate to low reliability coefficients (.00 to .74) between major scoring elements. Swift (36) found reliability coefficients to decrease with increasing time intervals between test and retest of preschool children. A mean reliability coefficient of .76 obtained after a two week lapse dropped to .30 after a ten
month interval. Fosberg (18), however, found that varying time intervals between test administrations do not appreciably affect Rorschach scores.

The split-half method has been applied by Vernon (40, 41) and found wanting (mean coefficient .54), although Hertz (20) found relatively high reliabilities with the method (median coefficient .83) with the records of three hundred junior high school students. As has been pointed out (1:18), the split-half method is not appropriately used with the Rorschach Test, in that the ten Rorschach blots are designed to produce varying types of responses, half of which cannot justifiably be compared with the other half.

**Summary**

It is extremely difficult to summarize and integrate the findings of the already impressive literature in the field of children's Rorschach responses. The pioneer stage of research is not yet passed. However, certain findings about children's responses have been fairly well substantiated.

Probably the most important and fundamental of these findings is the discovery that children's records, even those of children as young as two years, reflect rapidly evolving trends related rather clearly to the child's level of development. From our knowledge of children, these trends seem very much in line with what might be expected were Rorschach's own interpretative principles for adult records theoretically projected backward
into the area of the child's personality and mental approach. The slow development of well-articulated whole responses, with the corresponding emphasis on usual or large detail responses is not surprising in terms of Rorschach's theory. Nor is the slow evolution of movement responses, with animal movement predominating, unexpected when interpreted as due to the child's lesser degree of internal control over instinctual strivings. The very slow refinement in and control over color responses also relates well with our knowledge that children are stimulated greatly by their external environment, while not being sufficiently capable of accepting it critically, using a well integrated system of internalized values. The generally high amount of pure form responses found would have been more difficult to foresee, but this finding might be related to the child's inability to verbalize adequately and fully about and defend his perceptions.

Special problems found in testing young children have given rise to new administrative methods such as those incorporating the performance and inquiry phases into one examination of the blot, as well as the use of a trial or practice blot and simplified instructions. The methods are pragmatic and used without doing obvious violence to the theory underlying the test.

The most apparent need at present in the use of the test is that of norms. Only one known study has made use of a truly normative population of seven-year-old children. Other studies, though ambitious and valuable, have not given sufficient emphasis
to normative criteria and have studied highly select groups of children.

At present, clinicians are of necessity using adult scoring and interpretative standards in judging children's records. However, recently Florence Halpern (8) seized the initiative in the midst of the dearth of fundamental and well-controlled normative researches and published a book for clinicians using the Rorschach Test with children. That such a book is needed cannot be denied. That such an attempt is yet sufficiently well-grounded with careful and integrated research seems doubtful.
CHAPTER III

DESIGN OF THE RESEARCH

The primary purpose of the present investigation, as was previously mentioned, is to attempt to evaluate Ford's trial blot method of administering the Rorschach Test to young children, via an experimental approach. The principal hypothesis to be tested is as follows: Ford's trial blot administrative procedure with children does appreciably influence the Rorschach Test productions of young children, in the direction of rendering their protocols richer in the quantity of scorabale material by better orienting them to the task. A secondary aim of the study is to contribute normative data on the Rorschach Test with seven-year-olds.

In order to test the above hypothesis effectively, maturational factors must be considered. Previous workers have found that the rapid development of children is reflected in their Rorschach responses, and that even a year's difference results in major changes in the pattern of responses. It was therefore deemed advisable to select children within a relatively narrow chronological age range and, for reasons largely arbitrary, seven-year-old children were chosen.

To fulfill the requirements called for in the secondary
purpose of the study, that of contributing clinically useful data on the Rorschach method with average seven-year-old children, it was necessary to aim the selection of the sample at the typical child of seven. To accomplish this, three additional selection criteria were established:

1) All the children selected must be of middle range intelligence.

2) All the children selected must be from schools in middle-class neighborhoods.

3) All the children selected must be free from overt personality disturbances.

A total population of seventy-two seven-year-old children, thirty-four boys and thirty-eight girls, all conforming to the above mentioned criteria, was finally selected. This population was divided equally into two groups of thirty-six children each. The one group would constitute the experimental group and would be given the Rorschach Test immediately following the use of Ford's trial blot. The other group would constitute the control group and be given the Rorschach Test without benefit of the Ford blot. Each child in the experimental or trial blot group was matched as closely as possible with a child in the control group in regard to chronological age, intelligence quotient, and sex.  

Subjects

The subjects of the present study were all second grade 

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1 See Garrett (7:211-214) on method of equivalent groups.
pupils of two public and two parish grade schools in Chicago, ranging in chronological age from seven years one month to seven years eleven months. These schools were chosen primarily because their student populations were of middle class socio-economic home backgrounds.

After over-age and under-age children in the schools' second grade classes were eliminated, information supplied by the classroom teachers was used to screen out children with apparent personality disturbances. The children's teachers were given a checklist of behavior symptoms for each child. No child receiving an excessive number of points on this checklist was accepted for the study. (The number considered "excessive" was determined by placing the number of points, if any, each child received into a frequency distribution with those received by the rest of his classmates. Then a cut-off point or critical score, above which no child was admitted to the study, was determined by an experienced faculty adviser.) In addition, any child not passing certain "stop questions" was not included. These questions inquired as to whether or not his general behavior was found acceptable to ordinary school standards or whether he was of serious concern to the teacher due to markedly aggressive or withdrawn behavior.

The remaining children who survived the age and behavior screening were then given the Kuhlmann-Anderson Intelligence Test

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2 See Appendix II, page 78.
(48) in small groups. Only those children whose intelligence quotients so determined were found to fall between 85 and 115 were admitted to the subsequent Rorschach Test.

After the above screening process was completed at each school, the remaining children were paired and matched in terms of sex, and as closely as possible, in terms of chronological age and intelligence quotient. The resulting matched groups were then arbitrarily assigned to be segments of the control and experimental groups respectively. The differences between the mean ages and mean IQ's for the two groups were tested for significance by using the t statistic. This was done for the groups at each school and for the groups as a whole. No statistically significant differences occurred. The Rorschach Test was then administered to each child, those in the experimental group receiving the trial blot administration, and those in the control group receiving an equivalent administration without the trial blot being used.

Setting

Certain standards of the testing environment were considered essential. In all cases privacy was afforded. The rooms in which the test was given varied in physical arrangement, but in all cases they were free of distracting elements. The child, who had some familiarity with the examiner through the preliminary Kuhlmann-Anderson group testing, was called from the classroom.

3 See Table I, page 33.
TABLE I

MEAN AGE AND INTELLIGENCE OF SEVENTY-TWO SEVEN-YEAR-OLD CHILDREN WITH CRITICAL RATIOS OF THE RESULTANT DIFFERENCES BETWEEN THE CONTROL AND EXPERIMENTAL GROUPS

<table>
<thead>
<tr>
<th>School</th>
<th>Index</th>
<th>N</th>
<th>Trial blot group</th>
<th>Non-trial blot group</th>
<th>SD</th>
<th>t</th>
<th>P</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>CA*</td>
<td>18</td>
<td>89.33</td>
<td>88.78</td>
<td>2.08</td>
<td>.56</td>
<td>&lt; .50</td>
</tr>
<tr>
<td></td>
<td>IQ</td>
<td></td>
<td>102.44</td>
<td>102.44</td>
<td>5.99</td>
<td>.00</td>
<td>&lt; .50</td>
</tr>
<tr>
<td>2</td>
<td>CA</td>
<td>14</td>
<td>91.14</td>
<td>89.57</td>
<td>2.81</td>
<td>1.03</td>
<td>&lt; .10</td>
</tr>
<tr>
<td></td>
<td>IQ</td>
<td></td>
<td>102.43</td>
<td>105.14</td>
<td>4.51</td>
<td>1.11</td>
<td>&lt; .10</td>
</tr>
<tr>
<td>3</td>
<td>CA</td>
<td>18</td>
<td>89.22</td>
<td>89.00</td>
<td>2.76</td>
<td>.17</td>
<td>&lt; .50</td>
</tr>
<tr>
<td></td>
<td>IQ</td>
<td></td>
<td>102.00</td>
<td>101.56</td>
<td>6.36</td>
<td>.15</td>
<td>&lt; .50</td>
</tr>
<tr>
<td>4</td>
<td>CA</td>
<td>22</td>
<td>91.18</td>
<td>91.00</td>
<td>3.50</td>
<td>.13</td>
<td>&lt; .50</td>
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<tr>
<td></td>
<td>IQ</td>
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<td>104.00</td>
<td>105.09</td>
<td>5.27</td>
<td>.51</td>
<td>&lt; .50</td>
</tr>
<tr>
<td>Total</td>
<td>CA</td>
<td>72</td>
<td>90.11</td>
<td>89.67</td>
<td>.65</td>
<td>&lt; .50</td>
<td></td>
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<tr>
<td></td>
<td>IQ</td>
<td></td>
<td>103.00</td>
<td>103.50</td>
<td>.40</td>
<td>&lt; .50</td>
<td></td>
</tr>
</tbody>
</table>

* Age in months.
(in the large majority of instances in the morning hours) and asked to accompany the examiner to the examining room wherein was found a table and two chairs. General friendly conversation was held with the child on the way to the examining room and following his being seated next to the examiner. Most of the children seemed to shed any previously present fearfulness or caution in response to the examiner's casual approach.

Administration

Following the example of previous workers with the Rorschach Test with children, some administration modifications were considered necessary. Brief, simplified instructions were used, and these were based on those found previously advantageous by other workers (1, 2, 12, 38). Also, the inquiry phase of the administration, wherein the child is asked to clarify his original conception of the blot material, was combined with the performance phase, and inquiries for elaboration were made immediately following the child's full response to each card. This latter method seemed to be useful in that, while not seeming to significantly alter the basic administration theory of the test, it allowed the examiner to display more immediate interest in the child's responses and to add to the child's motivation through the test. Also, less time elapsed between the initial concept verbalization and its elaboration, which made less demand on the young child's memory for past perceptions. Initially engaging the child in friendly conversation seemed to hasten the establishment of necessary
rapport. These changes of administration were consistently used with all the children comprising the study and, except for the use of the trial blot with the experimental group, both administrations were as equivalent as possible in a projective test.

Once adequate rapport seemed established, the examiner said "I have something to show you" (12:18) and the initial card (the trial blot for the experimental group children and the first Rorschach card for the control group children) was handed to the child with the question "What could this be?" (12:18). In cases where the child hesitated for more than ten seconds, the additional question "What does it look like to you?" (12:18) was asked. When a child refused a card or said he didn't know what it might be, he was encouraged with either or both of the following: "Most children see something" (2:4) and "I want to know what this might look like to you." (1:26) After the child seemed to have discontinued responding to a blot, he was asked "Is that all?" (12:19), "When you have finished, give it to me" (12:19). If only one response was given, the child was asked "Anything else? Can you give me some others?" or "Can you give me some more?" This type of encouragement was used only after cards one and two. Following each full response to a card, the inquiry phase was begun immediately by the examiner, sharing a view of the card with the child, saying "I want to see just what you saw. Where is the ____?" (12:20) or "Put your finger on the ____" (1:26). According to need, and as an inquiry into possible determinants used other than form, one or
more of the following questions were asked: "Tell me more about the ___" (38:75). "What made you think of ___?" "What reminded you of a ____?" "How could you tell it was a ____?" (1:27) In cases in which the child would ask the examiner about the adequacy of his concept with such a question as "Does it look like a ___?" his question was referred back to him by saying "Yes, it could be a ____" (1:26). Where it proved necessary to discover whether a whole animal or an animal detail (or whole human or human detail) was seen, a question such as "Do you see just the (doggie's) (head)?" was asked of the child.

No time limit was imposed. However, a complete record of the subject's reaction time and response time was recorded. Rotation of cards was permitted and even encouraged once begun, but no suggestion was made to the child that he might turn the card.

The trial blot used was a photographed copy of Ford's blot (12:19), mounted to resemble the Rorschach plates.4

After the full response to the final card was elicited, the child was given a view of all ten (or eleven in the case of the experimental group) cards and asked to point out the one he liked best and the one he liked least. With this step completed, the child was returned to his classroom and his record was considered complete.

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4 See Appendix III, page 80.
The protocols were scored using Klopfer's scoring categories and scoring principles. This was done despite it being recognized that Klopfer did not base his scoring method on children's protocols. Populars, therefore, as did most other elements in the protocols, had to be scored according to adult norms.

Test Rationale and Scoring

The aim of the Rorschach Test is to elicit from a subject unique projections of his own personality, rather than specific reactions to pre-structured situations sought by so-called objective tests of personality. The subject, being generally unaware of the degree to which his ink blot evaluations reveal his intellectual and personality characteristics, is usually able to relate himself freely and naturally to the blot material in a permissive atmosphere, without recourse to preconceived ideas of the adequacy or inadequacy of his responses in the test. The subject's reaction to the blots has been found to be similar to the way he reacts to his environment and attacks his life problems (9:202).

The ten standard Rorschach plates are seven inch by nine and one-half inch white cards with a symmetrical ink blot on each. The cards are numbered consecutively from I through X and are to be presented in order. The first, fourth, fifth, sixth, and seventh are achromatic. The second, third, eighth, ninth, and tenth are chromatic.

Interpretations of the subject's collective responses to the ten Rorschach cards are based on the pattern of these respon-
Isolated responses are viewed as part of a constellation, and such things as the amount of the blot area used, the form level of the concept evoked, the use of color, shading, and projected movement are scored and then interpreted in the light of their quantitative and qualitative interrelated characteristics. In order to depart from atomistic evaluations of the records toward a global interpretative design based on the subject's whole personality, a system of ratios and percentages of scoring elements is used to aid the interpreter.

Scoring is done in three main categories: the location of the concept in the blot, the determinant or major element in how the concept was formed, and the content or what is seen in the blot.

Scoring symbols with their most specific meanings (according to Klopfer and Kelley, 9) attaching to major location categories are as follows: W, responses to the blot as a whole; W, responses omitting minor parts of the whole blot and not omitting over one-third of the whole; W, whole blot with white space used; OW, detail interpreted with its meaning carried over into whole blot interpretation without justification; D, large usual detail; D, large detail used with white space; d, small usual detail; d, tiny detail; de, edge detail; di, inside detail, dr, rare combinations of detail; S, white space; SD, white space used with large detail.

Scoring symbols and their most specific meanings attach-
ing to major determinant categories are as follows: H, figures in human-like action; FM, animals in animal-like action; m, abstract or inanimate movement; k, toned-down shading as a three dimension-
al expanse projected on a two dimensional plane (e.g., an X-ray); K, shading as diffusion (e.g., smoke, clouds); FK, shading as three dimensional expanse in vista or perspective; F, form only, not enlivened; Fc, shading as surface appearance or texture, differentiated; c, shading as texture, undifferentiated; C', achromatic surface color; FC, definite form with bright color; CF, bright color with indefinite form; C, color only.

Scoring symbols and their most specific meanings attaching to major content categories are as follows: H, human figures; Hd, parts of human figures, not anatomical; A, animal figures; Ad, parts of living animals; Aobj, fur skins, animal skulls and the like; At, human anatomy; Obj, all types of man-made objects; N, nature; Geo, topographical and outline maps and geographical concepts; Arch, various types of architecture; and Pl, plants.

In addition, responses are scored popular (P) if they correspond to a prescribed blot area using the determinant and content which have been found to be very commonly used by clinically normal adult subjects. There are ten such popular concepts in the Rorschach series of ten blots (9:179-181).
CHAPTER IV

ANALYSIS OF THE DATA

The data collected from the seventy-two Rorschach protocols of the seven-year-old children in the study are analyzed in terms of means and percentages in the various quantitative scoring categories of Bruno Klopfer (9). Chi square, with the Yates correction applied in all instances (10:207), was used to calculate the significance of the differences between the experimental (trial blot) group and the control (non-trial blot) group for each respective scoring category.

It is recognized that this emphasis on quantifying the results of the Rorschach Test does some violence to the established global interpretative theory of the test, wherein individual protocols are to be interpreted by making use of discovered interrelationships among the quantitative and qualitative elements of the test protocol. This kind of emphasis was found necessary in the present study, however, because of its experimental design which called for considerable quantification, and due to the need to make comparisons with the findings of other investigators who use this quantitative approach.

40
An inspection of Table II, which summarizes the basic findings of the experiment in terms of mean, standard deviation, and chi square, shows that no statistically significant differences between the experimental and control groups occur in the major scoring categories. The findings on the ratio M to Sum C in Table III indicate the presence of a statistically significant difference in this special area. In this connection, it might be noted that chi square values apply to a cutting point and not to the means. To test the significance of a difference between the two groups, a cut was made at some suitable score and the number of cases in each group falling beyond the cut were compared using chi square.

An examination of Table II seems to indicate contradictory relationships between the mean numbers and mean percentages for usual detail and for pure form. The mean number of usual detail responses (D, d) and of pure form (F) responses is higher in the non-trial blot group, and yet the mean percentage of these responses is higher in the trial blot group. This is to be accounted for by the fact that certain children in the study used a similar amount of a category, but differed individually in the relative use of this category in the percentages of their total

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1 Pages 42-43.
2 Page 44.
3 See Appendix IV, page 81.
TABLE II.
MEAN NUMBERS, PERCENTS AND STANDARD DEVIATIONS OF THE MAJOR
RORSCHACH SCORING ELEMENTS FOR SEVENTY-TWO SEVEN-YEAR-OLD
CHILDREN WITH THE STATISTICAL DEGREES OF DIFFERENCE BETWEEN
THE CONTROL AND EXPERIMENTAL GROUPS USING CHI SQUARE

<table>
<thead>
<tr>
<th>Category</th>
<th>Trial blot group</th>
<th>Non-trial blot group</th>
<th>Chi square*</th>
</tr>
</thead>
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<tr>
<td></td>
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<td>SD</td>
<td>Mean</td>
</tr>
<tr>
<td>CA</td>
<td>7-6.11</td>
<td>2.95</td>
<td>7-5.67</td>
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<td>19.35</td>
<td>8.80</td>
<td>19.90</td>
</tr>
<tr>
<td>Total time</td>
<td>10.66'</td>
<td>4.36</td>
<td>9.56'</td>
</tr>
<tr>
<td>RT (chr)</td>
<td>19.10&quot;</td>
<td>16.80</td>
<td>17.40&quot;</td>
</tr>
<tr>
<td>RT (ach)</td>
<td>19.70&quot;</td>
<td>17.20</td>
<td>16.60&quot;</td>
</tr>
<tr>
<td>W</td>
<td>6.36</td>
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</tr>
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<td>D+d%</td>
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</tr>
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<td>Dd</td>
<td>1.44</td>
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<td>1.66</td>
</tr>
<tr>
<td>S</td>
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<td>0.39</td>
</tr>
<tr>
<td>Dd,S%</td>
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<td>11.65</td>
<td>11.10</td>
</tr>
<tr>
<td>F</td>
<td>13.18</td>
<td>7.72</td>
<td>14.26</td>
</tr>
<tr>
<td>F%</td>
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<td>F+%</td>
<td>89.60</td>
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<tr>
<td>M</td>
<td>0.47</td>
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</tr>
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<td>FM</td>
<td>0.86</td>
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<td>0.81</td>
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<td>m</td>
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<td>C</td>
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<td>0.32</td>
<td>0.11</td>
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(continued)
TABLE II (continued)

MEAN NUMBERS, PER CENTS AND STANDARD DEVIATIONS OF THE MAJOR RORSCHACH SCORING ELEMENTS FOR SEVENTY-TWO SEVEN-YEAR-OLD CHILDREN WITH THE STATISTICAL DEGREES OF DIFFERENCE BETWEEN THE CONTROL AND EXPERIMENTAL GROUPS USING CHI SQUARE

<table>
<thead>
<tr>
<th>Category</th>
<th>Trial blot group</th>
<th>Non-trial blot group</th>
<th>Chi square *</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Mean</td>
<td>SD</td>
<td>Mean</td>
</tr>
<tr>
<td>C'</td>
<td>0.47</td>
<td>1.28</td>
<td>0.64</td>
</tr>
<tr>
<td>c</td>
<td>0.19</td>
<td>0.52</td>
<td>0.50</td>
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<tr>
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<td>0.58</td>
<td>0.88</td>
<td>0.42</td>
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<tr>
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<td>7.78</td>
<td>4.70</td>
<td>8.34</td>
</tr>
<tr>
<td>A%</td>
<td>44.67</td>
<td>20.70</td>
<td>44.90</td>
</tr>
<tr>
<td>H</td>
<td>2.50</td>
<td>2.80</td>
<td>2.00</td>
</tr>
<tr>
<td>H%</td>
<td>13.30</td>
<td>11.35</td>
<td>8.15</td>
</tr>
<tr>
<td>P</td>
<td>2.56</td>
<td>1.35</td>
<td>2.44</td>
</tr>
<tr>
<td>P%</td>
<td>14.70</td>
<td>11.60</td>
<td>13.30</td>
</tr>
<tr>
<td>EC</td>
<td>1.36</td>
<td>1.25</td>
<td>2.36</td>
</tr>
<tr>
<td>8,9,10%</td>
<td>33.80</td>
<td>8.00</td>
<td>35.20</td>
</tr>
<tr>
<td>Rejections</td>
<td>0.39</td>
<td>0.39</td>
<td>0.31</td>
</tr>
<tr>
<td>W (3x) &gt; M</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

* With one degree of freedom, chi square must reach 3.84 to be significant at the .05 level.
### TABLE III

**INTROVERTSIAL, AMBIEQUAL, AND EXTRAVERTSIAL RATIO MEAN PERCENTAGES FOR SEVENTY-TWO SEVEN-YEAR-OLD CHILDREN WITH THE STATISTICAL DEGREES OF DIFFERENCE BETWEEN THE CONTROL AND EXPERIMENTAL GROUPS USING CHI SQUARE**

<table>
<thead>
<tr>
<th>Category</th>
<th>Per cent of subjects</th>
<th></th>
<th></th>
<th></th>
<th>Chi square</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Trial blot</td>
<td>Non-trial</td>
<td>Groups merged</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>group</td>
<td>blot group</td>
<td></td>
<td></td>
</tr>
<tr>
<td>H+A &gt; Hd+Ad</td>
<td>75.0</td>
<td>88.9</td>
<td>81.9</td>
<td></td>
<td>1.52</td>
</tr>
<tr>
<td>H+A &lt; Hd+Ad</td>
<td>22.2</td>
<td>11.1</td>
<td>16.7</td>
<td></td>
<td>.90</td>
</tr>
<tr>
<td>H+A = Hd+Ad</td>
<td>2.8</td>
<td>0.0</td>
<td>1.4</td>
<td></td>
<td>.00</td>
</tr>
<tr>
<td>M ≤ EC</td>
<td>58.3</td>
<td>83.3</td>
<td>70.8</td>
<td></td>
<td>4.30</td>
</tr>
<tr>
<td>M &gt; EC</td>
<td>22.2</td>
<td>2.8</td>
<td>12.5</td>
<td></td>
<td>4.09</td>
</tr>
<tr>
<td>M = EC</td>
<td>5.6</td>
<td>0.0</td>
<td>2.8</td>
<td></td>
<td>.51</td>
</tr>
<tr>
<td>M=0, EC=0</td>
<td>13.9</td>
<td>13.9</td>
<td>13.9</td>
<td></td>
<td></td>
</tr>
<tr>
<td>FMm &lt; FccC'</td>
<td>22.2</td>
<td>30.6</td>
<td>26.4</td>
<td></td>
<td>.29</td>
</tr>
<tr>
<td>FMm &gt; FccC'</td>
<td>44.4</td>
<td>33.3</td>
<td>38.9</td>
<td></td>
<td>.53</td>
</tr>
<tr>
<td>FMm = FccC'</td>
<td>5.6</td>
<td>19.4</td>
<td>12.5</td>
<td></td>
<td>2.03</td>
</tr>
<tr>
<td>FMm=0, FccC'=0</td>
<td>27.8</td>
<td>16.7</td>
<td>22.2</td>
<td></td>
<td>.72</td>
</tr>
<tr>
<td>8,9,10% &gt; 40</td>
<td>13.9</td>
<td>33.3</td>
<td>23.6</td>
<td></td>
<td>2.77</td>
</tr>
<tr>
<td>8,9,10% 30-40</td>
<td>52.8</td>
<td>36.1</td>
<td>44.4</td>
<td></td>
<td>1.41</td>
</tr>
<tr>
<td>8,9,10% &lt; 30</td>
<td>33.3</td>
<td>30.6</td>
<td>31.9</td>
<td></td>
<td>.00</td>
</tr>
</tbody>
</table>
Since only one statistically significant difference occurred, it is reasonably doubtful that this one difference, standing alone among so many non-significant chi square values, is truly meaningful, since chance factors could well have been operative in producing this one difference. The apparent introversial tendency in the trial blot group was not borne out by chi square calculations on two other formulas\(^4\) which also measure introversial and extratensive tendencies, nor were there significant differences between the categories which go to make up the ratio. However, there is some evidence that the trial blot group was generally less outwardly responsive and consistently more responsive inwardly, and perhaps significantly so, when pertinent indices are considered. The non-trial blot group uses color to a greater extent and has a higher Sum C mean, whereas the trial blot group uses movement to a greater extent and shows consistently a stronger introversial pattern in the ratios measuring this.

This analysis of the data collected from the Rorschach records of the seven-year-old children receiving the trial blot administration and those receiving the non-trial blot administration appears to disprove the original hypothesis that the trial blot tends to influence very appreciably the responsiveness of seven-year-old children. There is little objective evidence here

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\(^4\) Table III, page 44.
obtained which suggests that the use of the trial blot helps the examiner cast the projected personality patterns of these children into clearer perspective or relief. On the contrary, there is some evidence that the trial blot depresses outward responsiveness and the use of shading. And though it is difficult to evaluate fully the trial blot's possible nonverbal orientation or rapport-inducing value with individual seven-year-olds from such quantitative analysis, the trial blot administration with the average child this age does not appear to be advantageous. The long recognized sine qua non of establishing a friendly, non-anxiety-producing testing relationship seems to be the most important single factor involved for an adequate introduction of the child to the test. In addition to the necessary testing relationship is the need for simplified and brief instructions which move the child of seven rather directly into the task of evaluating the Rorschach blots, without recourse to preliminary and often lengthy explanations or demonstrations of how ink blots are made and the like. One of the clearest subjective impressions of the writer based on his experience of testing these seventy-two children with the Rorschach Test was their general readiness to set about telling what the blots "looked like" after only the briefest introductory remarks by the examiner. The previously described combination of the performance and inquiry phase of the administration also appeared to have considerable merit in allowing the examiner to clarify and display more immediate interest in the child's productions
and in making a lesser demand upon the youngster's memory of past perceptions.

Since for all practical purposes the two groups of children receiving the differing administrations were not found to differ significantly with respect to quantifiable Rorschach Test scoring elements, and since both groups of seven-year-olds were originally selected under normative criteria, the two groups were accordingly merged, thereby becoming a sizable population of seventy-two seven-year-old children, with a mean age of seven years six months and a mean IQ of 103.29.

Though no known published studies of seven-year-old children's Rorschach Test responses are strictly comparable to the present one in the normative sense because of population differences, a comparison of the findings of similar studies with the present one will be made. Unfortunately, the populations of seven-year-old children studied by most previous workers have been those of superior intelligence and of upper level socio-economic backgrounds. However, some value might be derived from examining these studies and taking note of the more apparent trends which are seemingly related to the differing population characteristics within the seven year age level.

The findings of the present study are juxtaposed with the previous Rorschach studies of the seven-year-old child\(^5\) of

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5 See Table IV, page 48.
TABLE IV
A COMPARISON OF THE PRESENT RORSCHACH STUDY OF SEVEN-YEAR-OLD CHILDREN WITH THE STUDIES OF LEDWITH, AMES, AND FORD, AND KLOPFER'S ESTIMATES FOR NORMAL ADULTS

<table>
<thead>
<tr>
<th>Category</th>
<th>Mean for seven-year-olds</th>
<th>Klopfer (adult)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Setze (N 72)</td>
<td>Ledwith (N 75)</td>
</tr>
<tr>
<td>R</td>
<td>19.62</td>
<td>15.60</td>
</tr>
<tr>
<td>W</td>
<td>7.11</td>
<td></td>
</tr>
<tr>
<td>W%</td>
<td>43.50</td>
<td>39.60</td>
</tr>
<tr>
<td>D+d</td>
<td>10.18</td>
<td></td>
</tr>
<tr>
<td>D+d%</td>
<td>46.00</td>
<td>58.30</td>
</tr>
<tr>
<td>Dd</td>
<td>1.55</td>
<td></td>
</tr>
<tr>
<td>S</td>
<td>0.39</td>
<td></td>
</tr>
<tr>
<td>Dd,S%</td>
<td>10.50</td>
<td>2.10</td>
</tr>
<tr>
<td>M</td>
<td>0.36</td>
<td>1.00</td>
</tr>
<tr>
<td>FM</td>
<td>0.84</td>
<td>3.60</td>
</tr>
<tr>
<td>m</td>
<td>0.49</td>
<td>0.30</td>
</tr>
<tr>
<td>K</td>
<td>0.50</td>
<td>0.30</td>
</tr>
<tr>
<td>k</td>
<td>0.00</td>
<td>0.00</td>
</tr>
<tr>
<td>F</td>
<td>13.72</td>
<td>7.80</td>
</tr>
<tr>
<td>F%</td>
<td>72.61</td>
<td>49.40</td>
</tr>
<tr>
<td>F+%</td>
<td>92.95</td>
<td></td>
</tr>
<tr>
<td>c</td>
<td>0.35</td>
<td>0.20</td>
</tr>
<tr>
<td>C'</td>
<td>0.56</td>
<td>0.30</td>
</tr>
<tr>
<td>FC</td>
<td>0.92</td>
<td>1.00</td>
</tr>
<tr>
<td>CF</td>
<td>1.17</td>
<td>0.80</td>
</tr>
<tr>
<td>C</td>
<td>0.11</td>
<td>0.20</td>
</tr>
<tr>
<td>ΣC</td>
<td>1.86</td>
<td>1.60</td>
</tr>
<tr>
<td>A</td>
<td>8.06</td>
<td>1.60</td>
</tr>
<tr>
<td>A%</td>
<td>44.79</td>
<td>56.70</td>
</tr>
<tr>
<td>H</td>
<td>2.25</td>
<td></td>
</tr>
<tr>
<td>H%</td>
<td>10.73</td>
<td></td>
</tr>
<tr>
<td>P</td>
<td>2.50</td>
<td>3.70</td>
</tr>
<tr>
<td>P%</td>
<td>14.00</td>
<td></td>
</tr>
<tr>
<td>Rejections</td>
<td>0.35</td>
<td></td>
</tr>
</tbody>
</table>

a Ames reports a combined shading mean of 1.14.
b Ames reports a mean of .50 for her category "Clob."
c Those given by one out of every six children.
Ames (1), Ledwith (31, 47), and Ford (12), as well as with the estimates of Klopfer on the responses of average adults. Comparisons made must be highly qualified, since the respective populations of seven-year-old children in the studies cited differ. The children studied by Ford and Ames were of higher intelligence and socio-economic background than is the average seven-year-old child. Ledwith's sample of seventy-five seven-year-olds is the most comparable to the present study. It should also be noted that the mean number of responses of Ford's twenty-three seven-year-olds (30.6) is substantially higher than that reported by Ames (18.32), Ledwith (15.6), or the present study (19.62). The average number of responses in Ford's group tends to heighten her means within the individual categories out of proportion to the means reported by other studies on individual categories.

Number of Responses (R). The seventy-two subjects of the present study gave a total of 1376 responses to the ten Rorschach cards. The range of responses for the group was six to fifty-four, with a mean of 19.62. Ames' mean number of responses of 18.32 is in close agreement with the present study. However, Ledwith's mean of 15.6 falls somewhat below these. Ford's high mean of 30.6 is far out of agreement with the other studies, and is perhaps due to peculiarities within her rather small sample of very intelligent children.

Card refusals were infrequent in the present study, averaging less than one per child, with 18.05 per cent of the
children rejecting one or more cards. Each card was rejected at least once, with no card receiving a large preponderance of rejections. However, cards II and VI were rejected more frequently than any others. Cards I, V, and VIII were rejected only once. In Ames' study, eighteen per cent of the seven-year-olds rejected one or more of the cards, whereas no child over six years rejected a card in Ford's group. No data on rejections in Ledwith's study is available.

Location Categories

The area most frequently chosen by the seven-year-old children in the present study is that of usual detail (D and d), which was selected by nearly all of the children (97.2 per cent). The next highest in frequency is the whole response (W), with all but one child giving at least one W. Thirty-two per cent of the children gave white space responses, though the mean number of these responses is less than one (.39). Unusual detail (Dd) averaged 1.55 per child, with thirty-nine per cent of the children giving at least one such response. Ledwith's study agrees with the present one in citing a preponderance of usual detail responses over whole responses. However, both the studies of Ford and Ames find a greater proportion of whole responses. This, taken with the finding of other workers that whole responses are definitely predominant in the six-year-old but that usual detail responses characteristically exceed whole responses at the eight-year level, makes it appear that the seven year age level may be
a borderline age in a developmental trend toward an increasing use of details.

Determinant Categories

Form (F). The most frequently used determinant category in the present study as in those of Ford, Ames, and Ledwith, is form. Form responses were given by all the children in this study, with a mean frequency of 72.61 per cent. This is considerably greater than the frequencies reported by Ames and Ledwith, where the F per cent was approximately half of the total responses, but almost identical to Ford's percentage of 73.8.

Form accuracy level (F+) in the present study was based on a very lenient scoring method in which only extreme and obvious poor form responses were scored F minus. This was done in lieu of adequate objective scoring standards for form level evaluation at this age level. Furthermore, the frequent use of anatomy and nature-type responses of a seemingly arbitrary character, made the setting of limits between F plus and F minus with these responses tenuous. This no doubt accounts for the high form accuracy level of the present study as compared to the studies of Ames and Ford.

Movement. Children in the present study gave a mean number of .36 human movement (M) responses, .84 animal movement (FM) responses, and .49 inanimate movement (m) responses. As in this study, the studies of Ames and Ledwith cite a large average amount of FM over M. Developmental studies find that human and animal movement responses both tend to increase with the increas-
ing age of the child, but that human movement tends to overshadow animal movement as adolescence is approached. This may account for Ford's rather large number of movement responses and equal number of human and animal movement responses, since the mental maturity of her subjects is considerably greater than that of the average seven-year-old.

Color. The subjects in the present investigation gave a mean number of .92 form-color (FC) responses, 1.17 color-form (CF) responses, and .11 pure color (C) responses. Considerable agreement is found among the other three studies in regard to the mean number and pattern of color responses. Ames, Ford, and the present study indicate a predominance of CF over FC, a common finding for this age level, but Ames and Ford report a somewhat greater proportion of C responses than the other two studies. With regard to the Sum C category, there is rather close agreement between the present study (1.86) and Ledwith's study (1.6), and between Ames' study (2.89) and Ford's (2.1). These higher means found by Ames and Ford may be related to the higher intellectual and cultural backgrounds of their subjects.

Shading. Shading responses were infrequent in the present investigation as well as in the three other studies cited. Three dimensional or diffusion shading responses (K) were given by 33.4 per cent of the children of the present study, with a mean of 0.5 such responses per record. Texture responses (c) were given by twenty-five per cent of the group, with a mean of .35 per rec-
No toned-down three dimensional shading responses (k) appeared in the present study, nor with Ledwith's sample. This k category is not reported by Ames and Ford. Ames reports a combined mean for texture and three-dimensional shading of 1.14.

**Achromatic color (C').** Achromatic color responses occurred in 30.6 per cent of the records of this study, with a mean of .56. This infrequent use of achromatic color rather closely agrees with the finding of Ledwith's study of .3. Ames and Ford do not quote C' means. However, Ames does include the category "Clob," defined as "responses based on a diffuse impression of the blot, stemming from its darkness" (1:85). This "Clob" category includes Klopfer's C' category coupled with any unpleasant or threatening aspects of the blot. Ames reports a mean of .50 "Clob" responses, which is also very close to the .56 C' mean found in the present investigation.

**Content**

Animal responses (A) outnumber all other content categories used by this age group. This is confirmed by the findings of the other three quoted studies. Approximately half of the responses fall into this category. All the children in the present group gave at least one A response, with a mean of 8.06 per record. Human content (H) made up 10.73 per cent of the records, with a mean of 2.25. The somewhat higher H per cent found in Ames' (14 per cent) and in Ford's (11.8 per cent) study may be related to higher intelligence, as has been suggested in previous studies.
A large majority of the children (81.9 per cent) show a predominance of whole human and whole animal responses. Only 16.7 per cent of the children gave a greater number of responses of parts of animals and humans. One child gave an equal number of responses in regard to both wholes and details of humans and animals.

The other major content categories appearing in the records of the present sample of seven-year-old children were the following: Objects (mean 2.50); nature responses, including rocks, water, caves, and mountains (1.24); plants (1.22); human and animal anatomy (.70); architecture, including houses, churches, and towers (.58); clouds (.31); food (.29); geography (.28); and fire (.19).

Popular Responses

Popular responses, scored according to Klopfer's adult norms, comprise fourteen per cent of the responses in the present study, with a mean of 2.5 such responses per record. The frequency of these popular responses, along with the percentage of children responding to each of the ten popular responses is given in Table V. The mean number of popular responses in the present investigation is slightly below the means of Ames and Ledwith, and considerably below the mean of Ford's group. This difference appears to be another function of the varying mental maturity levels

6 See Table III, page 44.
7 Page 55.
TABLE V
FREQUENCY OF KLOPFER'S TEN ADULT-BASED POPULAR RESPONSES USED BY SEVENTY-TWO SEVEN-YEAR-OLD CHILDREN

<table>
<thead>
<tr>
<th>Card number</th>
<th>Number of responses (N 72)</th>
<th>Per cent responding</th>
</tr>
</thead>
<tbody>
<tr>
<td>I</td>
<td>19</td>
<td>26.4</td>
</tr>
<tr>
<td>II</td>
<td>14</td>
<td>19.4</td>
</tr>
<tr>
<td>III (men)</td>
<td>7</td>
<td>9.7</td>
</tr>
<tr>
<td>III (bow)</td>
<td>34</td>
<td>47.2</td>
</tr>
<tr>
<td>V</td>
<td>55</td>
<td>76.4</td>
</tr>
<tr>
<td>VI</td>
<td>2</td>
<td>2.8</td>
</tr>
<tr>
<td>VIII</td>
<td>17</td>
<td>23.6</td>
</tr>
<tr>
<td>X (spider)</td>
<td>21</td>
<td>29.2</td>
</tr>
<tr>
<td>X (animal head)</td>
<td>8</td>
<td>11.1</td>
</tr>
<tr>
<td>X (worm)</td>
<td>5</td>
<td>6.9</td>
</tr>
</tbody>
</table>

of the children. Ames' reported mean for popular responses is not comparable to the reported means of the other studies, since her popular responses were scored on the basis of an analysis of her records and on Hertz's frequency tables, rather than in terms of adult norms.

Timing

The mean total time the subjects in the present study held the ten cards was 10.11 minutes. This is a somewhat longer response time than reported for the six-year-olds in Ames' group, who averaged 8.85 minutes. Ames did not record response time beyond the six year level. Reaction time (RT), or the time elapsing between the presentation of the card and the first response to the card, was found to average 18.25 seconds for chromatic cards (II,
III, VIII, IX, X), and 18.15 seconds for the achromatic cards (I, IV, V, VI, and VII), with a mean reaction time of 18.20 seconds for all the cards. These reaction times are considerably higher than that given by Ford (a mean of 8.6 seconds on the chromatic cards and a mean of 10.3 seconds on the achromatic cards, with a total mean reaction time of 9.6 seconds for all the cards). The present finding on reaction time is also much above the 10.71 seconds average reaction time reported for adolescents by Hertz (45). No reaction time record was made in Ames' study and no timing was reported by Ledwith. The paucity of data on timing of children's records renders much comparative interpretation impossible. It is interesting to note, however, that in the present study average reaction times for chromatic and achromatic blots were almost identical. It might be tentatively proposed that the marked increase in reaction time over that reported by Ford and Hertz is a function of the greater mental maturity of the latter subjects.

Card Preference

As in Ames' study, each child in the present study was asked to indicate which card he liked best and which he liked least. Card X was liked best by twenty-five of the seventy-two children, or 34.7 per cent of the subjects. Card IV was liked least by nineteen of the group, or 26.3 per cent of the seven-year-olds in the sample. Ames' seven-year-olds also preferred card X with greatest frequency, as did most of her other age levels. Card II accompanied card IV as the most unpopular with Ames'
seven-year-old subjects. That forty-seven children, or sixty-five per cent of the present group, indicated a preference for chromatic cards over achromatic cards, seems to indicate that children this age are attracted by color, though analysis of other factors such as reaction time and the M to Sum C ratio do not point to this color propensity as being uncontrolled by form considerations.

Experience Balance

The results for the M to Sum C ratio indicate that over two-thirds of the children of this study fall into the extratensive category. Nearly three per cent of the children show a ratio with equal weight on both sides. Twelve and one-half per cent show an introversial tendency, and a large number (13.9 per cent) of children show no predominant direction, since no color or movement responses were given in their particular records. In the case of the FMm:FccC' ratio, these results are contradicted somewhat. Here the predominant category was that showing introversial tendencies. Again, a large number of children (22.2 per cent) gave no responses on either side. On the percentage of responses to the last three cards, 31.9 per cent of the children fall in the introversial category (giving less than thirty per cent of the total responses on these cards), 44.4 per cent fall in the ambiequal category (percentage between thirty and forty), and 23.6 per cent fall in the extratensive category (percentage over

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8 See Table III, page 44.
forty).
CHAPTER V

SUMMARY AND CONCLUSIONS

The comparatively recent advent of the use of the Rorschach Test with young children has given rise to considerable research and a growing literature in this field. Much of the early skepticism of many workers regarding the potential value of the test with children has been allayed by the positive findings of pioneer investigators, who have discovered children to be particularly responsive to the test's game-like atmosphere and ink blot materials.

Developmental trends have been noted in children's Rorschach patterns, which would appear to be closely related to their mental and social or life-experience levels. Almost all investigators are agreed on the following major maturational trends: The number of responses given in the test tend to increase with the child's age to a point between twenty and thirty. The abundance of poor form quality whole responses of the very young child tends to give way as the child matures to a significant increase in detail responses, with usual detail (usual in terms of adult norms) finally predominating. The general improvement in form accuracy perception is accompanied by an increasing number of form-deter-
mined concepts, utilizing a wider range of movement, shading, and
color determinants and content categories. The uncritical and
impulsive or labile responsiveness of the young child tends to
decrease with the increasing age of the child.

Out of these discoveries of developmental trends in
child Rorschach responses has emerged a general recognition of the
need for normative studies and of the inadequacy of adult norms
for interpreting children's records. Despite this general recogni-
tion, few truly normative investigations have been made to date
which would afford interested clinicians departure points from
which to evaluate realistically children's Rorschach records. The
large majority of even the most ambitious studies have concen-
trated on populations of children considerably above average in in-
telligence or socio-economic background. These studies have, how-
ever, contributed much in the way of establishing modified admin-
istrative procedures and techniques based upon the special prob-
lems and exigencies found to arise with child subjects. One of
these special techniques in administration, Mary Ford's trial blot
method, was examined experimentally in the present study, testing
the hypothesis that the trial blot method with children does ap-
preciably influence their Rorschach Test productions in the direc-
tion of rendering their protocols richer in the quantity of scor-
able material by better orienting them to the task. The children
comprising the study were selected under normative criteria with
a view toward contributing normative data on the Rorschach Test
for this age level.

The subjects of the present study were seventy-two second grade children of two public and two parish elementary schools in Chicago. The following selection criteria were used in obtaining the subjects: (1) Only children seven years one month to seven years eleven months were included; (2) Only children with IQ's falling between 85 and 115 on an administered Kuhlmann-Anderson group intelligence test were included; (3) Only children from middle-level socio-economic neighborhoods were admitted; (4) Only children adjudged free from overt personality disturbances by classroom teachers were admitted. The children were matched in terms of age, IQ, and sex, and assigned by lot to either the experimental (trial blot) group or control (non-trial blot) group of thirty-six children each. The mean age of the experimental group was seven years six months, with a mean IQ of 103.00. The mean age of the control group was seven years six months with a mean IQ of 103.50. Both groups comprised thirty-four boys and thirty-eight girls. Except for the use of Ford's trial blot with the experimental group, exactly the same administrative procedure was followed with both groups. Because of the young age of the subjects, the usual administration procedure was somewhat modified. Brief instructions, oriented to the young child, were adopted from instructions for children used by previous workers. Also, the inquiry phase of the administration was combined with the performance phase, with inquiries of the examiner made immediately fol-
lowing the child's final response to a particular card. The latter method was used to secure maximal cooperation of the subjects, and to place a lesser demand on their memories for past perceptions of the blots. No test was begun until the examiner felt optimal rapport had been established.

The results of the two administrations with the two matched groups of seven-year-old children were analyzed in terms of means and percentages of response categories used, and the significance of the resulting group differences tested by means of chi square, with the Yates correction applied in all instances. At the five per cent level of confidence, no significant differences were found among the major location, determinant, or content categories used. However, a statistically significant difference between the groups was found with respect to the M to Sum C ratio. This one significant chi square value was discounted since it might well have been the result of chance factors being operative. The very large preponderance of non-significant chi square values forced the conclusion that for all practical purposes the trial blot did not very appreciably influence the response patterns of the subjects in the experimental group. However, there was some evidence that the trial blot depressed outward responsiveness and the use of shading. In sum, it was concluded that the trial blot was not used to advantage with this group of seven-year-old children.

Accordingly, the two groups were considered homogeneous
in their Rorschach responses in that they were originally closely matched for intelligence and age and since they were not found to differ significantly in their Rorschach responses. The two groups of thirty-six children were merged to form one normative population of seventy-two seven-year-old children. The mean age of this merged group was seven years six months with a mean IQ of 103.29.

The mean number of location, determinant, and content categories used by the seventy-two children of the present study were compared to the important studies of Ames, Ford, and Ledwith on this age level. There was surprising agreement with the major findings of these other three studies, despite the fact that the studies of Ames and Ford were based on records of children of superior intelligence and cultural background. The larger differences found in the number of responses, per cent of wholes and usual details, human and animal movement responses, and amount of pure form, may be attributable to differences in intelligence and cultural background of the respective populations.

Below is a listed summary of the findings of the present study with respect to quantitative aspects of the Rorschach records of its normative group of seven-year-old children. Their deserving to be called "signs" of the typical seven-year-old record depends on substantiation by future similar research.

1. Number of responses near nineteen.
2. Rejections are rare; most frequently rejected cards are II and VI.
3. Wholes and usual details used with equal frequency, and comprise about ninety per cent of location categories.

4. Approximately one in four children give human movement responses.

5. Animal movement higher than human movement.

6. Shading is used little.

7. Over half of the responses are pure form.

8. Approximately one form-color response per record.

9. Color form higher than form color.

10. Pure color responses occur infrequently with about one in ten children giving such a response.

11. Approximately half of the responses constitute animal content.

12. Human content less than one-third animal content.

13. An average of two to three populars (adult) per record, particularly on card V and on card III (bow).

Suggestions for Future Research

There is an obvious and pressing need for further normative studies of children's Rorschach Test responses. Such studies, to be of maximal value to clinicians seeking practical interpretative departure points, would of necessity have to be carefully controlled in terms of normative criteria employed. Narrow chronological age ranges would best be studied to avoid blurring the obtained Rorschach patterns with swiftly occurring and influential maturational factors. The use of recognized individually administered intelligence tests such as the Stanford-Binet Test or the Wechsler-Bellevue Test would also serve to better control the
intellectual level of the sample of children studied. Children with personality disturbances could be rather carefully screened out by making use of paper-and-pencil tests of personality as well as through ratings obtained from parents and teachers. Careful checks should also be made to see that each child is actually of middle-level socio-economic background and cultural advantage. Academic achievement might be controlled through an examination of school grades or, more carefully, by making use of a battery of standard achievement tests.

Considerable value would also undoubtedly derive from specialized studies of children's Rorschach protocols. Possible sex differences, especially with pre-adolescent and adolescent groups, deserve scrutiny. Children displaying similar psychotic and neurotic syndromes might profitably be studied using the Rorschach method. The Rorschach records of moderately retarded children, as well as mentally superior children, might be examined to shed light on the potentialities and liabilities of their perceptual and intellectual faculties. Further experimental studies of variations in administrative procedures of the Rorschach Test with children also seem in order.
BIBLIOGRAPHY

A. BOOKS


B. MONOGRAPHS

12. Ford, Mary, "The Application of the Rorschach Test to Young
Children," University of Minnesota Institute of Child Welfare Monograph Series No. 23, Minneapolis, 1946.


C. ARTICLES


23. Hertz, Marguerite R., "Rorschach: Twenty Years After,"


D. UNPUBLISHED MATERIALS


45. Hertz, Marguerite H., The Rorschach Ink-Blot Test, Unpublished Doctoral Dissertation, Western Reserve University, Cleveland, Ohio, 1933.


E. TESTS

### APPENDIX I

#### SAMPLE RECORD

Number 14  Girl  CA 7-5  IQ 106

<table>
<thead>
<tr>
<th>Response</th>
<th>Inquiry</th>
<th>Scoring</th>
</tr>
</thead>
<tbody>
<tr>
<td>Card I</td>
<td></td>
<td></td>
</tr>
<tr>
<td>R.T. 3&quot;</td>
<td>Cause it looks so much like a map. Because of these things coming out. For the lakes or something. I don't think it looks like the U.S.</td>
<td>W F Geo</td>
</tr>
<tr>
<td>1. Could it be a map?</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. Could it be an ocean?</td>
<td>This whole part. Because these things coming out. Some oceans have those.</td>
<td>W F Geo</td>
</tr>
<tr>
<td>I don't know what else it could be.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Card II</td>
<td></td>
<td></td>
</tr>
<tr>
<td>R.T. 15&quot;</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1. Looks like this part is kind of a castle.</td>
<td>Because castles have all these points, this one big point up here. Because of the big wide space right here. Because if somebody was going up to the castle they mostly take a horse like in the story of Cinderella. A door or the gates.</td>
<td>d,S F Arch</td>
</tr>
<tr>
<td>2. This part looks like rocks all around here. I don't know what this red stuff could be (bottom red D).</td>
<td>Some rocks are really big. Cause they have points on 'em (points to edges). Because they're gray like. Lots of rocks are gray when they're old.</td>
<td>W FC' Rocks</td>
</tr>
<tr>
<td>Card III</td>
<td>Inquiry</td>
<td>Scoring</td>
</tr>
<tr>
<td>----------</td>
<td>--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------</td>
<td>---------</td>
</tr>
<tr>
<td>R.T. 10&quot;</td>
<td>1. This red thing here could be a bow.</td>
<td>D F Obj P</td>
</tr>
<tr>
<td></td>
<td>Because I have a hair bow at home that looks like it. It just does.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>2. These might be able to be dogs.</td>
<td>W FM A</td>
</tr>
<tr>
<td></td>
<td>They look like dogs sitting down, or maybe playing a game with their ball. This (lower center) might be their ball. Their head, their paw, their fur. It was gray. Looked like fuzz.</td>
<td>Obf Fc</td>
</tr>
<tr>
<td></td>
<td>Cause of this, looks like a flame going up.</td>
<td>D CF Fire</td>
</tr>
<tr>
<td></td>
<td>Because it was red.</td>
<td>mF</td>
</tr>
<tr>
<td>65&quot;</td>
<td>3. This red stuff could probably be fire.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>The long ears and the rabbit's legs and the rabbit's head. Because that looked fuzzy too, mostly dark gray and little spots were light gray. (rest) May be all the carrots he eats. Because this goes back.</td>
<td></td>
</tr>
<tr>
<td>Response</td>
<td>Inquiry</td>
<td>Scoring</td>
</tr>
<tr>
<td>----------</td>
<td>---------</td>
<td>---------</td>
</tr>
<tr>
<td><strong>Card VI</strong>&lt;br&gt;R.T. 5&quot;&lt;br&gt;1. Maybe a high 'cliff.'&lt;br&gt;Well, because some high 'cliffs' have things that are going up. These things (points to edge). I don't know what they might be.&lt;br&gt;2. Or a hill with an eagle on top.&lt;br&gt;His wings, and this is the top, his head. That's the 'cliff.' Eagles have big wings.&lt;br&gt;3. Or maybe an Indian thing.&lt;br&gt;Likes something I saw once. The zig-zaggity.</td>
<td>W F N&lt;br&gt;dr F A N&lt;br&gt;D F Obj</td>
<td></td>
</tr>
<tr>
<td><strong>Card VII</strong>&lt;br&gt;R.T. 10&quot;&lt;br&gt;1. Maybe two crazy dogs with their ears up.&lt;br&gt;Because they had their ears up like they got lost and they were meeting each other again. They came back and they saw each other. Because dogs have tails and ears. The legs aren't there.&lt;br&gt;2. This part could probably be a tree. And this could probably be mountains around it.&lt;br&gt;This could be a tree (lower di) and the black part leaves. These are mountains.</td>
<td>W FM A&lt;br&gt;dr F Pl N</td>
<td></td>
</tr>
<tr>
<td><strong>Card VIII</strong>&lt;br&gt;R.T. 2&quot;&lt;br&gt;1. Some kind of an animal's bones.&lt;br&gt;Because when I went to the museum they had animal bones there.&lt;br&gt;2. Maybe some bears climbing over to one part. Guess that's all I can think of.&lt;br&gt;Because they have four legs right here. Because these dark red things look like eyes.</td>
<td>D F Aobj&lt;br&gt;D→W FM A P</td>
<td></td>
</tr>
<tr>
<td>Response</td>
<td>Inquiry</td>
<td>Scoring</td>
</tr>
<tr>
<td>----------</td>
<td>---------</td>
<td>---------</td>
</tr>
<tr>
<td><strong>Card IX</strong>&lt;br&gt;R.T. 30&quot;&lt;br&gt;1. Maybe these open here could be windows.</td>
<td>Might not have any glass but just have open spaces. Maybe in a big tower. This looks kind of like a tower. (Top d projections)</td>
<td>S, D, F Arch d F Ad</td>
</tr>
<tr>
<td>2. Maybe this could be whiskers of I forget what kind of fish. 45&quot;</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Card X</strong>&lt;br&gt;R.T. 15&quot;&lt;br&gt;1. This might be a mouse.</td>
<td>These legs like they're laying down. That's all.</td>
<td>D F A</td>
</tr>
<tr>
<td>2. This part might be a dragon.</td>
<td>The whole green. Because of the eyes, one of their necks, the nose. That's all.</td>
<td>D F A</td>
</tr>
<tr>
<td>3. This part here might be two lines.</td>
<td></td>
<td>D F Lines</td>
</tr>
<tr>
<td>4. This part here might be some blue water.</td>
<td>Like splashes coming out.</td>
<td>C CF Water mF</td>
</tr>
<tr>
<td>5. This part here might be a chimney.</td>
<td>Because it was a big long chimney. That's all.</td>
<td>D F Arch</td>
</tr>
</tbody>
</table>

1'10"

Best - X
Least - IV

SAMPLE RECORD

Number 22  Boy  CA 7-3  IQ 105

<table>
<thead>
<tr>
<th>Response</th>
<th>Inquiry</th>
<th>Scoring</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Card I</strong>&lt;br&gt;R.T. 20&quot;&lt;br&gt;1. Something like</td>
<td>Like coming up the</td>
<td>W K Smoke</td>
</tr>
</tbody>
</table>
Response Inquiry Scoring

smoke or something. chimney like that. mF

2. Looks something like a cat, nose. The eyes (S), ears. Just the head. W,S F Ad
   1'10"

Card II
R.T. 20"
1. Something like a top maybe. S. S F Obj

2. Like Indians on television. Fire like fire. Well, it's black. There's orange down here C'F H
   and smoke going up. Fire KF Smoke
   1'

Card III
R.T. 20"
1. In here it looks like water. Cause it looks like, like water by the shape and that color. It's kind of gray--like it looks gray out of shore. D C'F Water

2. Here it's kinda shaped like a duck. The head looks a lot like it, the body looks something like it. F A

3. In middle here it's shaped kinda like a bone. Cause a bone is shaped something like that. D F Aobj

4. Mud right here. Just a little puddle on each side. It's black like mud puddles and shaped like a round ball. D FC Mud
   1'5"

Card IV
R.T. 10"
1. Could be a man walking without Arms and feet. Up here can be the ears. M H
   this part.

2. This also would dr dr KF Smoke
   look something like smoke going up the chimney.

3. Up here looks Just shaped like a leaf and everything. Some kind of a tree leaf. d F Pl
   something like a leaf. 1'40"
Card V
R.T. 20"
1. Without this it could be maybe a rabbit walking along.
2. The whole thing could be a butterfly.
3. It could be a rotten banana.

Card VI
R.T. 20"
1. This part could be a sparkler.
2. Bird flying in the air.
3. Could be a piece of wood burning.

Card VII
R.T. 15"
1. Could be a stool.

Card VIII
R.T. 10"
1. Could be a jet flying up in the air caught fire in back.
2. Bow and arrow with fire on the back.
3. These could be a minnow-like fish.

Inquiry
Two thin legs and two back legs and head part.
Shaped like a butterfly it if was a little more smoother. Wing.
Because it was black and it was shaped like a banana.
Shaped exactly like one. Eyes, the wings.
Wood stuck in the ground and that could be smoke all around it.
Shape. Legs, part you sit on.
The orange there. Looks like a jet with the wings. These weren't part (side D).
Fire, point going up.
They're a lot shaped like it and that's the eye right there, the mouth. Leave the legs off, though.
### Card IX

**R.T. 30”**

1. Here in the middle could be a candle and the house caught fire. (Candle center D).

   It's all fire. It looks like fire. Kinda shaped like fire. Not the color of fire, up here it is though.

2. Right here it could be a banana, only a pink banana. Someone drew it. Looks like one only for the color.

### Card X

**R.T. 25”**

1. Here could be a machine gun. Top gray D.

2. Some legs of a person. Bottom green D.

3. Some green leaves. Top green D.

### Scoring

<table>
<thead>
<tr>
<th>Response</th>
<th>Inquiry</th>
<th>Scoring</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>W CF Obj Fire</td>
<td></td>
</tr>
<tr>
<td></td>
<td>D R C Fd</td>
<td></td>
</tr>
<tr>
<td></td>
<td>D F Obj</td>
<td></td>
</tr>
<tr>
<td></td>
<td>D F Hd</td>
<td></td>
</tr>
<tr>
<td></td>
<td>D FC Pl</td>
<td></td>
</tr>
</tbody>
</table>
APPENDIX II

BEHAVIOR SYMPTOMS CHECKLIST
BEHAVIOR SYMPTOMS

If any of the following items are applicable to this child, indicate with a number 1 if it is a mild problem, 2 if moderate, and 3 if severe. Leave blank or mark 0 if an area shows no difficulty.

1. Sensitiveness
2. Tendency to worry
3. Depressed attitude
4. Daydreaming
5. Shyness, timidity
6. Shyness

---

Failure to adjust with other children
Unmanageable, defiant
Fighting, bullying
Stealing
Truancy
Acts of violence

Any unusual behavior not included above that should be noted: ________________________________

---

Is this child's behavior generally acceptable to ordinary school standards? Yes No (circle)

From your experience with this child, is he so markedly aggressive as to constitute serious behavior problems? Yes No (circle)
or so markedly withdrawn as to occasion serious concern to teachers? Yes No (circle)
## APPENDIX IV

### LIST OF CUTTING POINTS IN CHI SQUARE CALCULATIONS

<table>
<thead>
<tr>
<th>Category</th>
<th>Cutting point</th>
<th>Source</th>
</tr>
</thead>
<tbody>
<tr>
<td>R</td>
<td>18</td>
<td>*</td>
</tr>
<tr>
<td>Total time</td>
<td>10'</td>
<td>**</td>
</tr>
<tr>
<td>RT (chr &amp; ach)</td>
<td>21&quot;</td>
<td>**</td>
</tr>
<tr>
<td>W</td>
<td>8</td>
<td>*</td>
</tr>
<tr>
<td>W%</td>
<td>51</td>
<td>**</td>
</tr>
<tr>
<td>D</td>
<td>9</td>
<td>*</td>
</tr>
<tr>
<td>D+d%</td>
<td>41</td>
<td>*</td>
</tr>
<tr>
<td>Dd</td>
<td>1</td>
<td>0 or 1 plus</td>
</tr>
<tr>
<td>Dd,S%</td>
<td>8</td>
<td>*</td>
</tr>
<tr>
<td>M</td>
<td>1</td>
<td>0 or 1 plus</td>
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<tr>
<td>FM</td>
<td>1</td>
<td>0 or 1 plus</td>
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<td>K</td>
<td>1</td>
<td>0 or 1 plus</td>
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<tr>
<td>F</td>
<td>13</td>
<td>**</td>
</tr>
<tr>
<td>F%</td>
<td>61</td>
<td>**</td>
</tr>
<tr>
<td>F+%</td>
<td>81</td>
<td>**</td>
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<tr>
<td>C</td>
<td>1</td>
<td>0 or 1 plus</td>
</tr>
<tr>
<td>FC</td>
<td>1</td>
<td>0 or 1 plus</td>
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<td>CF</td>
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<tr>
<td>C</td>
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<td>0 or 1 plus</td>
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<tr>
<td>A</td>
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<td>A%</td>
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<td>*</td>
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<td>H</td>
<td>2</td>
<td>*</td>
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<tr>
<td>H%</td>
<td>16</td>
<td>*</td>
</tr>
<tr>
<td>P</td>
<td>4</td>
<td>*</td>
</tr>
<tr>
<td>P%</td>
<td>27</td>
<td>*</td>
</tr>
<tr>
<td>8,9,10%</td>
<td>35</td>
<td>Ledwith (31)</td>
</tr>
<tr>
<td>Rejections</td>
<td>1</td>
<td>0 or 1 plus</td>
</tr>
<tr>
<td>EC</td>
<td>3</td>
<td>*</td>
</tr>
</tbody>
</table>

* Approximate mean of Ames' study (1).

** Approximate mean of present study.
APPROVAL SHEET

The thesis submitted by Leonard Andrew Setze 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.

May 29, 1954

[Signature of Adviser]