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A STUDY OF RORSCHACH RESPONSES
OF ASTHMATIC
CHILDREN

by

Robert Neil Traisman

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

LIFE

Robert Neil Traisman was born in Chicago, Illinois, April 28, 1931.

He was graduated from Sullivan High School, Chicago, Illinois, January, 1948, and from Loyola University, Chicago, June, 1952, with the degree of Bachelor of Science. He began his graduate studies in Psychology at Loyola University in September, 1952.

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CHAPTER I

STATEMENT OF THE PROBLEM

The main purpose involved in undertaking this project was to obtain a record of Rorschach responses of asthmatic children. Various questions naturally come to the reader's mind; what actually is asthma; why the particular concern with asthmatic children; and finally, why was the Rorschach utilized in this study?

Asthma is defined by Dorland's Medical Dictionary (3) as "a recurring paroxysmal dyspnea, particularly evident in the expiratory phase, due to an allergic reaction in the bronchioles from the absorption of some substance to which the patient is hypersensitive". Bronchial asthma is usually always treated as an allergic condition. In hospitals, asthmatics are referred to the allergy clinic, and the asthma specialist is an allergist.

Asthma is ordinarily divided into two types: extrinsic, in which the exciting cause is outside the body, and intrinsic, in which it is inside the body. The intrinsic type is often spoken of as a bacterial allergy.

In practice, these two types are differentiated by the

fact that in extrinsic asthma a definite allergen or allergens can be shown by skin test and/or clinical reactions, to be the cause of these attacks. In intrinsic asthma no such demonstration is possible.

Unequivocally, the subjects in this study belong to the extrinsic asthma group. All the subjects react positively to one or more allergens.

The results of this study will, therefore, be derived from children who are definitely reacting to allergens and are considered, medically, as asthmatic children.

Secondly, asthmatic children, Rorschach-wise, have been almost completely ignored in Rorschach research. There have been studies conducted on normal children, neurotic children, enuretic children, and mentally defective children, to name a few, but only one study has actually endeavored to investigate the asthmatic child by means of the Rorschach. That study (39) was of a comparatively different nature than the present one. Thus, because of the almost complete lack of systematic research in this area, this study was undertaken.

In answer to the third question proposed earlier, namely, why was the Rorschach used, there are really three main points. First, the Rorschach Ink-Blot Test is one of the most promising personality tests today, as it forces the individual to reveal himself when confronted with an unstructured stimulus situation.

This unstructured or amorphous material does not have socially standardized objects or events in its makeup. Frank (18) exemplifies this point of view in the following words:

"The Rorschach method offers a procedure through which the individual is induced to reveal his 'private world' by telling what he 'sees' in the several cards upon which he may project his meanings, significance, and feelings, just because they are not socially standardized objects or situations to which he must give culturally prescribed responses."

The author of that statement also points out that because of the lack of cultural norms that the subject is faced with in this test, he is more apt to reveal himself, and thus the value of projective methods is exemplified in the Rorschach test.

Frank (4) calls a projective test, such as the Rorschach, a "constitutive method", due to the plasticity of the stimulus for the subject. Because of this plasticity, the child, in this study, is free to react in any way he or she deems necessary without fear of violating socially standardized customs.

Secondly, the only study (39) that was done with these children was partly a Rorschach one, and thus the writer had some basis for research, structure of his problem, and a later analysis of certain results.

The third, and final point on the use of the Rorschach concerns itself with a comparison of the asthmatic children to a study (41) of normal non-asthmatic children. The Rorschach is one of the projective tests that has been used a great deal with

normal children. Due to this fact, it was felt that a comparison with normals would more easily be facilitated because of the number of studies in this area.

Therefore, the aims of this study of Rorschach responses of asthmatic children are, as previously stated, to obtain a quantitative record of their responses, see if the asthmatic boy differs significantly from the asthmatic girl, and also to compare the asthmatic child, by means of the Rorschach to the normal non-asthmatic child.

CHAPTER II

REVIEW OF THE RELATED LITERATURE

The literature related to this study is not voluminous. Were one to restrict oneself to the literature on asthma, one could write volumes. However, the asthmatic child in relation to Rorschach performance has already been seen to be an area in which much work is needed. The literature on the Rorschach Ink-Blot Test and its value, reliability, and validity is extensive. Nevertheless, the following three validity studies will give the reader some idea of the value of the Rorschach Test in clinical diagnosis.

Benjamin and Ebaugh (14) matched diagnoses arrived at through blind interpretations of the Rorschach with psychiatric diagnoses. They were completely successful in thirty-nine out of forty-six cases, and comparable diagnoses were present in the remaining seven cases. The results showed that the Rorschach test possesses a high degree of diagnostic validity, somewhere between 84.7 per cent and 97.8 per cent.

Hertz, Beck and Klopfer (23) interpreted a record submitted to them, and a comparison of the analyses showed a high degree of reliability between the interpretations. The interpretations validly related themselves to clinical data.

Rosenzweig and Vernon (31) suggest a method of validation in which a series of personality sketches based upon Rorschach interpretations is matched blindly with a second series, prepared by other investigators, based on clinical notes and observation. The results obtained from this procedure yielded a correlation coefficient of 0.883 ± 0.0315 . Vernon states that this constitutes a higher degree of validity than is found in any of the other objective personality tests that are used.

A number of studies have been performed on reliability and some notable ones will be described here, the one by Kerr being the only one done with children.

Fosberg (17) found in his study reliability correlations that were high, leading him to conclude that the Rorschach test is highly reliable. His mean correlations for location, determinants, content, and the test as a whole were .914, .885, .807, and .877 respectively. Median correlations for the same categories in the aforementioned order were: .955, .944, .908, and .928. Standard deviations were: .131, .145, .215, and .162, respectively. The test withstood the experimental manipulations of the subjects, and also of the experimenter in a special situation where the Rorschach factors were directly pointed out to each subject.

Hertz (20) reports that the Rorschach factors appear to be reliable in most cases. Coefficients of correlation that resulted were: percentage of responses (.97), original (.91), and chiaroscuro (.91). Satisfactory coefficients (.8), according to Hertz,

were obtained for number of responses (.89), percentage of whole (.84), rare detail (.86), oligophrenic detail (.81), space detail (.87), color (.81), animal form answers (.85), human form answers (.86) and number of items (.86). Percentage of normal detail (.75), good form (.73), and movement answers (.74), and the color score (.76) obtained coefficients approximating .70. The lowest coefficient (.6) on the group was that for percentage of popular answers (.66). Hertz first standardizes the procedure and scoring method in the study, and then computes the reliability of the test factors, also using the corrected split half method. Comparing Erlebnistyp suggested by each half of the test, she found the percentage of correspondence to be seventy-three.

Kerr (25), studying one-hundred normal English children, aged nine to twelve years, and using the test-retest method of measuring reliability, found relatively low scores for reliability. However, she used a long interval (one year), and thus such results might have been expected. She concludes, however, by saying that "the Rorschach test does give good working knowledge of the subjects' temperament as a whole, including the interactions and balance between the affective and intellectual elements, is undoubted by anyone who has used the test".

Vernon (38) studied ninety subjects, twenty-five male students of Yale University, forty-eight male students of Harvard University, and seventeen male and female adults in England. Using

the split-half method, his reliability coefficients were: for W per cent + 0.74, F+ per cent + 0.33, M per cent + 0.62, sum C per cent + 0.34, A per cent + 0.48, O per cent + 0.60, P per cent + 0.64, average is + 0.54, and R is + 0.91. He attributes his low reliability scores to subjectivity of scoring and to shortness of the test. Because of these unsatisfactory results, Vernon concludes that the test is not reliable.

Thus, we find the Rorschach described as a valid projective test in three studies (14,23,31), and as a reliable test by Fosberg (17), and Hertz (20). Kerr (25), using the test-retest method with an interval of a year, arrived at low reliability scores. However, she concludes her study by praising the applicability of the test, and its various functions. Vernon (38), using the split-half method, found low reliability scores, and concludes that the test is not reliable. Nevertheless, we have seen the satisfactory results that Hertz obtained for the different factors, and this is probably due to better standardization of procedure, and a more objective scoring method.

When one conducts a Rorschach study with children, one cannot help but mention the study done by Ames (1). Ames studied 650 normal children, aged two to ten, of above average intelligence, and recorded norms for these children.

One of the original purposes of this thesis was to compare the asthmatic children with Ames' ten year old children (since mean ages are similar). However, Ames' ten year old children

have a mean number of responses totalling only 16.80, whereas the asthmatic child in this study has a mean number of responses equal to 24.53. Due to this disparity, which would effect all other determinants, no comparison could be made. The reader, however, is given these facts in order to acquaint him with the extensive study done by Ames and the disparity in productivity between the asthmatic child and the non-asthmatic child.

The question now arises, what are some of the research theories concerning the asthmatic child? As previously noted, the literature is voluminous in relation to general theories of asthma. The literature on Rorschach administration to asthmatic children is minute in comparison. It will be noteworthy to record some of the more pertinent and important theories of asthma as related to children, and secondly, the actual research carried out with the Rorschach Ink-Blot Test in this sphere.

Asthma is not a new disease entity. On the contrary, it has been known for many thousands of years. The word itself comes from the Greek *ἀσθμα*, which means panting. In the course of time, innumerable theories have been advanced to explain the disease. Of all the causes that have been suggested, the two factors to be considered of importance today are the constitutional, and the psychological. The specific importance given to each factor depend on the point of view of the writer. Generally, it is agreed that both play a part in the disease picture.

Practically all authorities are agreed that asthma is not strictly hereditary.

Wood (37) mentions that allergy can strike the psychic centers and cause character changes, as well as effecting the eye, ears, nose, gastrointestinal tract, or the respiratory and motor areas of the brain. He believes that character changes due to an allergic reaction could well result in the developing of a "problem child". That physical allergy of the brain can cause emotional changes, as well as a psychic disorder causing somatic changes, is a point that Wood believes physicians and psychologists should be more cognizant of.

Maxwell (27) writes that the psychological factor in asthma is perhaps the most important single factor in producing the asthmatic attacks. Any kind of nervous tension plays a major part in the causation of an asthmatic state.

Strauss (33) believes that we cannot classify asthma as a psychoneurosis, but he feels that psychic factors contribute to the asthma syndrome in greater degree than has been thought likely. The author of this article has four points of view on this matter, namely: (1) that asthma may, in certain cases, be complexly determined; (2) a person is likely to develop the asthma syndrome if he is a deviate from the norms of his social group; (3) an asthmatic attack is likely to ensue when it (the attack) suits the asthmatic subject's unconscious or preconscious purposes; and (4) allergic individuals who live under extreme stress and strain are liable to exhibit the asthma syndrome.

Gillespie (19) contends that asthma is not caused by

psychological factors alone, but that asthma, from the nature of the attacks, is made up of a reaction to stimuli that could be either physical, or psychological.

"Not only may psychological factors in the shape of emotions or ideas elicit individual attacks, but they may act in continuing fashion to produce a state of tension which every now and then may reach explosion point and express itself in an asthmatic paroxysm."

Clarkson (15) notes that the parent's invasion of the asthmatic's psychic life could markedly influence the affective states of the child. He postulates several points that he believes are common to a varying degree in nearly every case of asthma. These characteristics are: (1) an intensification of emotion by allergic or biochemical factors; (2) in a certain percentage of cases the psychological phenomena are dependent on a disordered biochemistry; (3) if the latter factor is not adequately treated, there is a continuance of an intense emotional life; (4) according to the child's temperament, this may work as a "retreat into illness" or a psychopathic way of escaping from reality; (5) asthma's peculiar nature (variety of attacks, occurrence, etc.) may be explained for the most part by the frequent repetition of the original stimulation, which leads to changeable psychic derivatives, that eventually enter the life of the person and at any point may lead to an attack; (6) where the psychic factor predominates, therapy is prolonged and uncertain; and, finally, the author states (7) "in a small but definite proportion of cases asthma is the expression of a psychosis".

Trebbig and Ripley (35) studied fifty-one adult patients, twenty-eight women and twenty-three men. They found that all the subjects showed marked insecurity and a great need for protection and affection from some parent or parent-figure. The patients were egocentric, seclusive, moody and emotionally immature. "Conspicuous in the attacks was anger which was not openly expressed." This anger was seen to be followed by frustration, and inadequacy feelings. When emotions were aired, symptoms were less severe. The authors conclude that bronchial asthma and its associated symptoms may be considered as "constituting an effective means of 'shutting out' or 'shutting in' which limits the individual's participation in the situation about him". These aforementioned modes of reaction may be considered defenses of the asthmatics studied.

Hurst (24) believes that individuals are born with the asthma diathesis. However, he states that every asthmatic can derive much benefit from "good advice". Although he believes that bronchial asthma is constitutional, a contradiction seems to be present when the author notes that many asthmatics are not allergic at all, but that their attacks are caused by psychical stimuli. He contends that in many cases the first asthmatic attack follows an acute bronchial infection, with a resulting attack after colds or bronchitis at later dates. From this fact follows the theory that, "the most common psychological exciting cause in asthma is expectation". An asthmatic who has been accustomed to having attacks at specific times or places is likely to continue to do so when the

allergic causes have ceased to operate. Thus it is seen that this authority, although holding to a constitutional viewpoint, believes that psychical changes can occur to precipitate asthmatic attacks at later stages of development. He seems eclectic in his theory of asthma, although not actually admitting it in so many words.

Rogerson (30) states:

"In my experience the asthmatic child tends to be of a special personality type characterized in its purest form by the following features: he has an intelligence above average, he is unstable, aggressive and quick to respond, and he is over anxious, insecure and unselfconfident."

He also is of the opinion that one of the most important, but least appreciated effects of the psychological factor in asthma is that the organism is more sensitive to physical factors, regardless of what they might be, which produce the attack. Rogerson further believes that there is an unusual quality to the relations between the child and its mother and/or father. However, he modifies this by saying that not every over-protected child develops asthma.

It is interesting to note that Rogerson (30) believes asthmatic children are above average in intelligence. The views on this point are conflicting. The majority of authorities believe that the asthmatic child is no different, intelligence-wise, than the normal average child. This fact is more clearly seen in the following three studies.

In 1929 Balyeat (13) published an article in which he claimed that allergic children are mentally and physically superior to the average. His estimate of intelligence was based on the Otis

Self-Administering Tests given to eighty allergics and the same number to non-allergics.

In 1937 Piness, Miller and Sullivan (28) studied one hundred forty-five allergics, and one hundred and five controls. They found that asthmatic children are very similar in intellectual level to a normal group with the variations of a normal group. The median I.Q. of the allergics was found to be 104.1, of the controls 105. They tested with the Stanford-Binet, Goodenough, Detroit Primary and National Intelligence.

Chobot, Spadevecchia, and De Sanctis (26) tested one hundred sixty-nine children, with suitable controls, and also found no significant difference in I.Q. These children ranged in age from five years to fifteen years. The median age for the group was ten years and seven months. The Pitner Personality Outline and Pupils Portrait Test were also administered and the authors found that the allergic girl is emotionally more stable than the allergic boy. Another finding was that allergic children show all degrees of ascendancy and submission, extroversion and introversion, the tendency being slightly toward submission and introversion for the group as a whole.

Riess and Cillis (29) studied 139 children, patients in pediatric and allergy clinics of a New York hospital. They ranged in age from eight years to sixteen years, with no specific selection as to sex. The Pitner, Loftus, Forlano, Alster Aspects of Personality Test was administered to them, and it was concluded

from the results that the allergic child tends towards ascendance, extroversion, and emotional instability. This was almost the opposite of the Chobot et al. study previously noted. They (Riess and Cillis) also stated that "allergy tends to be accompanied by personality constellations which differ markedly from those found in normal, non-allergic children".

The research done with Rorschach Administration to asthmatics is confined to three studies. The study of Fine (39) is the most illuminating of all.

Wellisch (36) in his research mentions various theories of asthma, some of which were already discussed (19, 24, 30, 33). After stating these various theories, the author then describes his findings in a Rorschach test administered to an eleven year old asthmatic girl. The results in this particular case tend to show the child to be extratensive, have oppositional tendencies, strong inner conflicts, insecurity, anxiety, and great sensitivity. The author demonstrates the value of the Rorschach for psychotherapy in asthma. He states that the Rorschach test "gives an objective cross section of the personality structure which is a valuable check to subjective clinical impressions". Projective painting of the response he believes increases the exactness of the material. Finally, the author believes the Rorschach is an aid in psychotherapy because it can be valuable in conjunction with other tests, and also in uncovering latent content that can be arrived at through free association.

Schatia (32) studied thirty-nine adult asthmatics at an allergy clinic and one seventeen year old asthmatic boy. The adult asthmatics were composed of thirty-two women and seven men. Schatia concludes from the results of his research that the subjects suffering from asthma are psychoneurotic, as determined by Miales signs on the Rorschach.

The only study done at this time and in this country utilizing the Rorschach Ink-Blot Test with asthmatic children is that of Fine (39). He used a battery of projective tests, one of which was the Rorschach, and administered them to sixty clinic patients, thirty asthmatics, and their thirty non-asthmatic siblings. The asthmatics ranged in age from six years-two months to thirteen years-ten months. The mean age was ten years -.63 month. The results of the tests on these children were compared with their non-asthmatic siblings. Significant factors as to the use of certain determinants, card preference, etc. were also tabulated. The author describes the asthmatic boy generally as strongly introversive, but despite this, unable to withdraw from external stimulation. He shies away from emotional entanglement, but when emotionally involved, he is apt to be explosive, uncontrolled and uninhibited. The girl, on the other hand, has two outstanding features in her personality. There is a strong preference for emotional entanglements, and an unpleasant father-image. She is like the boy in being introversive and uncontrolled when emotionally involved. Asthmatics are distinguished from their non-asthmatic siblings in six respects,

namely: they are more introversive, oral drives are especially strong (oral responses on the Rorschach that involve the mouth or some mouth action), they are more dependent, they are more explosive and uncontrolled, they are apt to be more conforming, and they have a more unpleasant father-image. As noted previously, this study was performed with clinic patients, and also predominantly non-Caucasians (forty per cent negroes). Fine also noted that asthmatics expressed a pronounced aversion to card IV; used color without definite form to a prominent degree; had an appreciable difference in the use of the concept water as a main or part of the main response idea for the boys as well as for the girls; and that the girl uses more color than the boy. He emphasizes the large number of space responses involving oral activity, that are either main or additional. This fact is important in that orality is interpreted by him as relating to the bronchial asthmatic's difficulty in breathing during an attack. This is found to a significant degree in his research.

The reader has noted that this study was conducted with predominantly non-Caucasian children of a clinic group. The literature on asthmatics mentions the fact that asthmatics generally come from broken homes. The following two studies exemplify this.

Gane's (40) study showed the fathers of eleven of the twenty children studied to be away from home. In Steiner's (42) research, he found that allergic children come from broken homes significantly more often than non-allergic children.

From the review of the literature one sees certain personality indicators that are present in the asthmatic child. For the purpose of clarification and emphasis, the writer will summarize the various theories of authorities cited in this chapter.

Asthma is a disease entity that has been known since the time of the Greeks. Present day theories of the asthmatic's personality differ to a degree, but there is general agreement on certain major points. There is little doubt that a psychological factor has a part in the asthma diathesis. It has been shown that allergy can strike various centers of the person's body to cause character changes (37). This point appears to be held either implicitly or explicitly by all authorities mentioned.

There is general agreement on certain theories, other than the aforementioned direct psychological factor, of asthma. The reader has seen that Maxwell (27), Strauss (33), and Gillespie (19) all believe that any kind of nervous tension plays a major part in causing the asthmatic state. This nervous tension may be due to the individual being under severe stress and strain. Psychological factors active in the form of emotions may also produce a tension in the individual.

There is an agreement on the effect of parental supervision, and affection or lack thereof, in the asthmatic child's life. Clarkson (15) points to the parent's invasion of the psychic life of the child as an influence on the affective states of the child. Treutig and Ripley (35) note that there is a need for pro-

tection and affection from some parent or parent-figure. Rogerson (30) states that there is an unusual quality in the relationship between the father and mother. This might easily be transmitted either consciously or unconsciously to the child. Fine (39) concludes that the asthmatic child has an unpleasant father-image.

The asthmatic child is viewed by Rogerson (30), Treutig and Ripley (35), and Wellisch (36) as showing marked signs of insecurity, anxiety, and lack of self confidence or insecurity.

Following is a summarization of those theories that are in disagreement as to the psychological makeup of the asthmatic. A disagreement is seen when Rogerson (30) and Balyeat (13) state that the asthmatic is above average in intelligence. However, other studies deny this, namely those of Chobot et al.(16), and Piness, et al. (28), who found that the child is average in intelligence. The majority of authorities on asthma seem to corroborate this fact.

Fine (39) observed the asthmatic child to be introversive in his experience-balance type, while Wellisch (36) believes the child to be extratensive. Studies conducted by Chobot, et al.(16) place the asthmatic as submissive and introversive. This study was conducted with the Pitner Personality Test. Another study (29) conducted with the same test shows the asthmatic child tending toward ascendance and extroversion.

A final disagreement occurs when Schatia (32) calls asthmatics psychoneurotics, and Strauss (33) denies this diagnosis. Schatia's study was conducted with adults, and one seventeen year

old boy. None of the studies cited in this chapter attempt to arrive at a definite clinical diagnosis of the children. Therefore, Schatia's and Strauss' disagreement is of little importance at the present time.

The important thing is to recognize what basic personality indicators are present in the asthmatic child. With all the aforementioned facts in mind, the present study will attempt to arrive at a quantitative description of the responses of these children to the Rorschach test. The resulting comparison with norms of normal non-asthmatic children will be made to see how the children differ.

CHAPTER III

DESIGN OF THE RESEARCH

The Rorschach test was administered to forty children, twenty-six boys and fourteen girls, who ranged in age from nine years-one month to twelve years-eleven months. The mean age for the boys was 127.56 months (10.63 years) with a standard deviation of .95. The girls had a mean age of 132.96 months (11.08 years) with a standard deviation of 3.07. The mean age for the group was 129.36 months (10.78 years) with a standard deviation of 1.92. There was no significant difference found between the ages of the boys and the girls. The t- score was .52.

The t-score refers to the difference between means for the boys and the girls on all the scoring categories of the Rorschach. There was no critical ratio computation conducted for Table V because the miscellaneous content responses did not occur to an appreciable degree in the records.

A t-score of 2.025 is considered statistically significant at the five per cent level of confidence. A t-score of 2.712 is considered statistically significant at the one per cent level of confidence. Both of these figures assume an N of forty, with thirty-eight degrees of freedom.

The children in this study were private patients in a pediatric and allergy practice¹. They were diagnosed medically as suffering from asthma. These children were undergoing medical treatment at the time of the testing. None of the children had ever been under psychological or psychiatric care.

The individuals in this study do not, in any instance, come from a home where one of the parents is either dead, separated or divorced from his or her mate.

Tests were carried out in the pediatrician's office on days when no appointments were scheduled for the pediatrician. If the parents accompanied the child, they were told not to come into the testing room, and all complied with the instructions.

The child was seated to the left of the experimenter at an average sized office desk. The desk was cleared except for the testing materials, which consisted of Rorschach cards, paper, pen, stop-watch, and location chart. This experimenter was seated a little behind the child so he could easily view any movements of the card.

The Rorschach Ink-Blot Test is composed of a standard series of ten ink blot pictures. The cards are white and are seven

¹ The physician who diagnosed these children as having asthma is a Diplomate of the American Board of Pediatrics, a member of the American Academy of Pediatrics, the American Academy of Allergy, and the American College of Allergists, as well as president of the Chicago Pediatric Society.

by nine and one-half inches, each having a symmetrical ink blot printed on it. They are numbered consecutively from I to X. Five of the cards are achromatic (I, IV, V, VI, VII) and five are chromatic (II, III, VIII, IX, X), the first two being red and black, and the last three being multi-colored in pastel shades.

Prior to the testing session, a time limit of from ten to twenty minutes, depending on the mood of the subject, was set aside to allow for adequate rapport to be established between testor and testee. This session usually dealt with talk of the weather, since it was an unusually warm summer, sports, and other topics which children of that age are interested in. In all cases it was felt that the subjects were very much at ease, and not at all threatened by the situation.

The technique used in administering the test was that of Klopfer and Kelley (8). When the testing started, the following statement was made (8): "You know you can drop ink on a sheet of paper, fold it, squeeze it and when you open it, find a picture". This was accompanied by the appropriate gestures, and also acknowledgment of the fact that perhaps the subject has done this sort of thing himself (or herself). After this the following was said, "The cards before you have been made in the same way, and I am going to show them to you, one at a time. Now people see all sorts of things in these ink blot pictures, so you tell me what you see, what it might be for you, or what it makes you think of." Any questions as to quantity of responses per card, turning the cards,

etc., was reflected by the statement "that's up to you". As each card was presented it was accompanied by the remark, "what might this be", or "what does this remind you of?". None of the subjects asked about the purpose of the stop-watch or if they had to do the test in a certain time.

The inquiry was administered after the child responded to all the cards the first time they were presented. There are various theories relating to the administration of the Horschach to children and especially to whether the inquiry should immediately follow the responses to the card, or should be given after the performance proper.

Swift (34) believes the young child (pre-school in this case) must be encouraged constantly in the performance of the task. She uses an inquiry after each response. Ford (12) does not allow any rotation of the card. She stresses a demonstration rather than a lot of talking in the instructions to the child, and uses a trial blot. Ford believes that a trial blot is important when testing young children. Klopfer and Margulies (26) believe that the child should constantly be encouraged, to permit persistent attention to the task.

Since these asthmatic children are between nine and twelve years of age inclusive, it was felt by the author that the child could perform the task by using the standard adult procedure. This view is also taken by Halpern (6), who believes that most

children of five years and over can go through the test as the adult does. Halpern states that in general "the closer to standard form the test procedure adheres, the more objective the interpretation of the findings is likely to be." She further contends that cards that are refused in the initial presentation should always be presented once more in the inquiry. The same procedure was also followed with the children in this study.

Testing of the limits was used after the inquiry on the second presentation of the cards. The testing of the limits, however, was preceded by a request for card preference. The card preference was refined a bit, in that the child was asked to place the cards in two stacks. Those cards he liked best were placed in one stack and those he liked the least in the other stack. In each stack he was told to put the one liked best on top, and the one liked least on the bottom. Thus the child was instructed that he would have one card which he would like best of the best, and one card which he would dislike most of the least or like least of the least. Before this procedure was followed the subject repeated the directions so that the experimenter could ascertain if the child understood. When this was finished, the child was asked which was which, and then the child would point out or hold up those cards which were asked for in the instructions. In fact, every child said "This I like best of the best, and this least of the least." It was felt that in this way a record of card preference would be obtained that had, by degrees, refined the cards to the exact ones

which the subject either cared for or disliked the most. The reason for this was that the cards that were eventually considered to be the best by the children were for the great majority of asthmatics due to the ease with which they obtained their various concepts. By inquiring why they liked one particular card best of all those they put in the stack denoting this, gave the author a true reason for their choice of the one particular card. Thus an accurate interpretation to their card preference was possible. The writer feels that this is far more valuable than asking the child simply to pick the card he liked best, and the card he liked least.

As in the administration, the scoring was done according to Klopfer's (8) system. The scoring symbols and their meaning are as follows:

Location categories

W = whole blot

D = large usual detail

d = small usual detail

Dd = unusual detail

S = white space

Determinants

M = figures in human-like movement

FM = animals in animal-like movement

m = abstract or inanimate movement

k = shading as three-dimensional expanse projected on a two-dimensional plane (x-ray, topographical map)

Determinants, continued

K = shading as diffusion (smoke or clouds)

FK = shading as three-dimensional expanse in vista or perspective

F = form only, not enlivened

Fc = shading as surface appearance or texture, undifferentiated

c = shading as texture (undifferentiated)

C' = achromatic surface color

FC = definite form with bright color

CF = definite color with indefinite form

C = color only

Content categories

H = human figures

Hd = parts of human figures, not anatomical

A = animal figures

Ad = parts of living animals

Aobj = fur skins, skulls and the like

At = human anatomy

Obj = all kinds of man-made objects

N = nature (landscapes, mountains, rivers, and other scenery)

P = popular

$$\text{sum C} = \frac{FC + 2 CF + 3C}{2}$$

Mean and median values for each scoring category, along with the standard deviations, were computed for the boys as a

group, for the girls as a group, and finally for both groups combined, which will comprise the total group. The results of these statistical methods were compared with the mean and median values of the respective scoring categories in Ledwith's (41) study. The statistical formulae used were obtained from Guilford (5).

One has to be aware of the limitations engendered in using norms from someone's else research. There is always a lack of adequate information as to the identity of the group of normal children, their personality makeup, the conditions under which the tests were administered and various other factors. For example, Ledwith's children were tested from six years to eleven years, tests being repeated every year. This would arouse skepticism in the author's mind, since the degree of familiarity with the test after the second year of testing becomes much greater. However, the opposite view may be had on judging others' norms, namely that these children really are normal, well adjusted children and the factors under which the testing occurred were optimum. Comparison will therefore be made with these facts in mind.

Each Rorschach record was scored on the day of administration, again within the next week, and once again at the time of data analysis, to increase the accuracy. The records were also rechecked as to accuracy of scoring, by an individual trained in the Rorschach method. Any difference that occurred on the basis of scoring was discussed and a final decision was reached. A few disagreements were easily corrected.

Original responses were scored, and since a response is considered original only if it appears once in one hundred records, comparison was made with a group of people conducting a normative study with younger children. However, because their study was with younger children, and the experience of the writer is confined to the number of children tested in this study, originals were not statistically computed. Another reason was the fact that the literature does not report what would be common or original, so far as content for asthmatic children is concerned.

There has been no mention of form quality in these records of the asthmatic child. There are two reasons for this. First, since these were children being tested, one could not expect them to respond with the same quality as one would expect of an adult. The author and checker were aware that the asthmatic was responding in reference to the reality of a child, and a child's experiences. Secondly, the author cannot use other studies and their findings in relation to form minus responses. The research of Hertz (7) applies to adolescents age twelve to sixteen. This does not affect the nine, ten, and eleven year old asthmatics. Ames (1) uses Hertz's (7) method, and also states that if the F+ responses are not found in Hertz's study, then one should judge the response as "more or less accurate than other responses scored F+". The same distinction seems to apply to F-. Halpern (6) does not truly differentiate for the reader her basis for scoring F-, or where she obtains such a rationale in scoring. Therefore, due to the lack of agreement in

other studies with normal children, and an absence of norms for form quality for younger children and/or asthmatics, F- was not scored. However, it was considered in the scoring because the records were judged on the basis of what one could expect from a child. In all cases the responses were elaborated enough that the scorer and the checker felt no F- score was warranted.

Since the present study is being compared with a study of normal children, the literature shows that Ledwith (41) presents in table form the mean and median values of the Rorschach factors at age levels six years-eight months through eleven years-eight months, respectively. This study was conducted with 138 normal children and not with asthmatic children. The same children were tested at yearly intervals from six years-eight months through the eleven year period.

Ledwith's ten year-eight month old group will be compared to this writer's mean age group of ten years-eight months. Ledwith's statistics are for children who have an I.Q. between ninety and 109.

A point that the writer feels should be brought to the reader's attention is that of the intelligence of the asthmatic children. No intelligence tests were administered; however, since these children were from a private pediatric practice, and thus were not a clinic clientele, the socio-economic status of the group is undoubtedly higher. Therefore, the probable above average intelligence of these children may be reflected in their extensive use of varied content categories, and overall Rorschach protocol

(Chapter IV, page 32). This fact should be kept in mind in evaluating the children's performance.

CHAPTER IV

ANALYSIS OF THE RESULTS

The data presented in this chapter represents the results of this study of forty asthmatic children, aged nine to twelve years. Every study has its own particular mode of design. Therefore, when a comparison is made with the study conducted by Ledwith (41), only those categories which are comparable will be considered.

The boys in the group, on the average, had more responses to their credit, and took a little more time to respond to the total cards and to the chromatic cards than did the girls. The fact should be noted that although there is no significant difference between the number of responses for the boys, and the girls, the difference (6.33) is appreciable. The author is aware of the limitation and caution that one should apply in evaluating and interpreting in the light of this discrepancy. The reason for this is that all scoring categories may possibly be effected by the mere difference in the number of responses.

The boys in the group on the average, had more responses to their credit, and took a little more time to respond to the total cards and to the chromatic cards than did the girls. There was no appreciable difference between the chromatic and achromatic

cards.

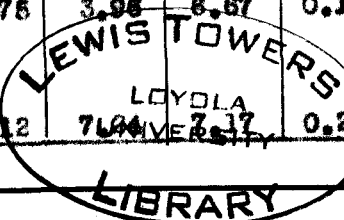
In general, children are not nearly as productive on the Rorschach as adults are. The number of responses they give ranges from zero to twenty with a mean between ten and fifteen, depending upon the age of the subject. Klopfer (6) states that for adults the average number of responses falls within a range of twenty to forty-five. Thus, one might conjecture that this comparatively large number of responses for these children may indicate a compulsive need for completion or quantity. The asthmatic child may also be said to be perceptually responsive and receptive of the world about him, possibly more aware than the average child.

Table I illustrates these facts.

TABLE I

NUMBER OF RESPONSES AND TIME CONSUMED IN REACTING
TO THE RORSCHACH CARDS OF FORTY ASTHMATIC CHILDREN

Factors	Mean values			Median values			Standard deviation			t-scores
	Boys (N=26)	Girls (N=14)	Total (N=40)	Boys	Girls	Total	Boys	Girls	Total	
Total responses	26.73	20.43	24.53	20.50	17.75	19.07	14.00	10.05	13.11	1.59
Total time	10'28"	7'56"	9'39"	7'40"	6'90"	7'25"	27.89	20.54	22.58	0.34
Time per response	25.07	25.33	25.16	24.00	26.50	24.62	14.56	7.93	10.44	0.07
Av.react, time to Achro.Cds.	12.18	12.51	12.30	10.00	12.50	10.50	7.75	3.96	6.67	0.17
Av.react, time to Chro.cds.	15.06	14.49	14.86	14.25	11.50	13.85	7.12	7.64	7.37	0.23



An inspection of Table II (page 35) shows that three location categories significantly differentiate between the asthmatic boy and girl. The boys show a significant difference from the girls in the amount of whole detail used, unusual detail, and per cent of unusual plus space detail. The use of additional space responses almost reaches the five per cent level of confidence, and one might speculate on this as a trend toward a significant difference if a larger group of subjects were utilized in this study.

The asthmatic boy and girl uses whole responses to a greater degree than normal. This emphasis on W tends to lead the writer to the hypothesis that the asthmatic child, since the W's are of good quality and the form level is high (no F-'s in any record), possesses the ability of viewing the relatively separate facets of his experience as an interrelated whole. The asthmatic utilizes an average amount of large usual detail in his reaction to the Rorschach cards. This seems to indicate that the child recognizes everyday problems and facts, and has a certain practical, commonsense approach for dealing with them. However, the child does use small usual detail, and this is rather rare in children. The presence of this small usual detail is suggestive of distractibility or efforts at escape and avoidance. This may stem from insecurity on the part of the child, and thus he clings to whatever small aspects of life's situations he derives satisfaction and certainty from. Therefore, even while possessing a certain amount of common sense in recognizing and dealing with everyday problems, the child

may use this commonsense only for the things in which he is secure, namely the minutiae of life.

The use of additional space responses is interesting in the light of their extensive appearance in the asthmatic's record. One might speculate that this is a reflection of the child's own sense of inadequacy, insecurity, or general insufficiency. The great majority of these additional space responses involve oral activity. The experience balance of the child is also vacillating between introversion and ambiequality. Due to these two facts, the author is led to hypothesize that the insecurity is due to the physical state of the child, which possibly limits the child in his activities with others, and their view of him. That this is present in an introversive setting possibly suggests oppositional tendencies directed toward the self, in the form of destructive or self critical (the latter more likely) tendencies. Because an ambiequal state is also present, this may lead to indecision or ambivalence in the child's adjustment. Since, as stated previously, the child is between introversion and ambiequality, the asthmatic may be self critical and undecided in his mode of behavior and adjustment. This hypothesis gains further support later on, when FK is discussed.

Thus from the contents of Table II the author conjectures that the asthmatic child possesses the ability to view the relatively separate facets of his experience as an interrelated whole. In viewing these experiences, the child is aware of their occurrence in his everyday life and problems. However, there may be certain

things in his daily life situations which, although he is able to deal with, through his use of commonsense, at the same time there is something which militates against adequate adjustment and certainty in these dealings. Thus the child clings to small things in life of which he is certain, and derives satisfaction from, at the same time avoiding things he is insecure about. The various aspects of the asthmatic's life that foster the feelings of insecurity or insufficiency may be the child's asthmatic state. This could possibly curtail his behavior in relation to activities with other children and their resulting acceptance, and also his status in the home in relation to parental over-protection, or even rejection. Naturally, this is highly speculative, due to the lack of a case history on these children. The presence of oppositional tendencies may be directed against the self in a critical attitude, or lead to a state of ambivalence and insecurity in the asthmatic child's adjustment.

The boys are significantly different from the girls on three determinant factors, namely: (1) they see more animal-like movement; (2) shading as surface appearance or texture is used more by the boys; and (3) shading as three-dimensional expanse in a vista or perspective is utilized to a significant amount by the boys over the girls. The last two factors are significant beyond the one per cent level of confidence, since a t-score of 2.712 is needed to attain this level.

TABLE II

THE MEAN, MEDIAN, STANDARD DEVIATION, AND T-VALUES
IN THE LOCATION CATEGORIES OF THE RORSCHACH
TEST FOR FORTY ASTHMATIC CHILDREN

Location	Mean values			Median values			Standard deviation			t-scores
	Boys (N=26)	Girls (N=14)	Total (N=40)	Boys	Girls	Total	Boys	Girls	Total	
W	7.00	5.57	6.50	5.83	5.18	5.50	4.17	2.41	3.71	2.45
D	12.85	11.00	12.20	11.18	11.00	10.75	8.13	6.55	7.61	0.77
d	3.81	2.93	3.50	3.00	1.50	2.28	3.70	4.38	3.98	0.62
Dd	2.58	0.64	1.90	1.25	0.00	0.00	3.24	1.11	2.84	2.69
S	0.50	0.29	0.43	0.00	0.00	0.00	1.28	0.70	1.12	0.66
W%	32.73	33.71	33.08	26.17	29.50	27.83	23.19	22.75	23.04	0.13
D%	44.77	52.57	47.50	50.61	61.93	53.13	17.29	17.45	17.74	1.31
d%	12.19	10.07	11.45	11.15	7.85	9.50	10.13	10.87	10.45	0.58
Dd+S%	8.88	3.64	7.05	5.00	0.00	3.50	9.55	6.28	8.91	2.03
Addl.S	3.00	1.57	2.50	2.67	1.00	1.96	2.48	1.92	2.39	1.99

Not significant, but nonetheless interesting to note, is that form responses comprise over fifty per cent. of the total number of responses for the two groups as a whole, and the two groups considered separately.

From a further analysis of the use of determinant categories, as seen in Table III (page 39), certain points are seen to be of importance.

Generally, the responses tend to bulk in the left half of the psychogram for the asthmatic boy, girl and total group. The

left half includes the following determinants: M, FM, m, k, K, and FK. The right half includes Fc, c, C', FC, CF and C. The two sides are separated by the middle F column. The hypothesis is that a psychogram which has a majority of the responses on the left side tends to show a person that restructures his world when he perceives it, drawing heavily upon his needs and experience. The implication is that this type of person reworks external reality before reacting to it. The reader has seen this to be true in the asthmatic's use of d, and his self critical attitude.

The asthmatic child's use of FK is interesting, in that it is hypothesized that FK indicates an attempt by the person to handle his problems by introspective efforts. He tries to objectify his problem by gaining a perspective on it, and thus, by putting it at some distance, he is free to introspect. In any individual, this is usually an aid to better adjustment, or at least a sign of it. The appearance of FK along with S also seems to reinforce the hypothesis previously noted, that the child is consciously aware of his feeling of inadequacy and insecurity.

One of the possible problems of the child is the total absence of c. Little c is indicative of affectional needs and cravings, mostly on a physical contact basis. An absence does not mean the child does not want affection of this sort, but cannot manifest his desire for affection. Possibly the child is afraid to show this desire or need for affection due to past unpleasant experience when this type of behavior was attempted.

The use of Fc by the asthmatic shows that the affectional craving for contact has been differentiated and refined into a more controlled manifestation. The child is probably aware of his desire for approval, belongingness, and responsive from others. One might conjecture that the child is sensitive to others because of a need to receive affection from others. This sensitivity is probably a tactful awareness of the needs and feelings of other people. The last statement is formalized on the basis of the high form per cent, - over fifty. One might speculate that although the child is capable of a more richly differentiated response to his world, he is inhibited in such responses, having repressed his tendencies to acknowledge and respond to his own inner needs and thus act according to his own emotional reactions. His adjustment rests on stripping the personal and individual components from experience. This associated with whole responses may reflect inhibition through compulsive emphasis on organization, or a compulsive meticulousness and correctness in relation to the d used.

Thus, one might say that the use of over fifty per cent. F by the asthmatic child tends to show the child to be inflexible or constricted with compulsive elements. This compulsivity was also seen to be present in the use of whole detail responses.

The relatively small amount of M is not rare or abnormal in the Rorschach records of children of this age. The children have not as yet reached the stage developmentally where a good number of M is to be expected.

The use of animal movement seems within the normal range for children. An emphasis of FM over M is not rare for this age group. FM responses generally seen in any considerable number tend to show that impulses to immediate gratification are present. The majority of all children manifest this type of behavior.

The use of color by the asthmatic is not extreme in any sense of the word. The average is under one response for the FC, CF, and C determinants. Sum C is a little over one. FC predominates over any of the other categories. Thus one might speculate that when these children do respond to an emotional provoking situation they respond with ready control and without loss of responsiveness. This controlled responsiveness implies that the person can respond with both feeling and action appropriate to the emotional demands of the situation. However, because color is not used much by these children, the hypothesis might come to the reader's mind that the asthmatic child shies away or retreats from social situations that would lead to emotional reactions. Such a point of view is possible.

From an analysis of content, animals, animal details, and objects comprise the majority of responses. Nature responses are also prevalent to a degree, having a total occurrence sixty-two times out of the forty records. Fifty-four of these nature responses are present in the records of the boys.

However, the significant differences are seen to occur in human responses, human detail, animal objects, and nature responses.

TABLE III

THE MEAN, MEDIAN, STANDARD DEVIATION, AND T-VALUES
IN THE DETERMINANT CATEGORIES OF THE RORSCHACH
TEST FOR FORTY ASTHMATIC CHILDREN

Determinant	Mean values			Median values			Standard deviation			t-Scores
	Boys (N=26)	Girls (N=14)	Total (N=40)	Boys	Girls	Total	Boys	Girls	Total	
M	1.12	0.79	1.00	.95	0.00	0.73	1.12	1.21	1.16	0.83
FM	4.12	2.86	3.68	4.17	3.00	3.50	2.28	1.13	2.04	2.29
m	0.64	0.50	0.53	0.00	0.00	0.00	1.05	0.82	0.97	0.13
k	0.23	0.14	0.20	0.00	0.00	0.00	0.69	0.52	0.64	0.47
K	0.38	0.29	0.35	0.00	0.00	0.00	0.63	0.45	0.57	0.50
FK	0.73	0.07	0.50	0.00	0.00	0.00	1.02	0.26	0.89	3.00
F	14.12	12.64	13.60	13.65	10.75	12.50	8.26	8.62	8.42	0.68
F%	51.92	58.50	54.23	54.50	62.00	57.00	14.78	17.41	16.05	1.18
Fe	2.58	0.93	2.00	2.08	0.70	1.60	1.86	1.03	1.80	3.51
e	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
C'	0.68	0.79	0.85	0.00	0.00	0.00	1.48	1.26	1.41	0.20
FC	1.65	0.79	0.85	0.00	0.00	0.70	2.40	1.21	2.10	1.46
CF	0.31	0.50	0.38	0.00	0.00	0.00	0.61	0.73	0.66	0.76
C	0.08	0.14	0.10	0.00	0.00	0.00	0.27	0.35	0.30	0.60
SumC	1.27	1.11	1.21	0.83	1.00	1.00	1.77	3.23	2.48	0.17

The nature responses being significant beyond the one per cent level of confidence. The asthmatic boy uses these content themes more often than the girls.

Since the content of the responses reflects the breadth

and nature of the individual's interests, the asthmatic child is pictured as possessing an above average number of wide and varied interests. The high number of animal responses is normal for children of all ages and suggest a stereotypy of response. The comparatively large number of H, Hd, and At responses seems indicative of an interest in persons or in the self, along with an interest in bodily parts and functions. This seems logical for children afflicted with a physical disease. The large number of objects and nature responses also seems to show that the asthmatic child has a growing awareness of things about him in reality.

TABLE IV

THE MEAN, MEDIAN, STANDARD DEVIATION, AND T-VALUES
IN THE CONTENT CATEGORIES OF THE RORSCHACH TEST
FOR FORTY ASTHMATIC CHILDREN

Categories	Mean values			Mean values			Standard deviation			t-Scores
	Boys (N=26)	Girls (N=14)	Total (N=40)	Boys	Girls	Total	Boys	Girls	Total	
H	2.15	1.14	1.80	2.17	0.00	1.64	1.43	1.51	1.54	2.16
Hd	1.62	0.57	1.25	1.00	0.00	0.68	1.78	0.82	1.61	2.44
A	8.31	7.43	8.00	7.06	7.10	7.07	4.32	3.02	3.94	0.73
Ad	3.84	4.14	3.75	3.10	3.50	3.25	3.10	3.70	3.34	0.60
Aobj	0.73	0.29	0.56	0.67	0.00	0.00	0.76	0.45	0.70	2.32
At	1.19	1.36	1.25	0.83	0.75	0.80	1.30	1.91	1.55	0.29
Obj	4.35	3.07	3.90	3.26	2.17	3.00	4.40	2.40	3.87	1.16
Pl	0.31	0.43	0.35	0.00	0.00	0.00	0.67	0.62	0.65	0.63
N	2.08	0.57	1.55	1.28	0.00	0.96	2.32	0.73	2.05	3.02

The other content responses do not appear to a great extent, as seen in Table V.

TABLE V
THE MEAN, MEDIAN, AND STANDARD DEVIATION IN THE
MISCELLANEOUS CONTENT CATEGORIES OF THE
RORSCHACH TEST FOR FORTY ASTHMATIC CHILDREN

Category	Mean values (N=26) (N=14) (N=40)			Median values			Standard deviation		
	Boys	Girls	Total	Boys	Girls	Total	Boys	Girls	Total
Sex	0.00	0.07	0.03	0.00	0.00	0.00	0.00	0.26	0.16
Geog.	0.27	0.00	0.18	0.00	0.00	0.00	0.65	0.00	0.54
Art & Des.	0.19	0.00	0.13	0.00	0.00	0.00	0.62	0.00	0.51
Clouds	0.27	0.14	0.20	0.00	0.00	0.00	0.52	0.35	0.47
Blood	0.00	0.07	0.03	0.00	0.00	0.00	0.00	0.26	0.16
Fire	0.12	0.00	0.08	0.00	0.00	0.00	0.32	0.00	0.26
Mask	0.12	0.07	0.10	0.00	0.00	0.00	0.32	0.26	0.30
Smoke	0.15	0.07	0.13	0.00	0.00	0.00	0.36	0.26	0.33
Cloth.	0.31	0.43	0.35	0.00	0.00	0.00	0.46	0.90	0.65
Stick	0.15	0.07	0.13	0.00	0.00	0.00	0.46	0.26	0.39
Wind	0.04	0.00	0.03	0.00	0.00	0.00	0.19	0.00	0.16
Water	0.27	0.21	0.25	0.00	0.00	0.00	0.65	0.56	0.62
Logs	0.04	0.00	0.03	0.00	0.00	0.00	0.19	0.00	0.16
Food	0.23	0.00	0.15	0.00	0.00	0.00	0.50	0.00	0.42
X-ray	0.23	0.00	0.15	0.00	0.00	0.00	0.69	0.00	0.57
Explos.	0.04	0.00	0.03	0.00	0.00	0.00	0.19	0.00	0.16
Scene	0.04	0.00	0.03	0.00	0.00	0.00	0.19	0.00	0.16
Branch	0.00	0.07	0.03	0.00	0.00	0.00	0.00	0.26	0.16
Lava	0.00	0.07	0.03	0.00	0.00	0.00	0.00	0.26	0.16
Stones	0.00	0.07	0.03	0.00	0.00	0.00	0.00	0.26	0.16

Table VI illustrates the occurrence of popular responses, the per cent of animal responses, of differentiated shading responses, and of responses to the last three cards. Other factors not contained in the table, but nonetheless important Rorschach personality indicators, yield the following results. H+A exceeds Hd+Ad seventy-seven per cent of the time for the boys, sixty-four per cent for the girls, and seventy-three per cent for the total group. The M to Sum C ratio is equal to 0:0 to 0:1.5 seventy-seven per cent of the time for the boys, sixty-four per cent for the girls, and seventy-three per cent for the total group. It is interesting to note the exact agreement in these two separate instances. The FM+m to Fc+c+C' ratio equal to 2:0 to 4:3 sixty-five per cent of the time for the boys, eighty-six per cent for the girls, and seventy per cent for the total group. Finally, W is three times M in eighty-one per cent of the cases for the boys, seventy-one per cent for the girls, and seventy-eight per cent for the total group.

The average number of populars is within the normal range for children of ten years of age. This merely suggests that the asthmatic child is perceiving an experience in the way an adult would react to that experience. From this it seems that the child is getting along fairly well with his peers. That is he is not reacting at all his life situations the way an adult would react, but as a child does.

The differentiated shading responses are less than

one-quarter of the F responses in the records of the asthmatic child. This leads the author to speculate that there tends to be denial, repression or underdevelopment of the need for affection. This hypothesis is bolstered by the total lack of c in the child's record, and his desire for affection from others by the use of Fc. Thus the writer's theory of the child being rejected at some time when he was striving for affection, might be significant.

The use of differentiated shading plus total F is interesting in that this also gives information as to the personality of the asthmatic child. Since the FK+F+Fc per cent does not exceed seventy-five, and the F per cent was around fifty-four (that is, near the accepted value of fifty) the hypothesis seems to be that the rigidity of constriction is modified and somewhat softened. The person with introspective tendencies and/or sensitivity is able to live effectively in a social milieu. However, the person will be restrained in his dealings with others, and will find it difficult to make close and warm affectional contacts. This seems to be in agreement with what was noted previously.

The child is neither inhibited nor stimulated by color in the last three cards, having an over all average of 35.35 per cent productivity to cards 8, 9, 10. This is further verified by the lack of shock to color by the children. The significance of color will be treated when erlebnistyp factors are discussed.

The H+A emphasis was discussed in the content table, and the erlebnistyp factors will be discussed in relation to Table VII.

TABLE VI

THE MEAN, MEDIAN, STANDARD DEVIATION, AND T-VALUES
IN THE MISCELLANEOUS RORSCHACH FACTORS OF
FORTY ASTHMATIC CHILDREN

Factors	Mean values			Median values			Standard deviation			t-Score
	Boys (N=26)	Girls (N=14)	Total (N=40)	Boys	Girls	Total	Boys	Girls	Total	
P	4.96	4.29	4.73	4.90	4.17	4.63	1.61	1.61	1.57	0.44
A%	45.46	57.00	49.50	45.21	59.50	49.50	13.20	13.33	14.34	0.63
FK-Fc%	65.23	63.93	64.78	66.64	66.64	66.64	13.27	14.49	13.73	0.06
% resp. 8,9,10	34.69	36.57	35.35	34.00	38.50	34.74	8.63	5.26	7.67	0.15

However, since W is three times M in over seventy per cent of the cases, one would conjecture that the child is striving for a high level of performance in his life's routines. This high level of aspiration is failing for the child because the child does not have enough creative energy to accomplish the desire for achievement. This hypothesis, however, is highly speculative in that the average number of M for these children is low, thus not much stress can be put on the statement.

Erlebnistyp factors were mentioned previously. The girls show an extratensive tendency in that M is less than sum C in fifty-seven per cent of the cases. However, the FM ratio is greater than the Fc ratio in seventy-nine per cent of the records, therefore showing a strong introversive picture. The responses to the last three cards lends one an illustration of an ambiequal personality,

in that seventy-one per cent of the individuals fall between thirty and thirty-nine per cent of the responses.

The boys do not show such a disparity, but do show a disagreement on one of the ratios. The M to sum C ratio has M greater than sum C, forty-two per cent of the time, thus being introversive. This is not appreciable, because thirty-nine per cent of the boys also show an extratensive personality. The FM ratio is introversive sixty-five per cent of the time. Responses to the last three cards once again show ambiequality.

The total group is forty-five per cent extratensive on the M ratio, seventy per cent introversive on the FM ratio, and fifty-three per cent ambiequal on the responses to the last three cards.

Thus it is apparent that the two categories that are the most constant are the $FM:M$ to $Fc+c+C'$ ratio, and responses to cards eight, nine and ten. The reason for the disparity between these two ratios, and the M to sum C ratio is that M and sum C are quite low. Psychologically, one cannot predicate that a high M should occur, because these children are not developmentally advanced enough for that to happen. Klopfer (8) says that "....M is very scarce up to an eight year level, averaging less than one. A preponderance of FM over M is the natural state up to puberty." The children have not reached this stage of a strong M, and with a low number of color responses, a fluctuation of erlebnistyp is not rare. The writer believes that it is wisest, in view of what has been

stated, to say that the children are vascillating at the present time between introversion and ambiequality. Table VII will be illustrative of the aforementioned facts.

Since the Sum of C is less than three, one might say that there seems to be too little responsiveness to influences from the environment, regardless of the extratensive picture seen in the ratio to M. This hypothesis is further born out in the responses to the last three cards, and the $Fm+m$ ratio. Thus the child is seen to be vascillating between introversion and ambiequality in his experience-balance. Developmentally this seems to be the case in children of this age, whether asthmatic or not.

TABLE VII

THE USE OF ERLEBNISTYP FACTORS BY
FORTY ASTHMATIC CHILDREN

Factors	Per cent of Boys (N=26)	Per cent of Girls (N=14)	Total per cent (N=40)
$M > \text{Sum } C$	42%	29%	38%
$M < \text{Sum } C$	39%	57%	45%
$M = \text{Sum } C$	19%	14%	17%
$Fm+m > Fc+c+C'$	65%	79%	70%
$Fm+m < Fc+c+C'$	27%	7%	20%
$Fm+m = Fc+c+C'$	8%	14%	10%
Resp. $> 40\%$	27%	22%	25%
Resp. $< 30\%$	31%	7%	22%
Resp. 30-39%	42%	71%	53%

The following table illustrates the comparison between this study and that of Ledwith (41). Certain factors were not recorded in the statistics of this study. Only those factors that agree with this study will be included.

TABLE VIII

A COMPARISON OF RORSCHACH SCORING FACTORS OF ASTHMATIC CHILDREN
AND NORMAL CHILDREN

Factors	Mean values		Median values	
	Asthmatics	Ledwith	Asthmatics	Ledwith
R	24.53	23.60	19.07	22.00
W%	33.08	28.60	27.83	29.00
D%	47.50	62.20	53.13	63.00
d%	11.45	5.70	9.50	4.00
Dd+S%	7.05	*0.50	3.50	*0.00
M	1.00	2.20	0.73	2.00
FM	3.68	6.60	3.50	6.00
m	0.53	0.40	0.00	0.00
F	13.60	10.40	12.50	9.00
F%	54.23	42.00	57.00	42.00
C'	0.85	0.10	0.00	0.00
c	0.00	0.70	0.00	0.00
k	0.20	0.00	0.00	0.00
K	0.35	0.20	0.00	0.00
FK	0.50	0.20	0.00	0.00
FC	1.35	1.60	0.70	1.00
CF	0.38	0.80	0.00	0.00
C	0.10	0.20	0.00	0.00
Sum C	1.21	1.90	1.00	1.50
A%	49.60	56.30	49.50	55.00
P	4.73	5.80	4.63	6.00

* S% only

An analysis of card preference showed the boys liking cards VIII and X the best, and disliking card I the most. The girls liked card X the best, and disliked cards I and III the most. The total group liked card X, and disliked card I. This fact can be speculatively interpreted in light of what has been previously said, namely that the asthmatic child when he does respond to an emotional situation responds in an orderly way. The child mentions in his preference for card X the "nice colors", but does not use color much in the test. This may possibly be due to his fear of social situations, even though he can react in an orderly way when he has to, or wants to. The child mentions the colors as being nice, but not needed for the ideas. The author conjectures here that the child does not have to participate, although he might like to, in social situations to derive some security or satisfaction in his life.

In summary, the asthmatic child may be said to be perceptually responsive and receptive of the world about him. He possesses the ability of viewing the relatively separate facets of his experience as an interrelated whole. At the same time the child recognizes everyday problems, and facts, and has a certain practical commonsense approach for dealing with them. However, the child is distracted in reference to some of these everyday problems and tries to avoid them. He does this possibly because of an element of insecurity in his personality structure, and to alleviate the insecurity he attaches himself to whatever small aspects of life's situa-

tions he derives satisfaction and certainty from. Thus, even though he possesses a certain amount of commonsense in recognizing and dealing with everyday situations, the child may use this commonsense only for the things in which he is secure, namely the minutiae of life.

The presence of an extensive amount of additional space responses leads the author to speculate that this is a reflection of the child's own sense of inadequacy, insecurity or general insufficiency. The insecurity may be due to the child's physical state which possibly limits the child in his activities with others, and their resulting view of him. It may also be due to parental supervision, manifested in overprotection or possibly even rejection. The reader has seen that the literature points to an unpleasant parent-image in the life of the asthmatic child. The first point made of a rejection or lack of adequate acceptance by the child's friends may be partly de-emphasized from an analysis of popular responses and content categories. In these respects the child seems likely to react to his experiences as a child would, thus tending to think as his peers. In relation to the content categories, the child is seen to have wide and varied interests, although showing a preoccupation with other persons and self, along with an interest in the body and bodily activities. This latter part is interesting in view of the physical condition of the child and his emphasis on oral activity (any response involving some sort of oral or mouth action in which the space lends emphasis to the

mouth being open), and responses involving concepts of lungs and related respiratory organs.

Another speculation which seems open to the reader is that the insecurity of the child is due to a lack of affection. This is explained from a total absence of c, which is indicative of affectional needs and cravings, mostly on a physical contact basis. An absence does not mean the child does not want affection of this sort, but cannot manifest his desire for affection. Possibly the child is afraid to show this desire or need, due to previous unpleasant situations when he did manifest such behavior.

The use of Fc shows that the affectional craving for contact has been differentiated and refined into a more controlled manifestation. The child may be aware of his desire for approval, belongingness, and response from others. In fact, the presence of FK is a sign of good adjustment in the child, in that he can objectify his problems by gaining a perspective on them and then can introspect. This enables him to handle the problems adequately. The appearance of S seems to reinforce this hypothesis that the child is consciously aware of his feelings of inadequacy and insecurity. A further reinforcement occurs when the reader notes that the differentiated shading responses plus total F do not exceed seventy-five per cent. We conjecture here that the person with introspective tendencies and/or sensitivity is able to live effectively in his social environment. However, the person, in this case the asthmatic child, will be restrained in his dealings

with others, and will find it difficult to make close and warm affectional contacts. The differentiated shading responses are also less than one-quarter of the F response. From this one can speculate that there tends to be a repression, denial or underdevelopment of the need for affection, possibly due to the child being rejected at some time when he was striving for this affection.

The child, on the other hand, seems to be sensitive to others because of this need to receive affection from others. This sensitivity is probably a tactful awareness of the needs and feelings of other people. One might suggest that although the child is capable of a more richly differentiated response, the presence of over fifty per cent F shows the child is inhibited in his responses to other people. The asthmatic thus seems inflexible or constricted with compulsive elements; this was also seen in the above average use of W.

The *erlebnistyp* of the asthmatic child is one that vacillates between introversion and ambiequality. When one considers this, the hypothesis that the presence of FK and S presents the child with oppositional tendencies directed toward the self in a critical and undecided mode of behavior and adjustment, gains some credence.

The child is neither inhibited nor stimulated by color in responding to the Rorschach cards. Since the Sum of C is low, being slightly over one, there seems to be too little responsiveness to influences from the environment; in fact, the child may shy

away or retreat from emotional provoking situations. This point is true regardless of the extratensive picture seen in the ratio to M. In fact M is quite low, which is to be expected of children at this age, and this is a basis for the slight extratensive picture in this ratio.

FC predominates over any of the other chromatic determinants. One might speculate that when these children do respond to an emotional provoking situation they respond with ready control and without loss of responsiveness. This controlled responsiveness implies that the child can respond with both feeling and action appropriate to the emotional demands of the situation. It has been shown though that the child does not indulge much in social situations, and therefore does not respond very often in this manner.

The child in fact restructures his world when he perceives it, drawing heavily upon his needs and experience. The child reworks external reality before reacting to it, emphasized by the d, critical attitude and indecision, and lack of attempting to enter social situations. Like any child of this age or younger, the asthmatic tends to manifest impulses toward immediate gratification. However, this immediate gratification of impulses is probably carefully thought out in view of the restructuring of reality and insecurity present in this type of child's personality.

None of the authorities cited in Chapter II give a reason for the difference in performance between the boy and the girl on the Rorschach test. This writer believes that there are

three considerations to account for the difference seen in this study. Possibly the asthmatic girl is of a somewhat different personality than the asthmatic boy. Secondly, the appreciable disparity, although not statistically significant in the number of responses, may account for a difference. Finally, the average age of the girls is slightly higher than the boys. This point could account for a developmental difference between the sexes. At the present time the author does not know of any distinct basis for sex difference other than those mentioned above. However, the sex of the experimenter is a possible influential factor that might be considered in Rorschach research with boys and girls.

CHAPTER V

SUMMARY AND CONCLUSIONS

The main purpose involved in undertaking this project was to obtain a record of Rorschach responses of asthmatic children. This was done due to the almost total lack of research in this area. The Rorschach was utilized due to its unstructured nature. There is also a great amount of research that has been conducted with the test in relation to children. Thus it was felt that a comparison with normal children would be more easily facilitated. A further point was that the only study done with asthmatic children was partly a Rorschach one. As a result of this, this writer had some basis for research, structure of his problem, and a later analysis of certain results.

The Rorschach Ink-Blot Test was administered to forty children, twenty-six boys and fourteen girls who ranged in age from nine years-one month to twelve years-eleven months. The mean age for the boys was 127.56 months (10.63 years), with a standard deviation of .95. The girls had a mean age of 132.96 months (11.08 years), with a standard deviation of 3.07. The mean age for the group was 129.36 months (10.78 years) with a standard deviation of 1.92.

The children were private patients in a pediatric and allergy practice. They were diagnosed medically as suffering from asthma. The testing was carried on in the pediatrician's office on days when no appointments were scheduled for the physician. The standard instructions used by Klopfer (8) were given to the child with the inquiry following the performance proper on the second administration. Testing of the limits was used to clarify certain points, also card preference. All the Rorschachs were rechecked by a qualified person to insure accuracy of scoring.

The literature on the personality of the asthmatic child is in theoretical agreement. Any kind of nervous tension which may be due to severe stress and strain or extreme emotionality may play a major part in the causation of an asthmatic state. Furthermore, the parents of the asthmatic child may unduly influence the development of an asthmatic state in the child through severe supervision, rejection or over protection. There also seems to be a need for protection and affection from some parent or parent-figure. Finally the child is viewed as showing marked signs of insecurity, anxiety and lack of self confidence.

There seems to be a disagreement as to whether the child is introversive or extratensive. One authority also calls the asthmatic psychoneurotic; however, none of the studies in this area attempt to arrive at a definite clinical diagnosis of the children.

From a Rorschach sense and quantitatively speaking, the

asthmatic child presents the following picture. He averages 24.53 responses on the Rorschach test; takes a little longer to respond to the chromatic cards than the achromatic; has an average of 6.50 whole detail responses; 12.20 large detail; 3.50 small usual detail; 1.90 unusual detail; and 0.43 main space responses. Table VIII (page 49) gives the per cent of location categories used. Additional space responses occur 2.50 times per asthmatic child. The child also has an average of 1.00 M, 3.68 FM, 0.53 m, 0.20 k, 0.35 K, 0.50 FK, 13.60 F, 54.23 F per cent, 2.00 Fc, 0.00 c, 0.85 C', 0.85 FC, 0.38 CF, 0.10 C, and 1.21 Sum C determinant factors. The mean number of popular responses is 4.75, human responses 1.80, human detail 1.25, animal responses 8.00, animal detail 3.75, anatomy responses 1.25, animal objects 0.58, object responses 3.90, and nature responses 1.55. Per cent of animal responses is 49.50. Differential shading occurs in 64.78 per cent of the responses, and 35.35 per cent of all the asthmatics responses are to the last three cards. Human plus animal detail responses exceed human detail plus animal detail responses to the extent of seventy-three per cent. Whole responses exceed human-like movement responses seventy-eight per cent of the time. The M to Sum C ratio is equal to 0:0 to 0:1.5, in seventy-three per cent of the responses. The FM plus m to Fc+c+C' ratio equals 2:0 to 4:3 in seventy per cent of the responses. The asthmatic child is seen to be vacillating between introversion and ambiequality on the Erlebnistyp factors.

One of the aims of this study was to see if there was a

difference between the asthmatic boy and the asthmatic girl. In ten instances a significant difference was seen to occur between them. The boy had a greater mean score than the girl in all the cases to be noted. A significant difference at the five per cent level of confidence occurs in whole detail, unusual detail, unusual plus space detail responses, animal-like movement, human responses, human detail responses and animal object responses. Significant differences beyond the one per cent level of confidence occur in shading as a three dimensional expanse in a vista or perspective, shading as surface appearance or texture, and in nature responses.

The girls exceed the boys in form per cent, animal detail, and animal per cent, but not to a significant degree.

The results of this study with asthmatic children by and large agree with the study conducted by Fine (39). The agreement between the two studies is illustrated in the following instances: (1) asthmatics, both sexes, tended to use less shading than the non-asthmatics; (2) had more space responses; (3) more boys had a longer reaction time to the colored cards than to the achromatic; (4) more boys had either a main or an additional space response; (5) the boy uses more populars; (6) the mean number of responses is closely related, 28.77 in Fine's study, and 24.53 in this study; (7) the mean number of populars was 4.33 in Fine's and 4.73 for the asthmatic children in this research; and (8) the responses to the last three cards were 34.57 for Fine's group, and 35.35 for this group.

The purpose of comparing this writer's results with that

of Fine was that his study, as noted earlier (page 16) was the only systematic research conducted with asthmatic children. The results, although not exactly comparable, are closely related in the aforementioned eight instances.

Oral responses are present in this study in thirty-three per cent of the additional space responses among the boys. Responses are considered oral if they involve any type of open mouth response, either animal or human, with the white space giving the subject the notion of the mouth being open. The girls have such responses fifty-four per cent of the time, in their additional space response. There is no such response in main space responses. Another interesting point to be recognized is that lung responses occur twice among the boys, a vein response once, and a tooth (oral in nature) response once. Eye responses utilizing the space occurs nine times for the boys and three times for the girls.

These percentages, and specific anatomy responses are appreciable in most cases, and one might conjecture that this type of child is more apt to have such responses occurring in a Rorschach record than the normal child. The use of mouth responses seem logical when one pictures the asthmatic child in the throes of an attack. There is undoubtedly a concern on the child's part with his or her physical condition and bodily functions, and that this concern should not be projected in a personality test is unlikely.

The asthmatic shows a high percentage of form on the Rorschach. This fact, along with those noted in the comparison with

Fine's group, tend to give a pretty accurate quantitative picture of the asthmatic child in his reaction to the Rorschach Ink-Blot Test.

In contrast with Ledwith's study, the asthmatics illustrated a greater number of responses, W per cent, d per cent, Dd+S per cent, m, F, F per cent, C', k, K, and FK. The factors in which the asthmatics showed a lesser number than the normals were: M, FM, c, FC, CF, Sum C, A per cent, and popular responses. The number of responses of the normal children is attributed by this writer to their familiarity with the test, in that they had taken it at yearly intervals four times previously. This naturally also effects the determinants.

If one were to conjecture on the basis of these differences as to the personality of the asthmatic child as compared with the normal nonasthmatic child, the following might be said.

The asthmatic child restructures a situation when he approaches it and attaches himself to small things that he feels secure in. The child is more rigid than the normal child, as seen in his higher W, F and F per cent. This rigidity is related to his careful, thought-out behavior, and his self-critical attitude and indecision in the experiences he encounters. The asthmatic has greater interests and is thus less stereotyped in attitudes and modes of reaction than the normal child of his age. This is seen in the lower A per cent, and greater use of various content categories for the asthmatic child. The asthmatic child needs security, lacks

it and therefore must find things and do things in which he is secure. His need for physical contact and affection cannot be overtly manifested so he differentiates it into a more controlled form, that is, a more refined manner of seeking love and approval from others without physical contact.

The normal child, on the other hand, is more flexible, clings to the obvious and has stereotyped attitudes and interests. He seems relatively secure and confident, and does not need to attach himself to small things in life in order to gain confidence and security. He seeks some physical contact in the form of affection, and is not too afraid to do this.

Thus, the difference between the two types of children has been drawn, and speculatively presented to the reader for his acknowledgment or own views.

The author believes that one might tentatively speculate, from a quantitative comparison of Rorschach records, that the asthmatic child will be differentiated from the non-asthmatic child. A difference between the asthmatic boy and girl is quantitatively present.

It is the hope of this writer that at a later date norms can be recorded for the performance of asthmatic children on the Rorschach Ink-Blot Test. The utilization of a greater number of children is necessary for this to be accomplished.

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APPENDIX I

SAMPLE RORSCHACHS

Boy, age 12-6 yrs.

Card I - 4"

- | | | |
|----------------------------|---|-------------|
| 1. An eagle | Head, and wings, body going down here. Eagle just standing. Wings are sort of down, so he's not flying. | W F A P |
| 2. A totem pole | This is where it goes straight down, and has the same thing on both sides. The way it is straight with those big things on side, would be heads. Spaces here like in totem pole, and look same, also. | W, S F Obj. |
| 3. Horns on a moose
45" | Not on a moose, exactly, but just like they were just getting them. The shape of horns, sort of baby horns. | d F Ad |

Card II - 4"

- | | | |
|----------------------------|---|-----------|
| 1. Two bear cubs | The shapes of them, neck, feet, ears, and nose. Shape of neck goes in and out where body is. They are just standing there. | W F A P |
| 2. Hole in a mountain side | Yeah, these would be the mountains and this would be the hole that goes right thru. Saw something like it in a picture once I saw at movies. Just a hole in a mountain. | W, S FK N |

- | | | |
|-----------------------------------|---|------------|
| 3. House on mountain top
1' 5" | Looks like a house.
Pointed roof, and a long body, tall house. This part that goes up for mountain.
Just looks like mountain top. | d F Obj, N |
|-----------------------------------|---|------------|

Card III - 6"

- | | | |
|---|---|------------------|
| 1. People in half parts, bodies aren't connected. | Head and neck, and their body, W R-M H, Sex and arms. Not connected at waistline, and their legs around here. They are bent over, not doing anything. Backs are arched and they are just looking. These would be purses, shaped like them. Legs just standing there in a slanted position. Not moving. They are women. This part, it goes out (O blushes). | |
| 2. This looks like up around the chest - a dia-phragm, or whatever it is. | Here's where it goes around, and these are ribs, and this is the <u>windpipe</u> . Just shape of it, looking at chest, maybe something like skeleton. | D F At |
| 3. Lungs.
1'20" | In school, we studied about it. Shaped like lungs. That's all. | D F At
(lung) |

Card IV - 4"

- | | | |
|---|--|-----------|
| 1. Like a monster. | This big huge black thing, here's the head and it goes around for one finger, or claw-like, and big feet, here. So huge and black, he's a black monster, a lot of black hair-edges that stick out. Feet big. | W FC' (H) |
| 2. An eagle 45"
(Ah, I can't get anything else.) | Yeah, this part for the body. Here's the wings. He's flying because when they're not flying the wings are not spread like they are now. | W FM A |

Card V - 4"

1. A Bat

30"

(Ah, I can't
get anything
else on this
one)

Yeah, way his head is and
the wings are spread out
like he's flying around.
Here would be the body, it
is sort of light grey here
compared to the rest. Bats
are usually that color.

W FM, FC'

A P

Card VI - 10"

1. 2 people on a
stick, facing the
opposite
direction

People facing with their
arms out. They got a head
and nose, and arm, and this
is something like a leg.
They are stick to stick,
stick is in center and is
blackish color. Stick goes
down, shaped like stick.
Like a statue, not human.

W R, FC'

H, Obj.

2. Mountain with
totem pole on
top.

50"

Like pole, totem pole,
is straight up here and
has this stuff here sticking
out. This is head up here,
and there's some black spots
on the gray for eyes, nose
and mouth. Not necessarily
color of eyes, nose and mouth,
just shading for it. Mountain
slopes downward, just shape
of it.

D Fc Obj., N

Card VII - 3"

1. 2 elephants
balancing
themselves on
some rocks.

Here's trunk and there's
neck and body and legs.
Here's rocks; balancing on
rocks, on their rear, with
legs up in air.

W FM A, Rock

2. A steeple
between
2 rocks

55"

Tall, roof-like, and this
is body of it, there's the
door and this is rock for-
mation, goes around, elephants
not in this. Nothing else.

D FK Obj., Rocks

Girl - 12-6 years.

Card I - 5"

1. Bat or butterfly something that
flys

40"

The wings, the tail and the body here in middle. The way it looks like a bat. The shape of it. Also feelers up here.

W P FM A P

Card II - 5"

- I. Insect

35"

Has long feelers and slim part here for the head or something. Fat body with long feelers seems like typical insect. Shape. They feel with feelers and they are long and body wide-like.

D F A

Card III - 15"

1. 2 people over a pot.

Head and neck, legs and arm and pot here. Seem to be picking up pot or going and putting hands in it.

W M H P

2. Bow

1'

Sometimes girls wear bows in hair and smaller in middle and wider at ends. Not necessarily the color of it though.

D F Obj.
P

Card IV - 24"

1. A monster

50"

Arms and the large feet and the huge body. Way it's shaped, that's all. Imaginary world, would be walking toward somebody with arms spread out. Arms being spread for walking, like after someone with arms out. Looks like walking that's all.

W M (H)

Card V - 6"

1. Some sort of huge insect

1'

Wings, and the tail and two feelers here from the head. Flying because the wings are spread.

W PM A P

Card VI - 25"

1. Bug, too

50"

Here's body and feelers from the side, and wings here and feet sort of off here. Not all bugs have wings but this would be wings.

D F A

Card VII - 15"

1. 2 faces with pony-tails flying on the girls

55"

Here's face, and pony-tail is blowing up. Girls only wear pony-tails. This part sticks out here so could be bangs, because if hair were worn off forehead, it wouldn't be sticking out. Hair (pony-tail) is blowing, moving in the air. Flying up, shaped like pony-tail. Regular shape to face.

D F, Fm Hd

Card VIII - 12"

1. Animal of some kind

Face, body, tail and three legs, seems to be walking as one leg is up in air. Way he is, that's all, and is walking.

D PM A P

2. Ribs of a person

45"

Lines like ribs, not exactly, but something like it though. Just shape of it, like ribs.

D F At

Card IX - 34"

1. Claws from a lobster or crab

50"

Clamps, claw-like on crab. Open because not closed, not together, the space in there. Not moving, just open.

d F Ad

Card X - 18"

- | | | |
|---|--|-----------|
| 1. Some kind of bugs
climbing a pole | Feet here and body and
arms going up the pole,
climbing pole. This long
thing here for pole. Seem
mad at each other, curved
down, and mouth open,
space there to show mouth
being open, they're mad at
each other. | D, S FM A |
| 2. Wish-bone, off
of some fowl | Wide part at bottom
and thing going up this
thin and wide, not very,
though, at top. The
regular shape of a wish-bone. | D F At |
| 3. Spider
1' 2" | Body and legs, but more
than 8 legs. Shape and all
legs. Just sitting there. | D F A P |

APPROVAL SHEET

The thesis submitted by Robert Neil Traisman has been read and approved by three members of the Department of Psychology.

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

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

June, 1954
Date

Frank H. Ober
Signature of Adviser