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A STUDY OF RORSCHACH CHARACTERISTICS  
OF ASTHMATIC CHILDREN

by

Robert Neil Traisman

A Dissertation Submitted To The Faculty Of The Graduate School  
Of Loyola University In Partial Fulfillment Of  
The Requirements For The Degree Of  
Doctor Of Philosophy

June

1957

## 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, and received his Master of Arts degree in Psychology, June, 1954.

Mr. Traisman was a research fellow in the department of psychology, Loyola University, January, 1956, to January, 1957. He presently is a staff psychologist at The Institute for Juvenile Research, Chicago, Illinois.

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## CHAPTER I

### STATEMENT OF THE PROBLEM

This dissertation will investigate the personality structure and dynamics of the asthmatic child, aged eleven to fourteen years, as manifested by his performance on the Rorschach Ink Blot Test. Up to the present time only five empirical studies have appeared investigating the personality of the asthmatic, and utilizing the Rorschach as the main personality test. All of these studies have differed in one or more ways from this present dissertation. Two of these five studies investigated adults suffering from asthma, while another study was conducted in England and utilized only a single Rorschach protocol. The remaining two were with children, but differed in design, and findings. The writer's master's study was one of these two. Thus, it appears that some additional research should be performed in order to arrive at a personality description of the asthmatic child, based on both quantitative and interpretative Rorschach findings.

The medical and psychological professions have for some time been interested in psychosomatic disorders, and asthma is one disorder that is commonly thought to be psychogenic in origin. Asthma is defined in Dorland's Medical Dictionary (4) 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 in the majority of cases is 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 the exciting cause is inside the body. The intrinsic type is often referred to 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 group belong to the extrinsic asthma group. All the subjects react positively to one or more allergens.

The Rorschach Ink Blot Test was utilized for three reasons. First, this test is one of the most promising personality tests today, as it requires that the individual reveal himself when confronted with an unstructured stimulus situation. This unstructured or amorphous material does not have socially standardized objects or events in its form. Frank (6) exemplifies this point of view in the following words:

The Rorschach method offers a procedure through which an 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.

Frank (6) 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 a way he or she deems necessary without fear of violating the socially stan-

standardized customs spoken of in the above quotation.

The second reason for utilizing the Rorschach is that these children were tested by the writer two years ago with this projective test, and thus the reader will be able to note and interpret any significant changes that have taken place in the personality structure and dynamics of the children as manifested through a change in their Rorschach performance.

The third, and final point on the use of the Rorschach concerns itself with the fact that the test has been extensively used with normal children. The writer, as well as the reader, will have the opportunity of referring to what is "typical," in terms of certain Rorschach factors for normal, non-asthmatic children of the same age, and intelligence as the asthmatics in this study. Thus, even though a control group has been utilized for this project, there will be a frame of reference for the reader in terms of what can be expected with children of this age, on the Rorschach test, whether they be asthmatic or non-asthmatic.

Asthmatic children, in terms of their Rorschach performance, 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 but a few, but little has been done in the way of empirical research with the asthmatic child. Much has been written however, about the personality of the asthmatic child. This has been of a theoretical nature, or based on a particular individual's experience in an unspecified number of cases, with asthmatics. There, as mentioned earlier, have been only two controlled Rorschach studies of asthmatic children conducted in this country, and one was the writer's

masters thesis ("A Study of Rorschach Responses of Asthmatic Children," Unpublished Masters Thesis, Loyola University, Chicago, 1954).

The purpose of the present study is to discover what the asthmatic child is like psychologically. The important areas of investigation are: what is the asthmatic child like in terms of his personality structure and dynamics? Does his personality structure differ from that of the non-asthmatic child of the same age and intelligence? If there is a difference, what personality factors differentiate the two groups, or what factors on the Rorschach test distinguish the asthmatic child from the non-asthmatic? Does the asthmatic's personality as revealed in his Rorschach performance, change and if it does what Rorschach factors reveal this change? Finally, what Rorschach or personality characteristics distinguish asthmatic children who differ in the degree or severity of their condition? This has never been investigated through projective techniques, and the Rorschach Test in particular. Allergists are in agreement that there are four degrees of skin sensitivity that an asthmatic manifests when tested with the allergen(s) causing his asthmatic condition. These skin reactions are designated as positive one and two which are known to reveal a mild asthmatic state, and positive three and four which are proof of a severe asthmatic condition. These indicators will be utilized to dichotomize the asthmatic group into those children who manifest a mild asthma, or react positively one or two on a skin test; and, those children who manifest a severe case of asthma, or react with a positive three or four skin reaction. All the children in this study who are severe asthmatics reveal a positive four skin reaction when tested medically. Thus, a further area of investigation in this dissertation

is whether the degree of the asthmatic condition can be distinguished in the asthmatic's Rorschach performance.

The asthmatic children selected for this study were all tested two years ago, ages nine to twelve years, for this writer's masters thesis. Thus, the present study becomes unique in retesting the same group of asthmatic children two years later. This has never before been done with asthmatic children or with the Rorschach test. The present study, then will concern itself not only with the Rorschach protocols of forty asthmatic children, and forty non-asthmatic children, but also with forty protocols of the asthmatics tested two years ago. This will enable the writer to analyze and interpret both quantitative and qualitative changes that have taken place in these asthmatic's Rorschach performance.

The following hypotheses result from the major problem in this study.

- I. The asthmatic child's Rorschach performance does not change significantly from his performance of two years ago.
  - A. The average number of responses should not exceed twenty-four.
  - B. The average number of M should not exceed one.
  - C. There should not be an emphasis on W over the other location categories.
  - D. Space responses should not be present more in main scores than in additional.
  - E. The asthmatic child should not manifest more than three animal movement responses.
  - F. Form per cent should not exceed fifty per cent.
  - G. Fc should not exceed two.
  - H. CF and C should not exceed the FC score.
  - I. There should not be a restricted number of content categories.
  - J. The per cent of responses to the last three cards should not exceed thirty-three per cent.
- II. The asthmatic boy does not differ significantly from the girls in his Rorschach performance.

A. The boys do not differ significantly from the girls in the following:

1. R
2. W
3. Dd
4. Dd & S
5. FM
6. FK
7. Fc
8. H
9. Hd
10. Aobj
11. N

III. The asthmatic child, both boy and girl, does not show a marked use of oral responses (any response involving open mouth, talking, yelling food, etc.), simply because the disease is manifested in terms of oral discomfort (wheezing, gasping for breath, coughing, etc.).

IV. The severity or degree of the asthmatic's condition does not reflect itself to a significant degree in the Rorschach performance of these children. Severity of the asthmatic condition will be measured medically in degree of skin reaction to allergen(s) causing the asthmatic reaction. The method is a medical determination of skin reactions ranging from a positive one or mild, to a positive four, or severe.

A. Children with a positive one and two skin reaction do not show a significantly different Rorschach protocol from those with a positive three and four skin reaction in use of location categories, determinants, responses, and content.

V. The asthmatic child does not show a significantly different Rorschach protocol from the non-asthmatic child in terms of responses, determinants, content, and location categories.

The rationale for hypothesis I is based on the fact that studies have shown that Rorschach responses change with the child's increasing psychosocial development. Thus, the hypothesis assumes this fact, although stated in a way in which the null hypothesis can be tested (Guilford (7), p. 261). This manner of presentation for testing the null hypotheses is assumed in hypotheses II, III, and IV. Since an hypothesis is generally considered to be an informed guess the reader(s) will note (Chapter II, p. 21) that

hypotheses II, III, and V are derived from the results of the study of asthmatic children conducted two years ago. These earlier results have been projected to the present study in the form of hypotheses to be tested and to be either accepted or rejected on the basis of the results achieved from this study.

## CHAPTER II

### REVIEW OF THE RELATED LITERATURE

The literature related to this study is not voluminous, although the literature in the medical material of asthma is quite complete. 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. The following three studies will give the reader some idea of the value of the Rorschach test in clinical diagnosis.

Benjamin and Ebaugh (24) 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 reliability, somewhere between 84.7 per cent and 97.8 per cent.

Hertz, Beck and Klopfer (43) interpreted a record submitted to them, and a comparison of the analyses showed a high degree of validity between the interpretations. The interpretations validly related themselves to clinical data.

Rosenzweig and Vernon (60) 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

cal notes and observation. The results obtained from this procedure yielded a correlation coefficient of 0.88 + 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 was conducted with children.

Fosberg (34) found in his study reliability correlations that were high, leading him to conclude that the Rorschach test is highly reliable. His mean positive 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.

Herts (41) reports that the Rorschach factors appear to be reliable in most cases. Positive coefficients of correlation that resulted were: percentage of responses (.97), original (.91), and chiaroscuro (.91). Satisfactory coefficients (.8), according to Herts, were obtained for number of responses (.89), percentage of whole (.84), rare detail (.86), oligophrenia 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)



was that for percentage of popular answers (.66). Hertz first standardized the procedure and scoring method in the study, and then using the corrected split half method, he computed the reliability of the test factors. Comparing Erlebnistyp suggested by each half of the test, she found the percentage of correspondence to be seventy-three.

Kerr (46), 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 of one year between test and retest, and thus such results might have been expected. She concludes, however, by saying that "the Rorschach test does give good working knowledge of the subject's temperament as a whole, including the interactions and balance between the effective and intellectual elements, is undoubted by anyone who has used the test."

Vernon (68) 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 (24,43,60) and as a reliable test by Fosberg (34), and Hertz (41), Kerr (46), 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 (68), using the split-half method, found low reliability scores, and concludes that the test is not reliable. Nevertheless, the reader has 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.

The asthmatic children in this study were matched for intelligence with normal non-asthmatic children utilizing the Otis Quick Scoring Mental Ability Test, the Beta test (grades 4-9). Reliability of the Otis Beta was determined by correlating Forms A and B, as well as odd and even scores, within single grade groups. The former procedure yielded coefficients ranging from .65 to .98; the latter from .79 to .92. Evidence for validity is based upon the item selection procedures, which employed a criterion of school acceleration or retardation.

The question might now arise, what are some of the research theories concerning the asthmatic child? As previously noted, the literature is extensive in relation to general theories of asthma. The literature on Rorschach administration to asthmatic children is meager in comparison. It will be noteworthy to record some of the more pertinent and important theories of asthma as related to children. Secondly, the actual research carried out with the Rorschach Ink Blot Test will be outlined.

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 *ἄσθμα* which means panting. In the course of time, many theories have

been advanced to explain the disease. Of all the causes that have been suggested, the two that are considered of importance today are the constitutional, and the psychological. The specific importance given to each factor depends 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 completely hereditary.

Wood (67) mentions that allergy can strike the psychic centers and cause character changes. It may also effect 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 development of a "problem child." Wood believes physicians and psychologists should be more cognizant of the fact that physical allergy of the brain can cause emotional changes, as well as a psychic disorder causing somatic changes.

Maxwell (51) 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 (63) 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 (36) 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 (28) notes that the parents 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 points are as follows: (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 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 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."

Treutig and Ripley (64) 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 modes of reaction mentioned by Treutig and Ripley may be considered defenses of the asthmatics studied.

Hurst (14) 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 writer, although holding to a constitutional viewpoint, believes that psychical changes can occur to precipitate asthmatic

attacks at later stages of development.

Rogerson (59) 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 (59) 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, intellectually, than the normal average child. This fact is more clearly seen in the following three studies.

In 1929 Balyeat (23) 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 allergic children and the same number of non-allergic children.

In 1937 Piness, Miller and Sullivan (57) 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, that of the controls was 105. These investigators utilized the Stanford-Binet, Goodenough, Detroit Primary and National Intelligence tests.

Chobot, Spadevecchia, and De Sanctis (29) 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 (58) studied 139 children who were 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 toward ascendance, extroversion, and emotional instability. This was almost the opposite of the findings in the Chobot, et al. study previously noted. (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.")

French and Alexander's (19) conclusions on the psychogenic factors present in bronchial asthma have been widely publicized. These investigators conclude that the common underlying pattern of the group of asthmatic patients they had studied was an excessive dependence on the mother, with

accompanying fear of estrangement. They lean toward insecurity as the psychosomatic cause of asthma in children. They liken the asthmatic wheeze to a stifled cry precipitated by threatened loss of security. However, in a later publication Alexander (22) states explicitly that before the asthmatic condition occurs the individual must have an organic predisposition towards the disease.

This implied maternal rejection was explored by Miller and Baruch (54) who found practically one hundred per cent overt rejection on the part of the mother in their group of asthmatic patients under allergic and psychiatric care. They reported large series of children in whose lives there was a disturbance in the parent-child relationship. They consider this emotional disturbance, namely, "maternal rejection to be of the utmost significance in the production of allergic symptoms in children possessing an allergic constitution." The following two studies mention the fact that asthmatics come from broken homes.

Gane's (68) study showed the fathers of eleven of the twenty children studied to be away from home. In Steiner's (72) research, he found that allergic children come from broken homes significantly more often than non-allergic children.

Abramson (20) in discussing the asthmatic patient states, "on the basis of my studies the allergic child is not primarily rejected by the mother or father, but that rather the opposite may occur." "... where the intensity of the asthma progresses in uncontrollable form, the disturbance in the parent-child relationship is not parental rejection but rather mutual engulfment (introjection)." That is, there is a narcissistic desire on the



part of the parents to idealize the child as a substitute for their own deficiencies. This concept has been previously applied to the role of the mother in psychosomatic problems in general by Sperling (62).

Harris (37) states, "there is no specific emotional pattern in allergic disease that has been convincingly proved." "Any or all emotional experiences may influence allergic disease, as indeed they may influence the progress of a patient suffering from any other type of illness.

Langeveld (47) does not agree with the theories that suggest the rejecting mother, or that the child's asthmatic attack represents the stifled cry of the child longing for its mother. He does note that a strong dependency may exist, but feels this may be more of a result of the disease rather than a predisposing factor.

Ziskind (18) completely denies any proof of connection between asthma and emotional disturbances except as a secondary and non-specific factor. Leigh (48) in his critical review also concludes that no specific constellation of psychological or personality factors has been proved to exist in asthmatic persons.

The research done with Rorschach on asthmatics is limited to five studies. One of the studies was conducted in England, two investigated adults suffering from asthma, and two were with asthmatic children. The following studies in the aforementioned order will now be discussed.

Wellisch (66) in his research mentions various theories of asthma, some of which were already discussed. After stating these various theories, the author then describes his findings in a Rorschach test administered to one eleven-year-old asthmatic girl. The results in this particular case tend

to show that the child is extratensive, that it has oppositional tendencies, strong inner conflicts, insecurity, anxiety, and great sensitivity. The author discusses 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 (61) studied thirty-nine adult asthmatics at an allergy clinic and one seventeen-year-old asthmatic boy. The adult asthmatic 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 Miasles signs on the Rorschach.

Waxenberg (65) studied twenty adult asthmatic women, ranging in age from 23-46 years, having a median age of 36.5 years. He contrasted this group with a group of twenty female patients suffering from colitis, and a group of twenty women suffering from tumors. His hypothesis was that the asthmatics were passive, dependant, and very much identified with supportive mother-figures. He utilized the Rorschach, the Draw-A-Person, and the Bender Gestalt tests. In all instances there were no significant differences between the asthmatics and the other groups studied. His hypotheses that the female asthmatics on the Draw-A-Person would draw the female first, and tend to draw the woman larger in vertical dimension than the male figure was also not

found to be true.

The only study done at this time, and in this country, other than the present writer's, utilizing the Rorschach Ink Blot Test with Asthmatic children is that of Reuben Fine's (69). 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 10-6 years. The results of the tests on these children were compared with their non-asthmatic siblings. Significant factors related to the use of certain determinants, and card preference 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 open 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 express a pronounced aversion to card IV; use color without

definite form to a prominent degree; have 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 since 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.

Traisman (73) studied forty asthmatic children, twenty-six boys, fourteen girls, ranging in age from nine years-one month to twelve years-eleven months, having a mean age of 10-7 years. All of these children were private patients in a pediatric and allergy practice, and were diagnosed medically as suffering from asthma. All the children were white, and in no instance was there a broken home. The asthmatic was found to utilize careful and self-critical attitudes in his behavior. He has greater interests, and is less stereotyped in his attitudes and modes of reaction than the non-asthmatic of his same age. The asthmatic needs security, lacks it, and attempts to find and do things in which he is secure. This is primarily accomplished through the restructuring of situations which he perceives and by concerning himself with small things in which he feels secure. The asthmatic's need for physical contact and affection cannot be overtly manifested, possibly due to fear of rejection, so he differentiates it into a more controlled form, that is, a more refined manner of seeking love and approval from others without his becoming overly close to them. The child, on the other

hand, seems to be sensitive to others because of this need to receive affection from others. However, due to his inflexible control he is inhibited in his emotional and affectional response.

Contrary to the findings of Fine regarding the similarity of the asthmatic boy and girl, the present writer found a statistically significant difference in ten Rorschach scoring categories between the two groups. This, then, would conflict with Fine's results that the asthmatic boy and girl basically manifest the same personality structure through their Rorschach test performance. Further results also indicated that the asthmatic was far more productive in number of responses on the Rorschach than the non-asthmatic. This finding tended to influence the number and degree of determinants appearing, and further differentiate the asthmatic from the non-asthmatic child.

From the review of the literature the reader 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 the authorities 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 (67). This point appears to be held implicitly by the great majority of authorities mentioned.

There is general agreement on certain theories. The reader has seen that Maxwell (51), Strauss (63), and Gillespie (36) 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 (28) 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 (64) note that there is a need for protection and affection from some parent or parent-figure. Rogerson (59) 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. Abramson (20) disagrees with the rejection theory but notes rather that the child is engulfed by the parents, due to their narcissistic desire to idealize the child as a substitute for their own deficiencies. This, of course, is similar to the theory of Rogerson. French and Alexander (19) note the asthmatic's excessive dependence on the mother, with accompanying fear of rejection. Miller and Baruch (54) in their study of maternal rejection come to a similar conclusion. Fine (67) concludes that the asthmatic child has an unpleasant father-image.

The asthmatic child is viewed by Rogerson (59), Treutig and Ripley (62), and Wellisch (66) as showing marked signs of insecurity, anxiety, and lack of self-confidence. Fine (69) observed the asthmatic child to be introversive in his experience-balance type, while Wellisch (66) believes the child to be extratensive. Studies conducted by Chobot, et al. (29) show the asthmatic to be submissive and introversive. Another study (58)

shows the asthmatic child tends toward ascendance and extroversion.

A disagreement on the intelligence of the asthmatic is seen when Rogerson (59) and Balyeat (23) state that the asthmatic is above average in intelligence. However, other studies deny this, namely those of Chobot, et al. (29), and Piness, et al. (57), who found that the child is average in intelligence. The majority of authorities on asthma seem to corroborate the fact that the asthmatic is within the normal range of intelligence.

While the majority of authorities mentioned a specific emotional or personality pattern as being present in asthmatics, Harris (37), Langeveld (47), Siskind (18), and Leigh (48) stated the opposite. That is, no proof has been given of a connection between asthma and emotional disturbance, and no specific constellation of personality factors exists in asthmatic persons.

A final disagreement occurs when Schatla (61) calls asthmatics psychoneurotics, and Strauss (63) questions this diagnosis. None of the studies cited in this chapter or generally through the literature attempt to arrive at a definite clinical diagnosis of the children. Therefore, Schatla's and Strauss's disagreement is of little significance at the present time.

The important thing to recognize is that there are certainly major disagreements with regard to the basic personality factors present in the asthmatic child. With these findings in mind, the present study will attempt to arrive at a description of the personality structure and dynamics of the asthmatic children in terms of their Rorschach performance.

## CHAPTER III

### DESIGN OF THE RESEARCH

The Rorschach test was administered to forty asthmatic children, twenty-six boys and fourteen girls, who ranged in age from eleven years-one month to fourteen years-three months. The mean age for the boys was 12.70 years with a standard deviation of .87. The girls had a mean age of 12.78 years with a standard deviation of .71. The mean age for the group was 12.75 years with a standard deviation of .82. There was no statistically significant difference found between the ages of the boys and the girls. The t-test was .42.

The asthmatic children were matched for age with a control group of forty non-asthmatic children who were all students at St. Edward's Parochial School and were in the sixth, seventh, and eighth grades. The control group was also composed of twenty-six boys and fourteen girls who ranged in age from eleven years-one month to fourteen years-four months. The boys had a mean age of 12.76 years with a standard deviation of .92. The girls had a mean age of 12.85 years with a standard deviation of .77. The mean age for the group was 12.77 years with a standard deviation of .86. There was no statistically significant difference found between the ages of the boys and the girls. The t-test was .46.

There was no statistically significant difference in age found between the asthmatic children and the non-asthmatic children. The t-test was



.48. A t-test of 2.711 is required to be statistically significant at the one per cent level of confidence, N was forty, with thirty-eight degrees of freedom.

In addition, each asthmatic child was individually matched for IQ with a non-asthmatic child. In all cases the IQ's between the asthmatic children and the non-asthmatic children were identical. Thus, there could be no statistically significant difference between the boys and girls of either group, or between the total groups. The mean IQ for the boys was 105.54 with a standard deviation of 5.76. The mean IQ for the girls was 106.79 with a standard deviation of 6.35. The mean IQ for the group was 105.38 with a standard deviation of 6.02.

All the children in the study were native-born Whites and received the Otis Quick Scoring Mental Ability Test, the Beta test, grades four to nine. A group test was chosen because the literature reveals the asthmatic to be of normal intelligence whether tested with a group or an individual intelligence test. Thus it does not appear that individual intelligence testing was necessary since the personality characteristics of the asthmatic are not directly dependant upon his intelligence, as might be the case if the child was either below or above average in intellectual functioning.

Each non-asthmatic child's school record was examined prior to testing, and the child was questioned in order to ascertain his freedom from any allergic condition, whether it be asthma, hay fever, or food allergies. The children were also screened for freedom from any serious behavior problems by having their teacher fill out a Behavior Symptom Check list (71) prior to the testing of the child. None of the children come from a home where one of the

parents is either dead, separated, or divorced from his or her mate.

The asthmatic children were the same children utilized for the writer's masters study. These children were private patients in a pediatric and allergy practice.<sup>1</sup> They were medically diagnosed as suffering from asthma. All the children in the study are presently undergoing medical treatment for their asthmatic condition. As with the non-asthmatic group, in no instance did the asthmatic children come from a home where one of the parents was 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 to wait in the reception room, and all complied with the request.

Since these children all had the Rorschach previously all testing began with a brief question on what they recalled about the test. This was done to see whether there had been any significant recall, in terms of specific responses from their first contact with the test. In all cases the children were unable to state anything specific that they remembered from the previous testing. Characteristic statements of the type, "they were pictures," "they were blotches of ink you showed me and I had to tell you what I saw," were elicited from the asthmatic children.

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<sup>1</sup>The physician who diagnosed these children as asthmatic is a Diplomate of the American Board of Pediatrics, a member of the American Academy of Allergy, and the American College of Allergists, as well as the American Academy of Pediatrics. He is also past president of the Chicago Pediatric Society.

A time limit was allotted prior to testing for establishing rapport, and generally for allowing the child to feel at ease. This was not a difficult task because of the tester's familiarity with the children from the first testing. In case a brother and sister were tested it was done on the same day with no opportunity for one to tell the other of the test. There were only two cases of brother-sister testing.

The child was seated to the left of the tester 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. The tester was seated a little behind the child so he could easily view any movements of the card. The intelligence test was administered on a day prior to the Rorschach testing. Hence there was no element of over-fatigue as may have occurred if the child had been given all the tests on the same day. Following the Rorschach administration the child was asked to take the Draw-A-Person Test. It was felt that if the figure drawings followed the Rorschach the child would feel less threatened, since it is agreed by many clinicians that figure drawings can be quite anxiety producing to a child.

The technique used in administering the test was that of Klopfer and Kelley (11). When the testing started, the following statements were made: "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. 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 answered 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 stop-watch or the timing.

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

Since these asthmatic and non-asthmatic children are between eleven and fourteen years of age inclusive, it was felt by the tester that the child could perform the task by using the standard adult procedure. This view is also taken by Halpern (7), 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 liked 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. Thus an accurate interpretation with respect 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.

The same procedure was utilized in the testing of the non-asthmatic children. The tester had a private room assigned to him at the school, and there were no distractions during the testing session.

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 of scoring and resulting interpretation.

As in the administration, the scoring was done according to Klopfer's (11) system. The scoring symbols and their meaning are as follows:

Location categories

W - whole detail

Location categories (Continued)

- 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)
- K - shading as diffusion (smoke, clouds)
- EK - 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

Content categories (Continued)

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

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

$$A + Ad = A\%$$

$$H + Hd = H\%$$

The statistics to be employed will be the measures of central tendency, standard deviation, and the Chi-Square test as recommended for Rorschach studies by Cronbach (30). The utilization of a limited number of significance tests is desirable since if one dichotomizes a distribution in many ways the chances of a significant difference rise greatly. Cronbach (30) states, "if the investigator examines his distribution and makes his cut at the place where the difference is greatest, he has by implication examined and discarded all other possible hypotheses."

With regard to the measures of central tendency, the median will be given preference over additive procedures such as the mean in dealing with the Rorschach distributions. The reason for this is that the median makes no assumption about scale units. Chi-square is recommended by Cronbach as follows: "to test the significance of a difference between two groups the best procedure is to make a cut at some suitable score and compare the number of cases in each group falling beyond the cut, using chi-square." The test of

significance of differences between proportions on the Rorschach will yield the same results. One advantage of cutting scores is that one may test for differences between groups both in the high and low directions. This is very important, since very high F%, or very low F%, for example, may have diagnostic and/or interpretative significance. In the analysis based on mean, deviations of the two types cancel.

An extremely important factor in Rorschach research is to control for the effects of the responses. The usual approach when comparing groups is to test the differences in one score after another, and then to generalize that the groups differ in the traits to which the scores correspond. The various scores, however, are not experimentally independent, since a subject's productivity influences all his scores. If two groups differ markedly in number of responses, they may also differ in W, F, and M. There are several procedures to control for the effect of the responses on the records any of which can be applied.

The proportions involved in Rorschach scores such as W:M, M:Sum C, etc., were handled by determining the frequency of cases having a given pattern. Significance of difference will be tested by chi-square, and when the frequency of cases method was limited by the data, pattern tabulation was utilized. The patterns of scores and/or signs was tested for significance by the chi-square method. This is the usual procedure for testing significance for Rorschach research.

The Draw-A-Person test was utilized to ascertain the asthmatic's perception of themselves as projected in their drawings. The possibility of any peculiar bodily or somatic distortions of the mouth area appearing in the



drawings were analyzed. The order of the drawings was especially noted, since all the literature on asthmatics points to some difficulty with either the mother or the father-figure. Pairs of figures were regarded as similar in size whenever the difference in their vertical dimensions, measured to the nearest one-half centimeter, was less than 1.5 centimeters. The non-asthmatic groups figure drawings were analyzed also in order to contrast any difference between an asthmatic child and a non-asthmatic child with reference to the factors mentioned above.

In conclusion, and as stated previously, the asthmatics in this group were all tested two years ago with the Rorschach Ink Blot test. Thus, there is an opportunity to note what factors remain constant in asthmatic children as they develop psychophysically. This should have significance in definitively stating what the personality of the asthmatic really is, based not just on theory, or isolated case studies, but rather on a controlled, empirical, developmental study.

## CHAPTER IV

### PRESENTATION OF THE FINDINGS

This chapter will be devoted to a presentation of the statistical results with regard to the Rorschach performance of the asthmatic and normal children utilized in this study.

Prior to the presentation of each table there is a statement(s) included concerning the rationale behind the specific Rorschach category(s) which were found to be statistically significant. This procedure will provide the reader an opportunity to first, be aware of what a certain factor interpretatively indicates; second, what frequency such a factor assumed in the group(s) studied; and finally (Chapter V p. 57, what the integrated meaning is and the significance of these factors in the protocols of the asthmatic and normal children.

In order to reach an objective decision with regard to whether a particular hypothesis is confirmed by a set of data, we must have an objective procedure for either rejecting or accepting that hypothesis. According to Siegel (16) this objective procedure should be based "on the information we obtain in our research, and on the risk we are willing to take that our decisions with respect to the hypothesis may be incorrect." Siegel lists six steps, in order of performance which represent the procedure for testing every hypothesis. These steps were followed in analyzing the data of this dissertation.

- a) state the null hypothesis
- b) choose a statistical test, making sure the choice is one whose model most closely approximates the conditions of the research
- c) specify a significance level and a sample size
- d) find (or assume) the sampling distribution of the statistical test
- e) on the basis of b, c, and d above, define the region or rejection
- f) compute the value of the statistical test using the data obtained from the samples

In this research the hypotheses formulated depended upon the fact that there should be no significant difference in the Rorschach performance of asthmatics as a group, and as an intra-group, boys and girls; and no difference between the normal children, both as a group, and as dichotomized into boys and girls. The chi-square method, corrected for continuity, was utilized, specifying the direction (one-tailed test), and assuming non-parametric distribution. A sample of forty asthmatic children, twenty-six boys, fourteen girls, matched for age, intelligence and group, plus intra-group size, was chosen. A chi-square beyond the .05 level of confidence was accepted as adequate to reject the null hypothesis. The formula for chi-square, corrected for continuity, is:

where            = observed number of cases  
                   = expected number of cases  
                   = directs one to sum over all categories  
                   = corrected factor for continuity

A chi-square of 2.706 is significant at the .05 level of confidence; 3.841 at the .025 level of confidence; 5.412 at the .01 level of confidence; and 10.412

at the .001 level of confidence. It may be observed that the probability values of chi-square for one degree of freedom do not correspond to the probability values of the two-tailed Z test. It was necessary to halve the probability obtained from the  $\chi^2$  table in order to make it comparable to the probability obtained from the table of the normal curve corresponding to a plus value of Z only (one-tail). Therefore, where the author reports that a chi-square of 2.706 is significant at the .05 level the reader will note this value appears as significant at the .10 level. However, considering only the positive half of the normal curve it becomes the value of significance at the .05 level due to halving the probability.

The hypothesis concerned with the Rorschach changes of the asthmatic children utilized two years ago, and their present performance concerned the identical individuals. Thus, a chi-square for correlated samples, corrected for continuity, was performed. The formula is as follows:

$$\chi^2 = \frac{(1d - a1 - 1)^2}{d+a}$$

One of the most important Rorschach factors is R, or the number of responses a subject gives to the blot material. This factor is important because on it depends the amount of location, determinant, and content categories that an individual obtains. If, as an example, two individuals, or groups of individuals, differ significantly in the number of responses, any difference that occurs in other scoring categories may or may not be due to the significant disparity in responses. Therefore, an interpretation that is made with respect to differences in personality between the individuals, or groups, is a somewhat questionable interpretation. The reason is that a reader does not know if it is really a personality difference or a response

difference that accounts for the significant disparity in specific scoring categories.

An analysis of Table 7 and Table 8, Appendix, shows that there is neither an inter-nor intra-group difference between the asthmatic and normal children in the scoring category R.

The results of this study will now be presented.

The asthmatic girls differ from the normal girls in utilizing more unusual detail (Dd), and in the per cent of unusual detail and space responses (Dd and S%). The asthmatic boys differ significantly from the normal boys in using more Dd, Additional S, and Dd and S%. The normal girls utilize more whole detail and per cent of whole detail (W and W% respectively) than do the asthmatic girls. The normal boy sees more per cent of whole detail and large usual detail than the asthmatic boy. The reader has undoubtedly noticed that the asthmatic boy and girl both utilize more unusual detail responses than the normal boy and girl. Dd and S are increased at the expense of W. The interpretation of this fact is that the child is too hesitant in drawing general conclusions from fine and detailed observations, and he defends himself against insecurity by clinging to limited areas of certainty. It must be further noted that of the Dd responses an overwhelming majority (92%) are dr. This would be interpretatively characteristic of the records of the rigid, compulsive perfectionist. This notion of rigidity should be kept in mind, for it is later reinforced in the form (F), and form per cent (F%) column as one of the factors differentiating the asthmatic group from the normal group.

S, or space responses, are related to an oppositional tendency or a kind of negativistic or hostile perception and feeling directed by the

individual toward his environment. The presence of more additional than main space responses seems to indicate an ambivalence and/or doubt within the person whether he should overtly manifest his negative, hostile feelings. It seems that the asthmatic rather than overtly utilizing main space responses, brings in the space response as an additional to his main perception thereby making or attempting to control his opposition to environmental demands.

TABLE I

Significant Differences Between Asthmatic Boys And  
Normal Boys And Asthmatic Girls And  
Normal Girls On Six  
Rorschach Factors

Factors	Asthmatic Girls (N=14) Median	Normal Girls (N=14) Median	Chi- Square	Asthmatic Boys (N=26) Median	Normal Boys (N=26) Median	Chi- Square
W	5.50	8.75	4.14	7.50	8.40	1.92
D	2.50	0.83	8.64	3.64	0.78	21.31
Add'l's	1.90	0.90	2.43	2.10	0.72	7.46
W%	22.83	41.50	9.86	32.80	37.50	3.46
D%	53.78	52.83	9.14	43.50	50.60	3.46
Dd+S%	12.83	5.33	5.86	13.50	4.50	9.00

Table 2 continues to reflect the differences between the normal and asthmatic children. The asthmatic girl uses the form determinant to a significantly greater degree than the normal girl, while both the asthmatic boy and girl differ significantly from the normal boy and girl in utilizing a greater per cent of form. The normal girl has a greater use of M than the

asthmatic girl, with no such difference noted between the asthmatic and normal boy. The normals as a group exceed the asthmatics in significantly utilizing more Fm, Fc, and FC. Fm, or animal movement responses indicate an awareness of impulses to immediate gratification. Where the Fm does not occur to an appreciable degree the interpretation is that the child tends to suppress his more primitive impulses. This is what the asthmatic child does when compared to the freer, more spontaneous non-asthmatic child. The non-asthmatic appears to be more spontaneous, and accepting of his impulse life, while still capable of applying control and/or ego defenses to effectively integrate these impulses into an acceptable and adequate adjustment to life's situations.

Fc indicates an awareness and acceptance of affectional needs experienced in terms of a desire for recognition, belongingness and response from others. Klopfer (11) states: "It (Fc) is believed that this is a development essential for the establishment of deep and meaningful object relations and that it occurs only where the basic security needs have been reasonably satisfied." A lack of Fc does not imply lack of affectional need but rather a lack of acceptance or awareness of it. It further indicates that the individual fears manifesting any overt behavior to gain affection due to fear of possible rejection. The possibility of rejection having occurred at an earlier time in the person's life when he or she sought love, security, and affection from parent-figures is often thought to account for a low Fc.

FC responses indicate a ready control over emotional impact without loss of responsiveness. The controlled responsivity indicates that the individual can respond with both feeling and action in situations that demand emotional response. A difficulty in manifesting color determinants indicates a

blocking, or defense against being drawn into situations that require an emotional relationship, or at the very least simply an affective feeling with regard to the social and/or inter-personal relationship. This is seen to be the case with the asthmatic child.

TABLE II

Significant Differences Between Asthmatic Boys, Girls And  
Normal Boys, Girls On Rorschach  
Determinant Categories

Factors	Median Values		Chi-Square	Median Values		Chi-Square
	Asthmatic Girls (N=11)	Normal Girls (N=11)		Asthmatic Boys (N=26)	Normal (N=26)	
M	0.50	1.00	12.07	1.30	1.80	0.69
FK	2.50	4.25	5.89	2.12	4.67	13.00
F	16.50	12.83	5.86	12.00	12.22	2.23
F%	67.83	48.05	11.57	69.50	53.14	10.54
Fc	0.90	2.75	8.71	1.16	2.30	6.54
FC	0.00	1.83	4.14	0.00	1.65	17.31

Table 3 shows that the asthmatic girl differs from the normal girl in human detail responses and in the FK+F+Fc% category. However, the asthmatic boy and normal boy differ in that the asthmatic boy perceives more animal details, anatomy (At) content, popular responses, and FK+F+Fc% than the normal boy. The normal boy uses more H, Hd, A, H% and A% than the asthmatic. As noted from Table II, Appendix, the factors FK and Fc are less than the amount of F in the FK+F+Fc percentage. Kieffer (11) specifically states, "when the differential shading responses are less than one-quarter (as in this study),



of the F responses there tends to be denial, repression or underdevelopment of the need for affection. This is believed to stem from rejection experiences serious enough to warp personality development."

TABLE III

Significant Differences Between Asthmatic Boys, Girls,  
And Normal Boys, Girls On Specific  
Rorschach Factors

Factors	Median Values		Chi-Square	Median Values		Chi-Square
	Asthmatic Girls (N=14)	Normal Girls (N=14)		Asthmatic Boys (N=26)	Normal Boys (N=26)	
H	1.50	2.00	0.64	1.50	2.08	8.65
Hd	1.00	2.30	5.29	1.50	2.90	6.50
A	11.50	12.83	0.71	6.50	11.17	4.65
Ad	2.30	2.90	0.71	3.50	2.43	7.46
A+	1.10	0.30	2.43	1.25	0.00	17.31
H%	10.50	20.75	2.43	15.50	23.50	6.54
A%	64.50	62.83	1.29	52.80	55.65	4.65
P	4.16	2.75	2.43	4.00	2.93	3.77
FK+F+Fc%	75.21	59.50	12.14	74.50	62.50	12.08

Table 4 contrasts the asthmatic group and the normal group on eighteen Rorschach categories. The asthmatics perceive significantly more unusual details and per cent thereof (Dd and Dd and S% respectively), additional space responses, form and per cent of form, anatomy responses, popular responses, and FK+F+Fc% than the normal children. The normal child is characterized by his manifesting more W, W%, M, FM, Fc, FC, Sum C, H, Hd, and

H%. The meaning of all of these factors except W, M, Sum C and H% have already been discussed.

W reflects the ability to view one's separate facets of experience as an interrelated whole. M is thought to indicate the ego structure of the individual. By ego structure is meant the person's value system, his ability to make and retain good object relations, and his or her ability to empathize with others in his environment. Halpern (8) states that "with the coming of prepuberty and early puberty the picture (Rorschach) alters radically." This change is due to the physical and emotional changes that are taking place in the child which necessitate that he re-evaluate himself or herself. Halpern continues by saying that the re-evaluation of the self is "achieved primarily through human identification." "The prepuberty and early puberty records are therefore characterized by many human movement interpretations . . ." Per cent of human content responses indicate interest in persons or in the self, plus an interest in bodily parts. Sum C is considered an indicator of the person's overt reactivity to outside or emotional stimulation.

The hypothesis concerning the asthmatic child's Rorschach performance remaining unchanged from his performance of two years ago is not confirmed. This is the same group that was tested by the author two years previous. From an analysis of Table 5 the reader will note that the present asthmatic group differs from the earlier group in eleven categories. The present, or retest group (designated as Group II) manifest more use of Dd, Dd and S%, M, F, F%, A and A%, and FK+F+Fc%, but less use of FM and Fc. All of these factors differentiated in one way or another the asthmatic from the non-asthmatic child. An increase in M (8, 9) is expected with normal psychosocial develop-

TABLE IV

Significant Differences Between Asthmatic Group  
And Normal Group on Eighteen Rorschach  
Scoring Factors

Factors	Median Values		Chi-square
	Asthmatic Group (N=40)	Normal Group (N=40)	
W	6.16	8.54	7.25
Dd	2.93	0.81	31.25
W%	29.50	38.73	7.65
Dd+S%	12.85	4.52	15.25
Add'l's	2.00	0.78	11.05
M	1.03	1.60	3.05
FM	2.25	4.50	20.06
F	14.50	12.80	9.25
F%	68.78	51.37	18.25
Fc	1.00	2.45	24.65
FC	0.00	1.73	21.65
Sum C	0.70	1.28	3.025
H	1.50	2.01	9.02
Hd	1.21	2.76	13.47
A+	1.20	0.00	31.84
H%	13.61	22.27	15.25
P	4.05	2.86	7.25
FK+F+Fc%	74.79	61.50	25.25

ment and thus is not unique to just the asthmatic group. The decrease in FM is also expected in normal development; at the same time (this age group) it remains in an elevated position to the M column. The exception of course is that the asthmatic manifests less FM than is expected for this age group, and thus differs significantly from the normal non-asthmatic child. The fact that there is less use of Fc would indicate that the asthmatic is becoming less and less prone to manifesting affectional wants to others. This is not expected, and as repeatedly noted definitely distinguishes these children from the normal group.

The hypothesis concerning the severity of the asthmatic's condition as reflected in his Rorschach performance is shown to be true. Table 6 shows the significant chi-squares on six Rorschach categories which differentiated the severe asthmatic, from the asthmatic who suffered from a mild asthma. Of the forty asthmatic children, twenty-four were classified as suffering from a severe form of asthma. The twenty-four children were comprised of fifteen boys and nine girls. Sixteen children were mildly asthmatic. Of these were eleven boys and five girls. No chi-squares were computed for between sexes due to the small number of cases. Edwards (5) states that the expected values should be at least five cases per cell in a two by two table. Once again the presence of Dd, Dd+S%, Additional S, FM, F% and FK+F+Fc% became the discriminating factors. The severe group presented a greater amount of all categories, with the exception, of FM, than the mildly asthmatic group.

Tables I, 10, 12, 14, 16, and 18 in the Appendix reveal that the normal boy and normal girl do not differ in any Rorschach category. The asthmatic boy and asthmatic girl, however, do differ in several Rorschach

TABLE V

Significant Differences Between Present Asthmatic  
Group (II) And Previous Asthmatic Group (I)  
On Eleven Rorschach Scoring  
Categories

Factors	Asthmatic Group II Medians			Asthmatic Group I Medians			Chi-square for Differences		
	Boys (N=26)	Girls (N=14)	Total (N=40)	Boys (N=26)	Girls (N=14)	Total (N=40)	Boys	Girls	Total
Dd	3.64	2.50	2.93	1.25	0.00	0.00	3.85	7.00	7.85
Dd+S%	13.50	12.83	12.85	5.00	0.00	0.00	12.08	10.27	9.85
M	1.30	0.50	1.03	.95	0.00	0.73	5.00	0.64	4.85
FM	2.12	2.50	2.25	4.17	3.00	3.50	6.85	0.64	4.85
F	12.00	16.50	14.50	13.65	10.75	12.50	1.86	6.43	3.85
F%	69.50	67.83	68.78	54.50	62.00	57.00	8.38	4.34	10.27
FC	1.16	0.90	1.00	2.06	0.70	1.60	5.00	0.71	4.25
A	6.50	11.50	8.94	7.06	7.10	7.07	1.31	4.14	3.26
A%	52.80	61.50	59.50	45.21	59.50	49.50	5.33	2.83	8.41
FK+F+Fc%	74.50	75.21	74.79	66.64	66.64	66.64	3.85	4.73	5.72

scoring categories. The asthmatic boy utilized to a statistically significant degree more of the following Rorschach factors: W% and M at beyond the .025 level of confidence; and, per cent of human content responses at beyond the .05 level of confidence. The reader will note that although the asthmatic boy manifests significantly more human movement responses than the asthmatic girl, neither group show more human movement responses than the animal movement (FM) responses. This statement also applies to the normal group of children,

TABLE VI

Significant Differences Between Severe and Mild  
Asthmatics on Six Rorschach Factors

Factors	Median Values	Chi-square
Dd	2.93	5.04
Dd+S%	12.85	7.60
Add'ls	2.00	3.60
FM	2.25	3.94
F%	68.78	4.94
FK+F+Fc%	74.79	5.60

although the normals as a group differ significantly from the asthmatics as a group in the use of more M.

The asthmatic girl differs significantly from the asthmatic boy in the use of more D and D% at the .025 level; Sum C at beyond the .05 level, and animal response, and per cent of responses to the last three cards both being significant at beyond the .05 level of confidence.

The large usual detail (D) symbolizes a recognition of everyday problems and facts. This recognition leads to the individual's utilization of common sense, practical behavior in his dealings with everyday problems and facts. The per cent of responses to the last three cards is closely associated with the Sum C category which was discussed earlier. The amount of productivity on the last three cards reflects the stimulation that the subject(s) experiences from color, and/or emotion. This, then, signifies the

asthmatic girl's emotional involvement in social situations, and thus corresponds to the girl's greater use, as compared to the boy, of Sum C. Animal responses are indicative of a certain amount of stereotypy of interests, and is generally considered to be quite a common factor in the Rorschach records of most children. The fact that the girls see more animals in the cards than the boys would appear to reflect that the asthmatic boy has more varied interests than the asthmatic girl.

#### THE DRAW-A-PERSON TEST

The Draw-A-Person test was utilized in this research to ascertain whether the asthmatic identifies with his own sex; whether there was any emphasis or distortion of the mouth region; and finally, if there were an indications of over control, or rigid suppression of impulses and/or feelings. This latter point is indicated in drawings by heavy lines, belts, double lines around clothes, collars, etc., all being indicative of the individual's need to control feelings or impulses. These three factors were the only ones chosen for the following reasons. One, it was felt that the factors had the most meaning to the asthmatic's personality; and two, these aforementioned factors are generally agreed upon by some investigators, as opposed to other aspects of drawings which are subject to more controversy.

The first factor, namely sexual identification, did not discriminate between asthmatics and normals. Eighty-one per cent of the asthmatic boys drew a male first (one boy refused to take the test), while ninety-two per cent of normal boys drew a male first. This disparity results in a chi-square of 0.66, which is not significant. Ninety-two per cent of the asthmatic girls drew a female first, while ninety-one per cent of the normal girls responded in

a like manner. This also is not significant. Eighty-five per cent of the asthmatic group drew their own sex first, as opposed to ninety-one per cent of the normal group. This results in a chi-square of 0.48, and is not significant.

Seventy-five per cent of the asthmatic boys showed some emphasis or distortion (mouth open, erasures, heavy shading) of the mouth area as compared with seventy-one per cent of the asthmatic girls. This is not significant (chi-square 0.13). However, only forty-nine per cent of the normal boys manifested emphasis and/or distortion of the mouth area. The normal boy is thereby distinguished from the asthmatic boy. The difference being significant at beyond the .05 level of confidence. The chi-square was 2.98. Fifty-two per cent of the normal girls had an emphasis on the mouth area. The chi-square here is 3.17 between the asthmatic girls and normal girls; this is significant at beyond the .05 level of confidence. The asthmatic group manifested a significant difference from the normal group by seventy-two to fifty per cent. This results in a chi-square of 3.21, which is significant at beyond the .05 level of confidence.

The third factor, rigidity or control of feelings and impulses, did not differentiate the asthmatic boy from the asthmatic girl, the percentage being sixty-five per cent to sixty-two per cent respectively. However, the normal boys manifested rigidity forty-three per cent of the time, and the normal girls showed it forty-five per cent of the time. The asthmatic boys differed from the normal boys at beyond the .05 level of confidence, the chi-square was 2.84. The asthmatic girls differed from the normal girls significantly at beyond the .05 level of confidence with a chi-square of 2.80. Sixty-three per cent of the asthmatics as contrasted with forty-four per cent of the



TABLE VII

Chi-Squares For Three Draw-A-Person Factors  
Analyzed In the Records Of Forty  
Asthmatic and Forty  
Non-Asthmatic  
Children

Factors	Chi-Squares For Differences Between		
	Asthmatic and Normal Boys	Asthmatic and Normal Girls	Asthmatic and Normals as Group
Sexual Identification	0.66	0.02	0.48
Oral Emphasis	2.98	3.17	3.21
Rigidity	2.84	2.80	2.81

1 df

$\chi^2 = 2.706$  sig at .05 level

normals manifested rigidity in their drawings. This results in a chi-square of 2.81, which is significant at beyond the .05 level of confidence. The figure drawings of the normals were characterized as a whole by more freedom of movement and spontaneity, than the more rigid, controlled drawings of the asthmatic child.

#### ORALITY

There was no marked emphasis on oral responses in the Rorschach records of the asthmatic children. Thirty-nine per cent of the group's responses were oral in nature, i.e., open mouths, food, yelling, etc. These were all manifested in additional space responses. The comparative non-emphasis on oral responsivity would surely seem to contradict the previous findings of Fine

(69), and other investigators. There was no significant difference noted between the asthmatic and normal children in the use of oral responses.

#### SUMMARY

In summary, then, the normal boy did not differ from the normal girl in any Rorschach category. However, the asthmatic boy differed from the asthmatic girl in several categories. The asthmatic boy utilized to a statistically significant degree more of the following Rorschach factors: W% at beyond the .025 level of confidence; M at beyond the .025 level of confidence; and per cent of human content responses at beyond the .05 level of confidence.

The asthmatic girl differs significantly from the asthmatic boy in the use of more D and D% at the .025 level; Sum C at beyond the .05 level; and, animal response, and per cent of responses to the last three cards both being significant at beyond the .05 level of confidence.

The asthmatic boy differs from the normal boy in utilizing more Dd at beyond the .001 level of confidence; additional space responses and Dd+S% both at beyond the .01 level of confidence; F%, At, and FK+F+Fc% were significant at beyond the .001 level, while animal detail responses were significant at beyond the .01 level; and finally, popular responses were significant at beyond the .05 level of confidence.

The normal boy exceeds the asthmatic boy in using more W% and D%, both at beyond the .05 level; FM, FC, both at beyond the .001 level; Fc, H, Hd, and H% at beyond the .01 level; and, finally, animal and per cent of animal responses at beyond the .025 level of confidence.

The asthmatic girl differs from the normal girl in utilizing more Dd, Dd+S% and form, all at beyond the .01 level of confidence. F% and FK+F+Fc% are

beyond the .001 level of confidence.

The normal girl differs from the asthmatic girl in using more W, FC, and Hd, all at beyond the .025 level of confidence. W%, FM, FC are beyond the .01 level, while M is significant at beyond the .001 level of confidence.

The asthmatics as a group exceed the normal children as a group in the use of more Dd, Dd+S%, Additional space responses, F%, AT, and FK+F+Fc%. These were all statistically significant at beyond the .001 level of confidence. Form, and popular responses differentiate at the .01 level of confidence.

The normals as a group differed from the asthmatic children as a group in using more W, W% and H all significant at beyond the .01 level of confidence. FM, Fc, FC, Hd, and H% were significant at beyond the .001 level of confidence. M was significant at the .05 level, and Sum C also at the .05 level of confidence.

The asthmatics as a group differed from their performance of two years ago in utilizing more Dd, Dd+S%, animal per cent, and FK+F+Fc% all beyond the .01 level of confidence. M, F, and F% were significant at beyond the .025 level of confidence. Animal responses were significant at the .05 level of confidence. The asthmatics from the previous testing exceeded their present performance in the FM, and Fc categories, both significant at beyond the .025 level of confidence.

The asthmatic boys from this study now utilize more Dd, at the .025 level, and also M and FK+F+Fc% at the .025 level; form per cent is at the .01 level of confidence, while Dd+S% is significant at beyond the .001 level of confidence. The boys two years ago utilized more FM, at the .01 level, and Fc, at the .025 level of significance, than they did at the present testing.

The girls in the present study exceeded their performance of two years ago in utilizing more Dd, Dd+S% and F all significant at beyond the .01 level of confidence. F%, A, and FK+F+Fc% are significant at beyond the .025 level of confidence. Animal per cent was significant at beyond the .05 level of confidence.

The hypothesis concerning differences in Rorschach performance between severe and mild asthmatics was significant with regard to six Rorschach factors. The severe group utilized more Dd, and F% at the .025 level of confidence; Dd+S% and FK+F+Fc% at the .01 level of confidence; and finally, Additional space responses at the .05 level of confidence, than the mildly asthmatic children. Those asthmatic children with a mild condition exceeded the severe asthmatic child in only the FM category, this being significant at the .025 level of confidence.

The Draw-A-Person test was analyzed with regard to three factors most commonly agreed upon by investigators. The factors were: sexual identification; emphasis or distortion of the mouth area; and, rigidity of control of impulses and feelings. Sexual identification did not discriminate between asthmatics and normals. Emphasis or distortion of the mouth area differentiated between the asthmatic boy and normal boy; the asthmatic girl and normal girl; and the asthmatic children as a group and the normal children as a group. The chi-squares were 2.98, 3.17, and 3.21 respectively. All differences were significant at beyond the .05 level of confidence.

The asthmatic boys differed from the normal boys in manifesting more rigidity. The significance was at the .05 level of confidence, having a chi-square of 2.84. The asthmatic girls also manifested more rigidity than their

non-asthmatic sex, the chi-square being 2.80, which is also significant at the .05 level. The asthmatics as a group differed significantly from the normals as a group at the .05 level, having a chi-square of 2.81.

There was no marked emphasis on oral responses in the Rorschach records of the asthmatic children. This fact would seem to contradict the previous findings of the author, Fine, and other investigators.

An analysis of card preference showed the asthmatic boys liking cards 8 and 10 the best and disliking cards 4 and 7. The girls liked card 10 and disliked card 4. The group liked card 10 the best and equally disliked cards 4 and 7. This in part conflicts with their performance of two years ago. They then liked the same cards as now, but they disliked card 1 the most.

The normal children also preferred card 10 to the other cards, but disliked card 9 saying it was difficult to see anything on that card. This applied to the boys as well as the girls, although the girls also liked card 8.

A restatement of the hypotheses yields the following conclusions:

**HYPOTHESIS I**--The asthmatic child's Rorschach performance does not change significantly from his performance of two years ago.

- A. The average number of responses should not exceed twenty-four.
- B. The average number of M should not exceed one.
- C. There should not be an emphasis on W over the other location categories.
- D. Space responses should not be present more in main scores than in additional.
- E. The asthmatic child should not manifest more than three animal movement responses.
- F. Form per cent should not exceed fifty per cent.
- G. Fc should not exceed two.
- H. CF and C should not exceed the FC score.
- I. There should not be a restricted number of content categories.
- J. The per cent of responses to the last three cards should not exceed thirty-three per cent.

Under Hypothesis I, Sub-hypotheses A, C, D, E, G, H, I, and J were seen to be verified. Sub-hypothesis B was not significantly different, but the mean number of M was 1.20. Sub-hypothesis F differed as form per cent was 68.50.

**HYPOTHESIS II**--The asthmatic boy does not differ significantly from the girls in his Rorschach performance.

A. The boys do not differ significantly from the girls in the following:

1. R
2. W
3. Dd
4. Dd & S%
5. FM
6. FK
7. Fc
8. H
9. Hd
10. Aobj
11. N

Under Hypothesis II A, Sub-hypotheses 1, 3, 4, 5, 6, 7, 10, and 11 were seen to be verified. Sub-hypothesis 2 showed a significant difference, as did 8 and 9 when combined to equal H%. The other significant factors differentiating the asthmatic boys and girls have already been discussed.

**HYPOTHESIS III**--The asthmatic child, both boy and girl, does not show a marked use of oral responses (any response involving open mouth, talking, yelling, food, etc.), simply because the disease is manifested in terms of oral discomfort, that is, wheezing, coughing etc.

This held true with regard to Rorschach Test Performance.

**HYPOTHESIS IV**--The severity or degree of the asthmatic's condition does not reflect itself to a significant degree in the Rorschach performance of these children. Severity of the asthmatic condition will be measured medically in degree of skin reaction. The method is a medical determination of skin reactions ranging from a positive one or two-mild, to a positive three or four-severe.

A. Children with a positive one or two skin reaction do not show a significantly different Rorschach protocol from those with a positive three or four skin reaction in use of location categories, determinants, responses, and content.

Table 6 reflects the six differences between the severe and mild groups.

HYPOTHESIS V--The asthmatic child does not show a significantly different Rorschach protocol from the non-asthmatic child in terms of location, determinant, and content responses.

Table 4 reflects eighteen differences between the two groups.

## CHAPTER V

### INTERPRETATION OF THE DATA

From an analysis of the data contained in Chapter IV a personality description of the asthmatic child will necessarily result. This interpretation is derived from all the Rorschach factors analyzed in the previous chapter. Special emphasis in this interpretation of course will be placed upon those statistically significant factors which differentiated the asthmatic from the normal child.

The author feels it is best if the normal child is described first. This will allow the reader a basis for comparing the personality of the asthmatic child with the non-asthmatic child. The important factor to bear in mind is that the normal non-asthmatic boy does not differ from the normal non-asthmatic girl in any Rorschach category. The asthmatic boy and girl differ in several categories, thereby differing in terms of personality structure.

The normal child is one who is able to view the relatively separate facets of his experience as an interrelated whole. He is perceptually aware of everyday problems and facts, and has a certain practical, common-sense approach for dealing with them. He is able to adequately integrate his impulse life with his value system and/or ego structure. At the same time, the normal child is a spontaneous child whose awareness of his impulse life aids him in personally checking these impulses. Thus he does not react in an uncontrolled manner. The adequacy of his controls is reflected in his ability to strip himself from



the emotional and affectional nuances in situations. This, however, does not stand in the way of his perceptual awareness of emotion provoking situations. When involved in such situations the non-asthmatic child reacts with ready control, and without loss of responsiveness. He thereby exhibits a well-developed personality.

The non-asthmatic in this study is accepting of his affectional needs which are experienced in terms of a desire for recognition, a belongingness, and a desire for response from others. This conscious awareness gives the child a feeling of security in interpersonal situations. This further affords him the opportunity to be accepted, loved and recognized by his family and/or friends. The normal child's spontaneity and integration of the affective and impulsive components of his personality into his ego is further reflected in this child's interest in people. Interpersonal relationships are readily accepted.

The asthmatic child differs markedly from the non-asthmatic with regard to the following personality structure. Although the asthmatic is aware of the usual aspects of his environment, he is much too hesitant in drawing general conclusions from detailed observation. He defends himself against the insecurity he experiences in his perception of large, usual, and global situations by clinging to limited areas of certainty. This is most characteristic of a rigid, almost compulsive perfectionistic personality. He not only clings to limited areas of any environmental situation that he may find himself in, but he is also hesitant or ambivalent about how he should respond to environmental stimuli. Thus, one sees a conflict within the asthmatic child of not only what he should respond to, but how he should respond, that is, with

emotion, rigid control, hostility, etc. This places him in a conflict situation which causes him to feel markedly insecure in his response.

The asthmatic is a hostile child who is negativistic to many of the demands placed upon him, and also to many of his own personal feelings. However, he is hesitant or ambivalent with regard to overtly manifesting these oppositional, hostile feelings. He thereby often responds to situations in an acceptable and/or usual manner which is only at those times a facade for his true feelings of hostility.

The asthmatic often fails to accept his impulses for immediate gratification and the affective stimuli which are a part of emotion provoking situations. The lack of acceptance and awareness of affective and impulsive feelings is brought about through a constructed, rigid defense. This defense affords the asthmatic the opportunity to be extremely impersonal to situations around him. Thus, if he can strip his perceptions and response of personal meaning and emotions he can control himself better. This results in the asthmatic giving little of himself in terms of active participation in interpersonal relationships.

The asthmatic not only suppresses his primitive impulses and affective involvement in situations but also denies the acknowledgment of his need to feel a closeness and an affectionate attachment to people (family and friends) in his environment. As mentioned earlier Klopfer (11) points to the fact that when an individual's basic security needs have not been reasonably satisfied the person has difficulty in establishing deep and meaningful object relations. This is particularly descriptive of the asthmatic personality. The possibility arises that early rejection experiences in the psychosocial development of

these children have caused them to deny, suppress, and/or repress their desire for affection and dependence, and security from others. The inability to truly arrive at identifications and close attachments with others is reflected in the child's difficulty in manifesting genuine interest in individuals in his environment.

The child's compulsive, over-controlled personality, and clinging to limited areas of certainty cause him to withdraw from interpersonal situations. The withdrawal takes place in the affective component of interpersonal relationships rather than in an actual personal avoidance. The possibility of affective involvement, with corresponding close personal attachments causes him to feel insecure and anxious or threatened. If, as noted above, the asthmatic has experienced rejection at a time when he overtly manifested a desire for recognition and affection, then his present impersonal, non-affective participation in events would be a defense erected to remove the possibility of further rejection and resultant anxiety. Avoidance mechanisms and rigid controlling defenses would also protect him from manifesting his negativistic, hostile feelings. Further, the defense would control the possibility of uncontrolled emotional response to the situation about him.

The personality description apparently points to the fact that the asthmatic child is in a literal shell which has been erected to protect him from much of the affective components of a situation. This defense also acts as a protection against manifesting his hostile feelings, and his desire to feel a closeness, an affectionate bond with someone. His corresponding denial of this is due to his fear of rejection. The author theoretically or hypothetically postulates that as opposed to the psychoanalytic

interpretation of the asthmatic attack symbolizing a cry for the mother, the asthmatic attack may symbolically represent an unleashing of hostility, emotion, and impulse. The individual asthmatic, then, would manifest these feelings in terms of the asthmatic attack, the attack masking the feelings and protecting him from rejection, and possibly hostile response from figures in his immediate environment. When the defense of rigidity, and control of feelings has then failed the asthmatic syndrome results. This interpretation, although hypothetical seems to be much more in agreement with the empirical findings of this study than with the intuitive, or subjective analytic interpretation.

A factor which appeared on the Draw-A-Person but not on the Rorschach was that of orality. Two points must be considered in evaluating any discussion of orality per se, or as observed from the figure drawing test. One, due to the paucity of reliability and validity studies on the Draw-A-Person test a great deal of confidence cannot be placed in the results obtained. This is not to say that any results obtained are invalid, but it does imply that one should accept such results tentatively. Since orality was not noted on the Rorschach the strength of any interpretation of orality appearing in the asthmatic child is seriously questioned. Second, the concept of orality per se is tentative, and actually theoretical rather than empirically proved. Thus, it is this writer's impression that any interpretation of orality from the results of this test is quite hypothetical, and can be only suggested as a possibility. This would conflict with the generally accepted psychoanalytic theory regarding the personality of the asthmatic child being one due to marked deprivation. One can say, however, that from the Rorschach findings in terms

of fear of manifesting affectional wants that some trauma or concern over dependency exists in the asthmatic personality.

The asthmatic boy and asthmatic girl manifest the same basic personality as was already described. The major differences between the two are that the asthmatic boy is more global in his perception of life's situations. He is motivated more than the girl in attempting to view the relatively separate facets of his experience as an interrelated whole. At the same time he is better able to empathize with others and utilize his value system in his responses to those in his immediate environment. His response however is not one of an emotional or deep personal involvement. The asthmatic boy manifests greater interests than the girl and is better able to relate to other individuals in his environment as noted above.

The asthmatic girl on the other hand responds in her perception to the common, everyday facts and problems. While the boy was seemingly better able to relate with others but in an unemotional fashion, although not to the degree of the normal child, the girl's response is much more emotional. Thus, although both children are constricted, highly defensive, insecure, hostile, and fear manifesting emotion and affection, the girl is more responsive to emotion provoking situations than the boy. The boy manifests a slightly greater amount of ego control and interest in self and others, while the girl shows a certain amount of stereotypy, or narrowness of interests.

The asthmatic boy differs from the normal boy with regard to the same personality factors that discriminated the asthmatics as a group from the normals as a group. The asthmatic girl and normal girl also differ as the groups differed. Thus a personality description between the boys and girls

would only be redundant, plus the fact that there is no sex difference encountered in the normal group.

The asthmatics in this group differed significantly from their performance of two years ago. The emphasis within their (asthmatics from this study) personality of clinging to confined areas, hostile and oppositional feelings, rigid, constricted defense, more stereotyped interests, and the inability to seek out affectional and personal attachments is markedly greater than two years previous. There has been a decrease noted in impulsivity. An increase in ego strength is noted but this is developmentally expected and therefore not a factor which is unique to just asthmatics. This difference applies to the asthmatic boys as well as the asthmatic girls.

The child with a severe asthmatic condition differs from the child with a mild asthma in overly confining himself to small areas, over-control, hostile feelings, and the desire for security and affection but a denial of these affectional feelings due to a fear of rejection should he overtly manifest these wants. The mild asthmatic child is able to feel freer in the area of impulsivity. This would seem to indicate that the severe asthmatic is more constricted, and bound up with himself, while the child with a mild asthmatic condition has a tendency to react with more spontaneity, freedom, and generally less need to erect the so-called "impenetrable defense." This fact appears to in part justify the writer's theory of the asthmatic attack being one symbolizing a break through of affect and impulse. The mild asthmatic, one whose attacks are fewer in number and less severe, can overtly manifest these impulses, and can thereby often get release from his constricted, over-controlled feelings.

## CHAPTER VI

### SUMMARY AND CONCLUSIONS

This study had at its main purpose six areas of investigation. It attempted to investigate: one, the personality structure and dynamics of the asthmatic child; two, did the asthmatic child differ from the normal, non-asthmatic child; three, if there was a difference what Rorschach factors differentiated the two groups; four, is there a personality difference between the asthmatic boy and the asthmatic girl; five, is there a difference in the Rorschach performance of asthmatic children who differ with respect to the severity or degree of the asthmatic condition; and six, did the asthmatic child's Rorschach performance change from his performance of two years ago, and if it did in what Rorschach factors did the change take place.

The Rorschach Ink Blot Test was administered to forty asthmatic children: twenty-six boys and fourteen girls, who ranged in age from eleven years-one month to fourteen years-three months. The mean age for the boys was 12.70 years with a standard deviation of .87. The asthmatic girls had a mean age of 12.78 years with a standard deviation of .71. The mean age for the group was 12.75 years with a standard deviation of .82. There was no statistical difference found between the ages of the boys and the girls. The t-score was .42.

The asthmatic children were matched for age with a control group of forty non-asthmatic children who were all students at St. Edward's Parochial

School and were in the sixth, seventh, and eighth grades. The control group was also composed of twenty-six boys and fourteen girls, who ranged in age from eleven years-one month to fourteen years-four months. The normal boys had a mean age of 12.76 years with a standard deviation of .92. The girls had a mean age of 12.85 years with a standard deviation of .77. The mean age for the group was 12.77 years with a standard deviation of .86. There was no statistical significance found between the ages of the boys and girls. The t-score was .46. There was no significant difference found between the asthmatic children and the non-asthmatic children.

Each asthmatic child was matched for age and intelligence with a normal child. The mean IQ for the boys was 104.54 with a standard deviation of 5.76. The mean IQ for the girls was 106.79 with a standard deviation of 6.35. The mean IQ for the group was 105.38 with a standard deviation of 6.02. The Otis Quick Scoring Mental Ability Test, the Beta test was utilized.

The asthmatic children were the same children utilized for the writer's masters study and were all private patients in a pediatric and allergy practice. They were medically diagnosed as suffering from asthma. The classification of severe asthmatic condition and mild asthmatic condition was based on the skin reaction tests of the children. On a four point scale of reactivity, positive one and two skin reactions were considered mild, while positive three and four skin reactions were considered severe. All the asthmatics in the severe group were of a +4 type.

The testing of the asthmatic children was carried on in the pediatrician's office on days when no appointments were scheduled for the physician. The standard instructions used by Klopfer (11) were given to the children with



the inquiry following the performance proper on the second administration.

All the children in the study were native-born whites. Each non-asthmatic child's school record was examined prior to testing and the child questioned in order to ascertain his freedom from any allergic condition, whether it be asthma, hay fever, or food allergies. The children were also screened for freedom from any serious behavior problems by having their teacher fill out a Behavior Symptom Check List (71) prior to the testing of the child. None of the children, either normal or asthmatic, came from a home where one of the parents is either dead, separated, or divorced from his or her mate.

The intelligence test was administered on a day prior to the Rorschach testing for both groups. Hence there was no element of over-fatigue as may have occurred if the child had been given all the tests on the same day. Following the Rorschach administration the child was asked to take the Draw-A-Person Test. It was felt that if the figure drawings followed the Rorschach the child would be less threatened, since it is agreed by many clinicians that figure drawings can be quite anxiety producing to a child.

The statistics employed were mean, median, standard deviation, and chi-square as recommended for Rorschach studies by Cronbach (30). The median was given preference over additive procedures such as the mean since the median makes no assumptions about scale units. Chi-square is recommended by Cronbach in the following terms: "To test the significance of a difference between two groups the best procedure is to make a cut at some suitable score and compare the number of cases in each group falling beyond the cut, using chi-square." Siegel (16) recommends six steps for testing an hypothesis, and these were followed. The chi-square method, corrected for continuity,

specifying the direction and using one degree of freedom was performed. A chi-square of .05 was the significance level necessary to reject the null hypothesis. The formula for chi-square, corrected for continuity, is:

$$\chi^2 = \sum \frac{(10 - E - .5)^2}{E}$$

a chi-square of 2.706; 3.841; 5.412; and 10.412 is significant at beyond the .05; .025; .01; and .001 levels respectively.

The hypothesis concerned with the Rorschach performance of the asthmatic children utilized two years ago as contrasted with their present performance utilized the same individuals. Thus, a chi-square for correlated sample, corrected for continuity, was performed. The formula is as follows:

$$\chi^2 = \frac{(1d - a1 - 1)^2}{d + a}$$

The Draw-A-Person was utilized to ascertain three factors as related to the asthmatics' perception of themselves. One, the order of the drawing was noted since all the literature on asthmatics points to some difficulty with either the mother-or father-figure. Two, the possibility of any peculiar emphasis or distortion of the mouth area was analyzed. Three, rigidity as manifested through heavy lines or double lines, belts, rigid position of the figures was also investigated.

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. Maxwell (51), Strauss (63), and Gillespie (36) all believe that any kind of nervous tension plays a major part in causing the asthmatic state.

There is an agreement in the effect of parental supervision, and affection or lack thereof, in the asthmatic child's life. Clarkson (28) points to the parents invasion of the psychic life of the child as an influence on the affective states of the child. Treutig and Ripley (64), note there is a need for protection and affection from some parent or parent-figure. Rogerson (59) 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. Abramson (20) disagrees with the rejection theory but notes rather that the child is engulfed by the parents due to the parents' narcissistic desire to idealize the child as a substitute for their own deficiencies. French and Alexander (19) note the asthmatic's excessive dependence on the mother with accompanying fear of rejection. They state that the asthmatic attack symbolizes a cry for help from the mother. Miller and Baruch (54) come to the same conclusion as French and Alexander regarding rejection. Fine (69) concludes that the asthmatic child has an unpleasant father-image.

The asthmatic child is viewed by Rogerson (59), Treutig and Ripley (64), and Wellisch (66) as showing marked signs of insecurity, anxiety, and lack of self-confidence. The majority of authorities mentioned a specific emotional or personality pattern as being present in asthmatics. However, Harris (38), Langeveld (47), Ziskind (18), and Leigh (48) state the opposite. That is, no proof has been given of a connection between asthma and emotional disturbance, and no specific constellation of personality factors exists in asthmatic persons.

There have been only five studies conducted utilizing the Rorschach

test on asthmatics. Two of these investigated adults, a third was conducted in England and presented one protocol as the Rorschach study, and the remaining two were with asthmatic children. Of the last two one was the writer's masters study, and one was conducted by Fine (69). The present writer's study differed from Fine's in design and in certain conclusions.

Now with respect to the results of this study it is important to note that there was no Rorschach factor that significantly differentiated the normal boy from the normal girl. Another factor is that of number of responses an individual or group evoke to the test material. This is an extremely important factor in Rorschach research since it is necessary to control for the effects of the responses. The usual approach when comparing groups is to test the differences in one score after another, and then to generalize that the groups differ in the traits to which the scores correspond. The various scores, however, are not experimentally independent, since a subject's productivity influences all his scores. If two groups differ markedly in number of responses, they may also differ in W, F and M. This was not the case in this research as there was no inter- or intra-group significance with regard to response difference.

The asthmatic boy differed from the asthmatic girl in several categories. The boy utilized to a statistically significant degree more of the following Rorschach factors: W% and M at beyond the .025 level of confidence; and per cent of human content responses at beyond the .05 level of confidence.

The asthmatic girl differs significantly from the asthmatic boy in the use of more D and D% at the .025 level; Sum C at beyond the .05 level; and, animal response, and per cent of responses to the last three cards both being

significant at beyond the .05 level of confidence.

The asthmatic boy differs from the normal boy in utilizing more Dd at beyond the .001 level of confidence; Additional space responses and Dd and S% both at beyond the .01 level of confidence; F%, At, and FK+F+Fc% were significant at beyond the .001 level; while animal detail responses was significant at beyond the .01 level; and finally, popular responses was significant at beyond the .05 level of confidence.

The normal boy exceeds the asthmatic boy in using more W% and D%, both at beyond the .05 level; FM, FC both at beyond the .001 level; Fc, H, Hd, and H% at beyond the .01 level; and finally, animal and per cent of animal responses at beyond the .025 level of confidence.

The asthmatic girl differs from the normal girl in utilizing more Dd, Dd+S% and form, all at beyond the .01 level of confidence; F% and FK+F+Fc% are beyond the .001 level of confidence.

The normal girl differs from the asthmatic girl in her use of more W, FC, and Hd, all at beyond the .025 level of confidence. W%, FM, FC are beyond the .01 level, while M is significant at beyond the .001 level of confidence.

The asthmatics as a group exceed the normal children as a group in the use of more Dd, Dd+S%, Additional space responses, F%, At, and FK+F+Fc%, all statistically significant at beyond the .001 level of confidence. Form, and popular responses differentiate at the .01 level.

The normals as a group differed from the asthmatic children as a group in using more W, W%, and H all significant at beyond the .01 level of confidence. FM, Fc, FC, Hd, and H% were significant at beyond the .001 level

of confidence. M was significant at the .05 level, and Sum C also at the .05 level of confidence.

The asthmatics as a group differed from their performance of two years ago in utilizing more Dd, Dd+S%, animal per cent, and FK+F+Fc% all at beyond the .01 level of confidence. M, F, and F% were significant at the .025 level. Animal responses were significant at the .05 level of confidence. The asthmatics from the previous testing exceeded their present performance in the FM, and Fc categories, both significant at beyond the .025 level of confidence.

The asthmatic boys from this study now utilize more Dd, at the .025 level, and also M and FK+F+Fc% at the .025 level; Form per cent is at the .01 level of confidence, while Dd+S% is significant at beyond the .001 level of confidence. The boys two years ago utilized more FM, at the .01 level, and Fc, at the .025 level of significance than they did at the present testing.

The girls in the present study exceed their performance of two years ago in utilizing more Dd, Dd+S%, and F, all significant at beyond the .01 level of confidence. F%, A, and FK+F+Fc% are significant at beyond the .025 level of confidence. Animal per cent was significant at beyond the .05 level.

The hypothesis concerning differences in Rorschach performance between severe and mild asthmatics was significant with regard to six Rorschach factors. The severe group utilized more Dd and F% at the .025 level; Dd+S% and FK+F+Fc% at the .01 level of confidence; and finally, additional space responses at the .05 level of confidence than the mildly asthmatic children. Those asthmatic children with a mild condition exceeded the severe asthmatic child in only the FM category, this being significant at the .025 level of confidence.

The Draw-A-Person test yielded the following results. Sexual identification did not discriminate between asthmatics and normals. Emphasis or distortion of the mouth area differentiated between the asthmatic boy and normal boy; the asthmatic girl and normal girl; and the asthmatic children as a group and the normal children as a group. The chi-squares were 2.98, 3.17, and 3.21 respectively. All differences were significant at beyond the .05 level of confidence. The asthmatic boys differed from the normal boys in manifesting more rigidity. The significance was at the .05 level of confidence having a chi-square of 2.84. The asthmatic girls also manifested more rigidity than their non-asthmatic sex, the chi-square being 2.80 which is also significant at the .05 level. The asthmatics as a group differed significantly from the normals as a group at the .05 level, having a chi-square of 2.81.

There was no marked emphasis on oral responses in the Rorschach records of the asthmatic children. This fact would seem to contradict the previous findings of the author, Fine, and other investigators.

The differences noted in the previous statements result in the following personality description of the asthmatic child. The asthmatic child differs from the normal child in that the asthmatic is hesitant in drawing general conclusions from detailed observations. He defends himself against the insecurity he experiences in his perceptions of large and usual things in his environment by clinging to limited areas of certainty. He experiences a conflict between what he should respond to and how he should respond. The great majority of times his response is one characteristic of over-control and rigidity.

The asthmatic is a hostile child who is negativistic to many of the demands placed upon him. He attempts to suppress these feelings. His response to situations, although seemingly compliant and usual, is often only a facade which masks his true feelings of hostility.

The child fears manifesting affect or emotion and avoids manifesting deep involvement in interpersonal or emotion provoking situations. He is able to do this through a defense of rigid control which aids him in stripping events of emotionality, and of responding in an impersonal, matter-of-fact manner. This affords him the opportunity for adequate control of himself and his impulse life.

The asthmatic denies his affectional feelings and his desire to belong and be recognized by others. This denial and/or fear of manifesting behavior designed to receive security, dependence, and affection from people may be related to early rejection experiences. These rejection experiences may have come at a time when the child overtly sought affection and dependency from someone.

This personality picture reflects the fact that the asthmatic child is in a literal shell which he erects to protect himself from much of the affective and impulsive feelings he personally experiences and is subjected to from his environment. The author feels that the psychoanalytic interpretation of the asthmatic attack being a cry for the mother is not in correspondence with the results of this empirical study. Rather, one might hypothetically postulate that the attack symbolically represents a collapsing of the rigid defense with a resultant manifestation of the hostile feelings, suppressed impulse life, and controlled affective response. The asthmatic attack would



then mask these feelings and the asthmatic would gain security, comforting, love, and recognition from those who are in his presence when the attack occurs. He would thus obtain those things which he basically wants, but fears overtly seeking.

The asthmatic boy and asthmatic girl differ with respect to the boy having greater interests than the girl and being better able to make object relations and relate inter-personally. While the girl responds to the common, everyday facts and problems in her perception, the boy perceives more of the relatively separate facets of his experience as an interrelated whole. The asthmatic girl is more responsive than the boy to emotion provoking situations.

The asthmatics in this group differed significantly from their performance of two years ago. The emphasis within their present personality of clinging to confined areas, hostile and oppositional feelings, rigid, constricted defense, more stereotyped interests, and the inability to seek out affectional and deep personal attachments is significantly greater than two years ago. There has been a decrease noted in impulsivity. An increase in ego strength is apparent, but this is developmentally expected, and thus does not become a factor unique to only asthmatics.

The child with a severe asthmatic condition differs from a child with a mild asthmatic condition in overly confining himself to small areas, over-control, hostile feelings, and a denial of his affectional wants due to a fear of rejection if he should overtly manifest them. The mild asthmatic child is able to feel freer in the area of impulsivity. This would seem to indicate that the severe asthmatic is more constricted, and bound up with himself, while the child with a mild asthmatic condition has a tendency to react with more

spontaneity. This fact of spontaneity and less rigid control would appear in part to justify the writer's theory that the asthmatic attack symbolizes a break through of affect and impulse. The mild asthmatic, a child who experiences fewer attacks and of a less severe nature, can overtly manifest these impulses.

The results of this study appear to both agree and disagree with the theories of other investigators. An agreement is noted in Treutig and Ripley's (64) conclusion that the asthmatic showed insecurity, a need for protection and affection (although from the present results it is a denied need). They also noted that conspicuous in the attacks was unexpressed anger. This finding is in agreement only as related to this writer's theory of the attack symbolizing unleashed hostility and the already earlier mentioned elements. The findings of oppositional tendencies and inner conflicts coincide with Wellisch's findings.

The asthmatic children from this study differ from Fine's observations that the asthmatic was explosive, uncontrolled and uninhibited although apt to be more conforming. The reader has seen that the asthmatic in this study was anything but explosive and uncontrolled, rather, the opposite occurred, the child being over-controlled and rigid in his reaction to situations. He avoided deep personal involvement in situations and defended against manifesting any affect. Fine noted that oral drives were especially strong, while no such fact was observed from the asthmatic in this study. Fine noted an unpleasant father-image and a corresponding aversion to card 4, or the father card (card 7 is thought to represent symbolically the mother). This writer noted the asthmatic manifesting an equal aversion to both cards 4 and 7.

This would reflect an unpleasant perception of both the mother and father by the asthmatic child.

#### IMPLICATIONS FOR FUTURE RESEARCH

There are several possibilities that present themselves for further study in the area of the asthmatic child. Some of the following appear to have value:

1. Investigate the influence of psychotherapy on the personality of the asthmatic child.
2. Investigate what the personality structure and dynamics are of the parents, both mother and father, of the asthmatic child.
3. Test a greater number of asthmatic children with an end to furnishing norms.
4. Investigate through thorough psychiatric social histories the development of the asthmatic child and the dynamic factors in the psychosocial development and adjustment of the parents.

These and possibly other factors could contribute to a more comprehensive knowledge of the psychological aspects of the individual having this disease. The author believes that this study has in some part contributed to at least a beginning understanding of the asthmatic child. At least the publication of these findings will make some increase in the few number of empirical studies of the asthmatic child.

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## APPENDIX

TABLE VIII

Number Of Responses And Time Consumed In Reacting To The  
Rorschach Cards Of Forty Asthmatic Children

Factors	Mean Values			Median Values			Standard Deviation			Chi-Square
	Boys (N=26)	Girls (N=14)	Total (N=40)	Boys (N=26)	Girls (N=14)	Total (N=40)	Boys (N=26)	Girls (N=14)	Total (N=40)	
Total response	24.19	23.28	23.88	22.00	19.00	21.16	12.10	14.05	13.21	1.60
Total time	7'50"	10'30"	9'30"	7.10	9.50	7.71	24.63	21.42	22.79	0.64
Time per response	23.51	25.11	24.07	24.90	23.50	24.61	13.21	9.20	11.17	0.42
Av.react. time to Achro.cds.	9.79	10.05	9.89	8.25	8.87	8.30	6.48	5.43	6.01	0.11
Av.react. time to Chro.cds.	9.22	9.21	9.22	7.50	8.07	7.93	7.12	6.65	6.88	0.42

TABLE IX

Number Of Responses And Time Consumed In Reacting To The Rorschach  
Cards Of Forty Normal Children

Factors	Mean Values			Median Values			Standard Deviation			Chi-Square
	Boys (N=26)	Girls (N=14)	Total (N=40)	Boys (N=26)	Girls (N=14)	Total (N=40)	Boys (N=26)	Girls (N=14)	Total (N=40)	
Total responses	25.34	23.78	24.80	24.00	23.78	23.94	11.11	13.24	12.47	0.11
Total time	8'10"	9'0"	8'40"	6.80	8.50	7.32	21.93	22.51	22.24	0.42
Time per response	22.95	23.28	23.06	22.60	21.50	22.27	11.90	10.39	11.15	0.11
Av.react. time to Achro.cds.	8.46	8.79	8.56	8.41	8.75	8.64	6.18	5.63	5.94	0.42
Av.react. time to Chro.cds.	7.58	8.79	8.01	6.74	7.50	7.33	6.87	5.98	6.39	1.83

TABLE I

The Mean, Median, Standard Deviation, And Chi-Square In The Location  
Categories Of The Rorschach For Forty Asthmatic Children

Location	Mean Values			Median Values			Standard Deviation			Chi-Square
	Boys (N=26)	Girls (N=14)	Total (N=40)	Boys (N=26)	Girls (N=14)	Total (N=40)	Boys (N=26)	Girls (N=14)	Total (N=40)	
W	6.88	5.29	6.33	7.50	5.50	6.16	4.45	3.29	4.10	1.79
D	11.02	12.93	11.48	9.50	11.50	10.49	6.12	6.42	6.30	4.46
d	1.96	2.14	2.03	1.00	1.83	1.30	3.41	5.28	4.61	1.03
Dd	4.38	2.57	3.75	3.64	2.50	2.93	3.11	2.72	2.95	1.88
S	0.69	0.36	0.58	0.00	0.00	0.00	1.40	1.02	1.28	0.42
W%	34.26	22.57	30.18	32.80	22.83	29.50	21.21	22.75	22.32	4.46
D%	41.69	55.71	46.60	43.50	53.78	46.64	18.50	17.92	18.24	4.46
d%	6.77	8.21	7.28	5.50	7.83	7.50	8.82	10.44	10.12	0.99
Dd+S%	17.26	13.50	15.95	13.50	12.83	12.85	6.69	9.23	8.20	0.80
Add'l's	2.50	1.00	2.27	2.10	1.90	2.00	2.57	2.10	2.35	0.11

TABLE XI

The Mean, Median, Standard Deviation And Chi-Square In The Location Categories  
Of The Rorschach For Forty Normal Children

Location	Mean Values			Median Values			Standard Deviation			Chi-Square
	Boys (N=26)	Girls (N=14)	Total (N=40)	Boys (N=26)	Girls (N=14)	Total (N=40)	Boys (N=26)	Girls (N=14)	Total (N=40)	
W	9.58	9.21	9.45	8.40	8.75	8.54	3.82	4.42	4.13	0.11
D	13.12	13.14	12.78	11.64	13.50	12.57	5.75	6.33	5.96	0.04
d	1.38	1.14	1.30	1.27	1.00	1.16	3.01	4.68	3.99	2.14
Dd	0.96	0.93	0.95	0.78	0.83	0.81	3.72	2.94	3.46	0.99
S	0.42	0.36	0.40	0.00	0.00	0.00	1.31	1.15	1.24	0.42
W%	38.88	41.14	39.68	37.50	41.50	38.73	21.00	22.34	21.96	0.11
D%	49.50	43.38	49.10	50.60	52.83	51.16	16.37	17.82	17.24	0.42
d%	6.04	5.43	5.83	5.92	6.16	6.03	7.91	9.38	8.75	0.42
Dd+S%	5.58	5.07	5.40	4.50	5.33	4.52	6.51	7.89	7.27	0.11
Add'l's	0.85	0.93	0.88	0.72	0.90	0.78	1.83	2.21	2.11	0.99

TABLE XII

The Mean, Median, Standard Deviation, And Chi-Square In The Determinant  
Categories Of The Rorschach Test For Forty Asthmatic Children

Determinants	Mean Values			Median Values			Standard Deviation			Chi-Square
	Boys (N=26)	Girls (N=14)	Total (N=40)	Boys (N=26)	Girls (N=14)	Totals (N=40)	Boys (N=26)	Girls (N=14)	Total (N=40)	
M	1.46	0.71	1.20	1.30	0.50	1.03	1.00	1.12	1.05	3.85
FM	2.35	2.50	2.40	2.12	2.50	2.25	2.37	1.62	1.98	0.96
m	0.85	0.50	0.73	0.00	0.00	0.00	1.32	0.97	1.18	0.00
k	0.12	0.07	0.10	0.00	0.00	0.00	0.24	0.12	0.19	0.00
K	0.00	0.00	0.00	0.00	0.00	0.00	0.52	0.47	0.49	0.00
FK	0.15	0.14	0.15	0.00	0.00	0.00	1.13	0.71	0.92	0.11
F	16.19	16.29	16.23	12.00	16.50	14.50	7.92	8.26	8.15	0.42
F%	67.46	70.50	68.53	69.50	67.83	68.78	14.56	16.41	15.83	0.00
Fe	1.35	1.21	1.30	1.16	0.90	1.00	1.51	1.04	1.42	0.11
c	0.04	0.00	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00
C'	0.54	0.29	0.45	0.00	0.00	0.00	0.41	0.22	0.35	0.07
FC	0.50	0.64	0.55	0.00	0.00	0.00	2.15	1.68	1.91	0.00
CF	0.42	0.71	0.53	0.00	0.00	0.00	0.52	0.61	0.58	0.11
C	0.15	0.21	0.19	0.00	0.00	0.00	0.27	0.35	0.31	0.00
Sum C	0.90	1.36	1.06	0.66	1.50	0.70	1.44	2.28	2.12	2.75

TABLE XIII

The Mean, Median, Standard Deviation, And Chi-Square In The Determinant Categories  
Of The Rorschach Test For Forty Normal Children

Determinants	Mean Values			Median Values			Standard Deviation			Chi-Square
	Boys (N=26)	Girls (N=14)	Total (N=40)	Boys (N=26)	Girls (N=14)	Total (N=40)	Boys (N=26)	Girls (N=14)	Total (N=40)	
M	1.65	1.50	1.60	1.80	1.00	1.60	1.42	1.12	1.31	0.42
FM	4.77	4.57	4.70	4.67	4.25	4.50	2.25	1.78	2.05	0.00
m	0.31	0.28	0.30	0.00	0.00	0.00	1.37	1.15	1.22	0.11
k	0.12	0.14	0.13	0.00	0.00	0.00	0.46	0.13	0.32	0.11
K	0.00	0.00	0.00	0.00	0.00	0.00	0.66	0.11	0.55	0.00
FK	0.19	0.14	0.18	0.00	0.00	0.00	1.49	1.00	1.28	0.42
F	13.42	11.64	12.80	12.22	12.83	12.80	7.65	9.12	8.67	0.42
F%	52.38	50.50	51.68	53.14	49.05	51.37	11.78	15.62	15.34	1.79
Fe	2.27	2.78	2.45	2.30	2.75	2.45	1.44	1.27	1.33	1.03
c	0.12	0.00	0.07	0.00	0.00	0.00	0.28	0.00	0.12	0.04
C'	0.35	0.28	0.33	0.00	0.00	0.00	0.51	0.27	0.36	1.03
FC	1.50	1.64	1.55	1.65	1.83	1.73	1.98	2.48	2.27	0.68
CF	0.50	0.36	0.45	0.00	0.00	0.00	0.39	0.74	0.52	1.03
C	0.27	0.28	0.28	0.00	0.00	0.00	0.49	0.88	0.67	0.42
Sum C	1.56	1.61	1.58	1.00	1.51	1.28	1.65	2.37	2.19	0.42

TABLE XIV

The Mean, Median, Standard Deviation, And Chi-Square In The Content Categories  
Of The Rorschach Test For Forty Asthmatic Children

Content Categories	Mean Values			Median Values			Standard Deviation			Chi- Square
	Boys (N=26)	Girls (N=14)	Total (N=40)	Boys (N=26)	Girls (N=14)	Total (N=40)	Boys (N=26)	Girls (N=14)	Total (N=40)	
H	2.31	1.29	1.95	1.50	1.50	1.50	1.72	1.56	1.62	0.00
Hd	2.18	1.21	1.78	1.50	1.00	1.24	1.51	1.61	1.58	1.79
A	7.96	11.36	9.15	6.50	11.50	8.94	4.29	3.84	4.14	3.67
Ad	4.18	3.14	3.75	3.50	2.30	2.83	3.50	3.10	3.30	0.11
Aobj	0.73	0.50	0.65	0.59	0.00	0.10	0.48	0.76	0.63	0.68
A+	1.50	1.79	1.60	1.25	1.10	1.20	1.91	1.47	1.79	0.99
Obj	2.42	2.21	2.35	1.83	1.83	1.83	3.28	4.20	3.71	0.00
Pl	0.35	0.36	0.35	0.00	0.00	0.00	0.55	0.37	0.49	0.42
N	1.12	0.29	0.85	0.00	0.00	0.00	0.64	0.29	0.44	0.11



TABLE XV

The Mean, Median, Standard Deviation, And Chi-Square In The Content Categories  
Of The Rorschach Test For Forty Normal Children

Content Categories	Mean Values			Median Values			Standard Deviation			Chi- Square
	Boys (N=26)	Girls (N=14)	Total (N=40)	Boys (N=26)	Girls (N=14)	Total (N=40)	Boys (N=26)	Girls (N=14)	Total (N=40)	
H	3.00	2.07	2.68	2.08	2.00	2.01	1.69	1.85	1.77	0.68
Hd	3.00	2.28	2.75	2.90	2.30	2.76	1.58	1.66	1.62	0.42
A	11.69	11.93	11.78	11.17	12.83	11.72	3.48	4.10	3.85	0.00
Ad	2.65	2.78	2.70	2.43	2.90	2.44	3.47	3.81	3.64	0.64
Aobj	0.65	0.71	0.68	0.59	0.78	0.65	0.79	0.28	0.59	0.68
A+	0.38	0.36	0.38	0.00	0.00	0.00	1.32	1.68	1.51	0.42
Obj	2.00	1.21	1.73	1.83	1.16	1.57	2.72	3.31	3.15	1.60
Fl	0.50	0.64	0.55	0.00	0.00	0.00	0.68	0.48	0.53	0.11
N	0.50	0.50	0.50	0.00	0.00	0.00	0.33	0.59	0.42	0.11

TABLE XVI

The Mean, Median, Standard Deviation, And Chi-Square In The Miscellaneous  
Rorschach Factors Of Forty Asthmatic Children

Factors	Mean Values			Median Values			Standard Deviation			Chi-Square
	Boys (N=26)	Girls (N=14)	Total (N=40)	Boys (N=26)	Girls (N=14)	Total (N=40)	Boys (N=26)	Girls (N=14)	Total (N=40)	
P	3.96	4.00	3.98	4.00	4.16	4.05	1.64	1.61	1.63	0.99
O	0.27	0.14	0.00	0.00	0.00	0.00	0.25	0.27	0.25	0.42
A%	52.81	.14	56.78	52.80	64.50	59.50	13.24	13.58	13.47	1.60
B%	15.54	10.50	11.28	15.50	10.50	13.61	6.94	3.78	7.59	3.85
FK+P+Fc%	73.58	75.14	74.13	74.50	75.21	74.79	12.85	14.10	13.76	0.68
%rsp. 8, 9 10	31.23	35.28	32.65	31.50	34.50	32.62	8.51	6.27	7.61	3.67

TABLE XVII

The Mean, Median, Standard Deviation, And Chi-Square  
In The Miscellaneous Rorschach Factors  
Of Forty Normal Children

Factors	Mean Values			Median Values			Standard Deviation			Chi-Square
	Boys (N=26)	Girls (N=14)	Total (N=40)	Boys (N=26)	Girls (N=14)	Total (N=40)	Boys (N=26)	Girls (N=14)	Total (N=40)	
P	2.96	2.78	2.90	2.93	2.75	2.86	2.12	2.01	2.09	1.03
O	0.12	0.07	0.10	0.00	0.00	0.00	0.35	0.14	0.26	0.00
A%	55.50	60.50	57.25	55.65	62.83	57.27	13.87	13.24	13.65	1.03
B%	23.30	18.00	21.45	23.50	20.75	22.27	8.17	7.39	7.91	2.14
FK+F+Fc%	62.15	59.57	61.25	62.50	59.50	61.50	10.48	9.71	10.09	0.64
%resp. 8, 9 10	34.96	34.50	34.80	34.04	33.75	33.94	7.77	8.34	8.19	0.07

TABLE XVIII

The Mean, Median, Standard Deviation, And Chi-Square In The  
Miscellaneous Content Of Forty Asthmatic Children

Content Categories	Mean Values			Median Values			Standard Deviation			Chi- Square
	Boys (N=26)	Girls (N=14)	Total (N=40)	Boys (N=26)	Girls (N=14)	Total (N=40)	Boys (N=26)	Girls (N=14)	Total (N=40)	
Clouds	0.12	0.21	0.15	0.00	0.00	0.00	0.28	0.39	0.32	0.11
Clothing	0.21	0.21	0.25	0.00	0.00	0.00	0.18	0.39	0.43	0.11
Food	0.38	0.29	0.35	0.00	0.00	0.00	0.56	0.14	0.51	0.68
Mask	0.15	0.14	0.15	0.00	0.00	0.00	0.19	0.24	0.22	0.11
Fire	0.08	0.07	0.07	0.00	0.00	0.00	0.20	0.26	0.24	0.11
Design	0.08	0.07	0.08	0.00	0.00	0.00	0.18	0.26	0.23	1.03
Water	0.31	0.14	0.25	0.00	0.00	0.00	0.59	0.37	0.48	0.07
Explosion	0.04	0.21	0.10	0.00	0.00	0.00	0.14	0.35	0.27	0.11
Geo.	0.77	0.14	0.30	0.00	0.00	0.00	0.68	0.25	0.41	0.11

TABLE XIX

The Mean, Median, Standard Deviation, And Chi-Square In The  
Miscellaneous Content Of Forty Normal Children

Content Categories	Mean Values			Median Values			Standard Deviation			Chi- Square
	Boys (N=26)	Girls (N=14)	Total (N=40)	Boys (N=26)	Girls (N=14)	Total (N=40)	Boys (N=26)	Girls (N=14)	Total (N=40)	
Clouds	0.27	0.28	0.28	0.00	0.00	0.00	0.45	0.38	0.41	0.00
Clothing	0.08	0.57	0.25	0.00	0.00	0.00	0.19	0.72	0.59	0.00
Food	0.08	0.07	0.08	0.00	0.00	0.00	0.24	0.16	0.20	0.07
Mask	0.11	0.07	0.10	0.00	0.00	0.00	0.26	0.16	0.22	0.11
Fire	0.04	0.00	0.03	0.00	0.00	0.00	0.11	0.00	0.08	0.00
Design	0.15	0.07	0.13	0.00	0.00	0.00	0.42	0.27	0.35	0.07
Water	0.08	0.00	0.05	0.00	0.00	0.00	0.25	0.00	0.14	0.00
Explosion	0.04	0.00	0.03	0.00	0.00	0.00	0.12	0.00	0.05	0.00
Geo.	0.23	0.21	0.23	0.00	0.00	0.00	0.39	0.35	0.38	0.04

TABLE XX  
Miscellaneous Ratio Factors For Forty  
Asthmatic Children

Ratio Factors	Asthmatic Boys	Asthmatic Girls	Total
$(H+A) > (Hd+Hd)$	77%	86%	80%
M:Sum C equals O:O to 1:3	58%	85%	65%
$(FM+m): (Fc+c+C')$ equals 2:0 to 5:1	65%	85%	70%
$W (3x) \rightarrow M$	84%	86%	85%

TABLE XXI  
Miscellaneous Ratio Factors For  
Forty Normal Children

Ratio Factors	Normal Boys	Normal Girls	Total
$(H+A) > (Hd+Ad)$	96%	93%	95%
M:Sum C equals 1:0 to 2:4	69%	57%	65%
FM+m : Fc+c+C' equals 3:1 to 5:4	54%	71%	60%
W (3x) $\rightarrow$ M	92%	93%	93%

APPROVAL SHEET

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

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

The dissertation is therefore accepted in partial fulfillment of the requirements for the Degree of Doctor of Philosophy.

July 18, 1957  
Date

Frank J. Koller  
Signature of Adviser