# A PSYCHOLOGICAL STUDY
# OF
# MOTHERS OF ASTHMATIC CHILDREN

BY

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# I. REVIEW OF THE LITERATURE

## A. Introduction:

While emotional factors have long been recognized as playing a role in disease, they have been largely neglected by research workers in medicine who, because of their training in the biological and physical sciences, have sought primarily to investigate physical and biochemical agents which were assumed to be responsible for organic pathology. Once these physical agents were isolated and understood, attempts were made to control them through surgical or medical techniques that, again, had little connection with psychological variables. In recent years, however, within medicine itself there has been much discontent with this orientation to the investigation of etiological factors in disease. Critics have questioned the validity of such a near-exclusive preoccupation with organic factors, a preoccupation that often found even more narrow expression in the isolation of particular symptoms and organs as a focus of study, to the almost complete neglect of other systems in the body and their inter-relationships. These critics have suggested adoption of research perspectives which would include the total organism, especially in its psychological ramifications.

Psychiatrists have become especially interested in applying to wider areas of pathology the insights and techniques developed from the treatment of the neuroses and psychoses. Many psychiatrists now believe that

there is a wide variety of major illnesses that are to a large extent precipitated, aggravated, and sustained by psychological factors. They have especially concentrated their attack on gastrointestinal disorders such as ulcers and upper respiratory diseases such as asthma.

a. Psychosomatics: a brief history.

This broad spectrum of diseases has come to be known by the name "psychosomatics." As increasing numbers of diseases have been designated as psychosomatic, the term has come to be so encompassing as to lose all distinction from disease in general. In fact many serious physicians are already insisting that psychic components play an important role in all disease. Grinker (22), a leading student in this area, has suggested that the term "psychosomatics" be used to cover diseases in which psychic factors play a large, clear role in the illness. This distinction, it is felt, is a more useful conceptual delimitation and will therefore be used when referring to psychosomatics in this study.

Psychosomatics is a very recent area of interest. It is only in the last two decades that it has achieved respectability and influence as a frame of reference for scientific investigation. While primarily developed by psychiatrists, especially by psychoanalytically-oriented psychiatrists, there have been growing numbers of physicians, psychologists, and other behavioral and biological scientists who have begun to work in the area of psychosomatics. Due to the broad focus of inquiry which is implied by the term, scientists from many disciplines have been able to work together on joint projects in the area of psychosomatics.

The concepts of psychosomatics are very new and they have met with considerable resistance within medicine. Some of this resistance can be attributed to the physician's vested interests in and preoccupation with physical variables. Some can certainly be attributed to the chaotic and very speculative nature of much of psychosomatic theory. Encouraged by initial successes involving the application of these principles to individual cases in their clinical practice, many psychiatrists have too quickly made sweeping generalizations based upon these theoretical insights to larger clinical populations. Some have even insisted that psychic factors are the key variables in most of disease proper. Many have supported the "specificity" hypotheses which link specific organ malfunctioning to particular psychic conflicts. Some could accept the specificity notion but questioned the specific dynamics. Others have denied these specificity notions and claimed simply that, although psychic conflicts were partly responsible for organic pathology, they could not be so neatly related to specific organic breakdown in such a one-to-one manner. Instead they postulated that any psychic stress of sufficient magnitude would cause a physical breakdown at the weakest link in the body; the same conflict, they further reasoned, in one person might cause an ulcer attack and in another an asthmatic attack. In most instances these theoretical speculations were based on single cases or small numbers of patients who have been treated by psychoanalysts. In the absence of rigorous research based upon objective studies of controlled groups of subjects, it was no wonder that there was such a proliferation of contradictory theories.

b. Research in Psychosomatics:

It has only been in the last ten years that much research has been done in this area to test these claims and counterclaims. The newness of these research efforts is illustrated by the fact that in the area of ulcers, the "classic" psychosomatic disease, there is still very little agreement about the vast majority of the questions that have been at the center of these efforts. For example, the specificity notion is still being hotly debated, with large numbers of research reports being advanced supporting both sides of the debate. There is also little agreement as to the most proper research techniques or designs to be employed in these studies. Consequently, there are many unrelated studies being conducted in the area. Often they are conceptualized and executed in so disparate a fashion that it is difficult to compare their results. Though there is a growing sophistication apparent in methodological discussions in ulcers studies, the research in this area, the most studied of the psychomatic diseases, is still largely in its first, rudimentary stages. The only general conclusions that can be made at this time are that the working hypotheses of many clinicians in this area are probably over-simplified and over-generalized and that research is exceedingly difficult, due to the complexity of the data. The study of other so-called psychosomatic diseases is even less developed.

Many workers have suggested that research efforts would best be expended at the present time in investigating the basic variables that set psychosomatic diseases apart from other diseases in both their psychological and physiological dimensions. Lacey and Von Lehn's work (33), demonstrating that a stable, differential hierarachy of autonomic responses can be found among infants, is one step in this direction. This type of research, if pursued further, may provide an answer to the question of what part constitutional predisposition to organic breakdown plays in psychosomatic diseases. On the psychological side, Kubie (31) has asked, "what is there which is of a peculiar, or special or different or specific nature about the regressive and dissociative processes which results in physiological disturbances." In other words, can the psychological processes which accompany the psychosomatic disorders be differentiated in any way from those that accompany non-psychosomatic organic disease, the neuroses, or the psychoses.

The study of the family relationships of psychosomatic patients is one way to provide an answer to these basic questions raised by Kubie. Analogous to Lacey and Von Lehn's study on the physiological side, it is felt that these psychological variables are best studied at a time when they are likely to be most crucial, i.e., during the infancy and childhood of psychosomatic patients. Too much work in the area of psychosomatic research involves the study of adult patients who are long removed in time from the point of first manifestation of psychosomatic

symptoms. There are several studies now in progress whose aim is to investigate these early family relationships. Notable among these studies is one which Gerard helped to establish at the Medical School of the University of Illinois (45). Both the mothers and fathers of children with primarily gastointestinal complaints have been studied in this project by intensive psychological and psychiatric techniques. Preliminary findings indicate that the mothers are immature, inept at mothering, passive, and often are quite frustrating and cold and even neglectful in their handling of their children; these same mothers also experienced during their own childhood ambivalent care from their mothers and have greater than average negative and hostile attitudes towards them. Interestingly enough, while the fathers were also found to be disturbed and inadequate as parents, these workers conclude that there seems to be no great consistency between the severity of illness of child and grossness of disturbance in the father. The mother's role, as might be expected, seems more heavily weighted as a possible determinant of the child's conflicts and psychosomatic resolution of these conflicts.

B. A Clinical Description of Bronchial Asthma:

a. Somatic Aspects:

Bronchial asthma is an allergic disorder of the respiratory system, characterized clinically by paroxysms of an expiratory type of dyspnea with wheezing, and anatomically by a generalized obstructive emphysema

50). It is often accompanied by nasal congestion, sneezing, coughing, and watery discharge. Attacks are most frequently precipitated by allergens, most prominent among them being the inhalents (e.g. pollen dust). Attacks may also be caused by too hearty laughter, vigorous physical activity, exposure to cold, and inhalation of cold air, smoke or mildly irritating gases. Respiratory infections often precede attacks. Asthma is a recurrent, chronic disease. Death from bronchial asthma is rare.

b. Psychic Aspects:

Allergists have noticed that emotional upsets lower the threshold for asthmatic attacks. Hallowitz (24) has noted that asthmatic attacks diminish in quantity and intensity when asthmatic children are removed from their home; conversely, they often recur when the child is returned to his home. Hallowitz reports that 50% of the chronic asthma cases that come to the Denver Hospital experience immediate and sustained relief from their sysmptoms. An additional 35% have markedly reduced symptomatology. Similar findings are reported by Doust and Leigh (12) and Jessner et al (30). Jessner notes that often the very same medicine that could not bring relief to the child while he was in the home situation seems to be successful in reducing the asthmatic symptoms once the child arrives at the hospital. (Some claim that this diminution in asthmatic symptoms is due to the removal of the child to a relatively pollen-free, dust-free, etc. environment. This issue awaits experimental clarification). Many psychiatrists have noted a low incidence of asthma

among mental hospital patients. These observations have been noted in a study at Worcester State Hospital by Sabbath and Luce (51). They also report that "those patients who retained their asthma showed less break with reality and more nearly intact personalities." (51, p. 566). It has been speculated that the asthmatic attack serves as a defense against the very severe conflicts of these patients. Oftentimes it is observed that when the asthma subsides, the patient manifests increased psychotic symptoms; when the asthmatic symptoms increase, the patient's contact with reality is strengthened. This position has been questioned by Leigh (35) who states that psychotic symptoms seem to be just as common among asthmatics as among non-asthmatics.

The relationship of allergic sensitivity to asthmatic attacks has convinced many that asthma has a psychogenic component. Treuting and Ripley state that there are cases of asthma in which "no specific sensitivity to such intrinsic factors as inhalents can be demonstrated." (59, p. 380). Gerard (20) reports that asthmatics often have attacks when in the presence of allergens, and, conversely, often have attacks when allergens are not present. Alexander and French (20) report that asthmatics who underwent psychoanalysis were often cured of their asthma; they also did not substitute any other allergic symptoms for their asthmatic symptoms. Moreover, clinical tests revealed that they were still sensitive to the allergens. Dunbar (13) further reports that often asthmatic analytic patients would admit that they had attacks during their sleep while they were dreaming traumatic dreams. Many even had

attacks in her office when relating these dreams to her.

c. The Psychodynamics of Asthma:

As early as 1922, Weiss (14) speculated about the psychodynamics of asthma. Alexander and French's Monograph, Psychogenic Factors in Bronchial Asthma (18), (which incorporated Weiss's original contributions, and was based to a large extent on asthmatics treated at the Chicago Institute of Psychoanalysis), currently represents the leading and most accepted psychoanalytic formulation. These writers see dependence on and longing for the mother as being at the very core of the psychodynamics of asthma. Fear of the loss of maternal love typically sets off the asthmatic attack. This fear can arise either from the threat of an actual separation or from the patient's fear that the exposure of his aggressive and sexual fantasies would cause his mother to reject him. Alexander and French claim that the fear of exposure of sexual impulses was the most frequently involved factor in the asthmatic cases that they studied. Saul and Lyons (52) state that these dependency longings appear in dreams and fantasies as wishes for shelter, protection, being in enclosures, and the like, being expressed with this intrauterine symbolism instead of, for example, in oral suckling form as seen in the gastrointestinal disorders. These authors do not feel that the dependency longings of the asthmatic patient are any stronger than those of patients suffering with gastrointestinal disorders, but rather that they express themselves in this particular form. Alexander and French (18) also report that dreams with intrauterine themes were more common

among asthmatic patients than non-asthmatic patients.

According to many research workers in this area, asthmatics deal with these primary conflicts in different ways, as is apparently the case in ulcers. Some will cling to their dependent role to avoid separation from mother. They are sick and require much mothering and nursing; thus they reassure themselves of their mother's love. Others will act out by being sexually provocative and aggressive, at times to the point of committing anti-social acts. In this way they attempt to master the anxiety associated with the forbidden impulses. Others become quite ambitious and striving and in this fashion deny to themselves their great dependency. These latter cases have been especially studied by Gerard (20) who, along with Alexander and French and others, has noted the relationship of crying and the desire to confess in these patients. Gerard reports that crying and confession of the forbidden impulses towards the mothering figure often seems to stop the attack. The asthmatic attack then can often be understood as the respiratory equivalent of the stifled cry for the mother, which the asthmatic, forced into a pseudomaturity, cannot allow himself.

All of these writers, Fenichel observes (14, page 322), emphasize the pregenital nature of the conflicts. In accordance with this pregenital character, he further notes that "patients with asthma mainly present a compulsive character, with all the features of an increased anal-sadistic orientation (ambivalence, bi-sexuality, personality deviations through reaction formation, sexualization of thought and speech)." Dunbar (13)

notes that while her asthmatic, analytic patients were compulsive characters with intense oral and anal conflicts they seemed to develop few defenses such as protective rituals and phobias. Their marked ambivalence did not lead them to separate themselves from reality, as in the case of the psychotic. Instead, the asthmatic attack acted to short-circuit the impulse and prevent it from overwhelming the individual. In symptom-free periods she observed that asthmatics, due to this lack of depth in defenses, constantly seemed on the verge of acting out their impulses and often did. There seemed to be little intervening between fantasy and actually doing what is fantasied. She noted, therefore, that their dreams present impulses fairly directly with little symbolic elaboration or evidence of censorship. It may be that these latter observations are a function of the restricted clientele of the analysts. They may have never treated many asthmatics who have been more tolerant and accepting of their passivity and thus were never sufficiently conflicted and motivated to undertake an analysis. It may therefore be no accident that Dunbar, Alexander and French, and others, have seen so many ambitious, striving, compulsive characters with asthma. This line of reasoning leads one also to question the assumed link between the inhibition of crying and the asthmatic attack. At any rate, what all of these writers are able to agree on is the marked dependency, basic passivity, and pre-genital orientation of these asthmatic patients, which most workers agree is central to the psychodynamics of the psychosomatic patient in general. It should be noted that all of the above

writers also posit an accompanying somatic predisposition in this disease, i.e., an allergic constitution.

d. The Mother-Child Relationship in Asthma:

The mother-child relationship has come in for special scrutiny by these writers. Alexander and French (18) report that their cases were characterized by marked, early maternal rejection. Gerard (20) states that this maternal rejection was accompanied by the setting of high standards for too-early achievement accompanied with strong discouragement of aggressive behavior and sexual curiosity. Dunbar (13) also notes that some cases had an early childhood characterized by excessive indulgence and overgratification of dependency needs. She further quotes an earlier study by Rogerson and Hardcastle who observed that mothers of asthmatic children tended to be overprotective. Hallowitz (24) too notes that the mothers of asthmatic children seem overprotective. They especially restrict the child's activities for fear overexertion will bring on an asthmatic attack. (There is some basis in reality to these fears). They appear to be very devoted and self-sacrificing parents, but underneath this surface veneer lie hostile, rejecting attitudes that are only thinly disguised. Hallowitz makes the interesting observation that much of this rejection may be a function of the excessive demands that an asthmatic child, because of the nature of his illness, makes on a household. These writers (e.g., 13) observe that overgratification of dependency needs can lead to the same result as undergratification of these needs, i.e., regression to, or fixation

at the pre-genital level. This is so because the asthmatic child is reacting to the same underlying maternal rejection which characterizes both the overindulgent and the underindulgent mothers.

Sperling (57, 58), in her discussion of the mothers of asthmatic children, has focused on the dynamics underlying their behavior. She feels that these mothers often carry over unresolved conflicts from their own childhood and act them out upon their child. She notes that these conflicts are of an intensity often found only among the mothers of psychotic children. The asthmatic child was often found by Sperling to represent an unconsciously hated sibling or parent to these mothers. The mothers were found in some cases to provoke the asthmatic attacks to justify their rejection of the child. In other cases they so overidentified with the child that they could vicariously experience their indulgence of the child as the gratification of their own unresolved, nurturance needs. Therefore, they could not countenance the growing up of these children and discouraged all moves towards independence. Apparently, in some cases, the very act of separation from the child within her, involved in the birth process, was unwelcome to these mothers. It is for this reason that Jessner et al (30) note that to many mothers of asthmatic children their pregnancies were so very pleasant and happy. The symbiosis here is real and organic, and cannot be denied. Later on the mother's needs will come into conflict with the child's own autonomy needs, but now there is no

conflict. It is as if they are saying that the perfect relationship is between a mother and her unborn child within.

Sperling has especially called attention to the symbiotic nature of this mother-child relationship and feels that the child often responds to an unconscious parental command to get sick. She notes that one asthmatic child is sufficient to serve these needs of the mother, but if that child is cured of its asthma through medication, and/or psychotherapy, the mother is often found to transfer this special relationship to another child and it in turn now develops asthma. Coolidge(10) notes that the asthmatic children often seem to sense that an asthmatic attack is the only way that they can get the love they seek through being sick.

Others use their symptoms in an additional way: they can thus safely express their rage and anger towards their mothers and effectively control them. Their mothers must now tend them in the middle of the night and are thus effectively removed from the marital bed. The mothers, leaving their husbands behind, must journey with their asthmatic children to other areas where they will have more relief from their symptoms. The interdependence of symptoms and vicissitudes of the mother-child relationship seem nowhere better illustrated than in Coolidge's comments on cases involving asthmatic mothers and their asthmatic offsprings. Some of these mothers were found to have sustained relief from attacks only as long as their children had asthmatic attacks. Coolidge speculated that the asthma of the child served the mother in

this manner: The mother, because of a stress situation, finds herself beginning, once more, to be overwhelmed by fears of abandonment. The child reacts to the mother's unconscious fears and develops an attack of sneezing and wheezing. The mother can now lavish care on the child and, by vicariously experiencing this maternal attention, can lessen her own fears of rejection.

Jessner and associates report variations in the way asthmatic children of different sexes are treated by their mothers. Apparently these mothers are able to express more positive feelings towards boys. They can be more affectionate and sometimes even seductive with boys. They express their rejection more openly with girls.

Jessner et al, (30) along with many other writers, have noted that ordinal position seems to be associated with asthma; 17 of 28 cases in this study were oldest children. In other studies, however, asthma has been found to be also associated with being an only or youngest child.

In summary, it should be noted that the previously quoted writers share a large area of agreement both as to the psychosomatic nature of asthma and the psychodynamics of asthma.

C. Research on the Psychodynamics of Asthma:

These previous observations have been based almost exclusively on reports of cases treated in psychotherapy, or on cases examined diagnostically in hospital settings. In most cases control subjects were not

used. Evaluations were made on the basis of subjective criteria. Statistical treatment of data was absent from most reports. In recent years, however, there have been beginnings of an attempt to examine these issues under controlled procedures, in an experimental manner, using larger groups of subjects. Most of these studies leave much to be desired in terms of the rigor and adequacy of their research designs.

a. Research with Adult Asthmatics:

Adult asthmatics have been studied by a number of different workers (12, 40, 45, 21, and 35) using widely differing research designs. The results of these studies vary considerably from support to rejection of the psychoanalytic hypotheses. The overall trend of the five studies tends towards acceptance of the psychoanalytic formulations: These studies describe asthmatics as being more dependent and anxious than controls. In one study (21) they are described as exhibiting a greater need for recognition. In another study (40) asthmatics appear more ambivalent in their general relatedness to wife and maternal figures. The later studies (21) and (35) used normal controls and objective measures of evaluation, e.g., the Cornell Medical Index Health Questionnaire was used by Leigh (35). Granting for the moment that these reported differences are reliable, the question must be raised as to the meaning of these differences. Could it not be that the greater anxiety, dependency and conflicts of the asthmatic are primarily a function of his physical illness, rather than primary psychogenic factors? The designs of these studies do not allow for an answer to this question. This criticism cannot be met until

provision is made for a control group consisting of subjects who are ill to the same extent as the asthmatics, but with conditions that are not assumed to be psychosomatic, i.e., an equivalently-ill control group.

b. Research with Asthmatic Children:

There have been several studies in recent years of asthmatic children (15, 26, 43, 27, 42, and 41). The trends in this group of studies seem to be in the direction of support of the psychoanalytic formulations. The asthmatic children were found to be more dependent, fearful, and immature than the control subjects. They were relatively unable to express hostility as directly as the controls and were more likely to direct their hostile impulses inward. Harris and Shure (27) found asthmatic children to be indistinguishable from the control subjects on an emotional basis. Their report however is based entirely on teachers' subjective evaluations. It should also be noted that the reports by Miller and Baruch (43, 44, 42, and 41) can also be criticized on this basis: while the findings are statistically significant, they are based solely on the author's evaluations. These judgments may be correct but are not admissible as scientific evidence. In general, the studies dealing with children are not as methodologically sound as the studies of asthmatic adults.

c. Research Relating to Specificity Hypotheses:

There have also been a number of studies (47, 48, and 60) attempting to test the specificity hypothesis, i.e., that the psychodynamics

of asthma are different than those of other psychosomatic groups. Here the results are more inconclusive due to the variety of controls and instruments used. Pollie (47) using the Blacky test, found differences between asthmatics, ulcer, non-ulcer gastrointestinal groups, and non-psychosomatic sick controls that would tend to support the specificity notions. His findings were especially significant in the case of distinguishing the asthmatics from other groups. Asthmatics were found to express the wish to cling to and possess the mother and felt intensely hostile about interference from rivals. Pollie felt that asthmatics tended to accept their dependency; their conflicts arose from frustration of their dependency needs. Asthmatics were found to have a higher degree of conflict on the oral sadism dimension than either of the other groups, although this difference was statistically significant in the case of only one group. Prince (48) also reports differences between asthmatic adult patients and ulcer patients. Waxenberg (60), however, found no difference between women with asthma and women with ulcerative colitis.

d. Research Relating to the Mother-Child Relationship in Asthma:

Of most concern to the central issue of this study is the research reported on the dynamics of the mother-child relationship in asthma. A number of recent studies have demonstrated differences between mothers of schizophrenics and control mothers (39, 17), differences between mothers of problem children and mothers of normal children (54), etc., As yet, there have been few such studies in the area of psychosomatics, and

especially in the area of asthma.

Little and Cohen (36) have studied the goal-setting behavior of the asthmatic children, and the goal-setting behavior of the mothers of these children in a level-of-aspiration experiment. Ambulatory patients or non-patient siblings of the asthmatics were used as controls. Asthmatic children tended to set higher goals for themselves than control subjects; mothers of the asthmatic children also tended to set higher goals for their children's efforts in the task situation than did mothers of controls.

Cutter (11) reports findings on the mothers of 33 asthmatic children, contrasting them with mothers of eczematous children and the mothers of children being seen in pediatric clinics for the usual range of pediatric symptoms. Subjects tested were predominantly Negro and of lower socio-economic and educational status. A questionnaire was used which was devised and validated by the author and based upon concepts employed in the work of the Fels Research Institute; it was scored for "Warmth", "Freedom", and "Control." The questionnaire consisted of 78 statements regarding parent-child interaction in concrete situations with which the research subject must indicate agreement or disagreement. No significant differences were reported. The writer admits that "two or more modal patterns in any one group would tend to cancel each other and ultimately yield averages that were similar for all three groups compared." This is the outstanding difficulty in using a behavior rating scale of this type. Mothers within the same clinical group might be

adopting different child-rearing techniques stemming from different constellations of defense patterns to deal with similar underlying conflicts. As the previous clinical observations have indicated, some mothers of asthmatic children openly reject their children and show little "warmth" to them, while others overindulge and overprotect them and appear to be displaying excessive "warmth." Both of these maternal types can have the same underlying conflicts.

Miller and Baruch (44) report that 98% of the mothers of allergic children in their study displayed rejecting attitudes, compared to 24% in the control group. In another study reported in the same publication, they found that 57.1% of 63 mothers of allergic children covered up their basic rejecting attitudes by overprotection. In neither of these publications do Miller and Baruch report on their methods of arriving at these conclusions. It seems that they are based on subjective observations in their own private practice.

While there is a trend in these studies towards support of the psychoanalytic formulations, it is clear that the research efforts in this area are too scanty to be marshalled forth as evidence of the validity of the psychoanalytic hypotheses.

This review of the research in the area of asthma, especially in the area of the mother-child relationships, reveals the difficulties that beset much of the research in the area of psychosomatics. Little allowance is made in the research designs for equivalently-ill controls to partial out for the effect that the asthma itself may have on the

personality of the asthmatic. Oftentimes, instruments are used that are only remotely related to the psychosomatic constructs used by many clinical workers. Some studies do not seem sufficiently acquainted with the more sophisticated clinical formulations of the psychodynamics of asthma, especially as regards the varying character structures of psychosomatic patients, which may simply represent different modes of defense maintained to handle similar underlying conflicts. A similar type of analysis might be applied to the case of the mothers of psychosomatic patients. They may use widely variant child-rearing methods and yet may share with each other many common areas of emotional conflict. There have been so few studies in the area that comparison of results as yet is difficult because of the wide variety of controls and instruments in use. Some of the research results seem to be based on subjectively evaluated interview materials that lack the objectivity demanded by scientific reporting. Finally, until large scale, longitudinal, multidisciplinary studies are launched that focus the sights of psychologists, psychiatrists, and biological scientists upon this problem in a joint effort, we will be far from answering the questions as to the relative contributions of psychological factors to the development of somatic symptoms.

B. Statement of Problem:

The present study is designed to answer at least in part some of the criticism raised regarding previously reviewed studies. The nature of

the mother-child relationship in psychosomatic illness is the focus of the present study. The subjects for this research were drawn from a single disease category, asthma. This is not, let it be noted, with the purpose of investigating hypotheses relating to specificity theory. However, future students who are interested in studying specificity of psychic conflict in asthma will, because of this selection, find making comparisons between their data and the data of this study easier. In this study, however, asthma was selected as representing a more or less accepted, typical, psychosomatic disease, and also because it was desirable to use a single disease category in order to more adequately allow for proper controls. The primary goal of this research was to test the notion that mothers of children with a psychosomatic condition are characterized by more intense psychosexual conflicts than both the mothers of children with illnesses of equivalent severity (of non-psychogenic origin) and the mothers of healthy children. Secondly, this study was designed to provide some indications as to the nature of the psychosexual conflicts of the mothers of asthmatic children. Thirdly, the hypothesis that mothers of asthmatic children have more pathogenic attitudes toward child-rearing and family life could be evaluated. Finally, the research design allowed for relating any discovered personality differences to any discovered attitudes regarding child-rearing and family life in an attempt to understand their etiological significance in regard to the development of asthmatic symptoms among the children of these mothers.

## II. RESEARCH DESIGN AND HYPOTHESES

### A. Test Battery:

#### 1. The Blacky Pictures Test

The choice of instruments to test propositions derived from psychoanalysis and clinical experience has come in for considerable criticism in recent years. Many have pointed to the fact that frequently the research instruments chosen are inappropriate for the tasks for which they are selected. As has previously been indicated, the majority of clinicians interested in this area readily admit that there will be a wide variety of character defenses adopted by the mothers of asthmatic children. They feel that on this level it is hard to generalize about distinguishing behavior characteristics between mothers of asthmatics and mothers of non-asthmatics. They are more willing to speak of distinguishing characteristics in regard to level of adjustment, degree of conflict, or amount of anxiety experienced by these mothers. It is this more elusive, "clinical" material, which is related in greater degree to dynamic aspects of the personality, that they feel will reveal significant differences between mothers of asthmatics and mothers of non-asthmatics. Therefore, an instrument was sought for this study that was designed to tap these levels of personality organization. Such tests for the most part fall into the category of projective tests, and it was felt that the Blacky pictures (3), developed by

Blum, represented one of these tests that was more ideally suited for research purposes since it could be group administered and quantitatively scored, and still provide the necessary qualitative data. The Blacky Test was selected for yet another reason. This study represents a test of psychoanalytic hypotheses. It is difficult to make inferences about psychosexual conflicts from Rorschach variables, TAT stories, etc., without taking "clinical" liberties with the data, liberties that do not seem to be too defensible in a research setting. It was therefore decided to use the Blacky Pictures Test, since it has been expressly designed for the testing of hypotheses derived from psychoanalytic theory.

a. Psychosexual Dimensions:

The Blacky Pictures consist of eleven cartoon drawings which portray the adventures of a dog named Blacky, and a cast of characters including "Mama," "Papa," and "Tippie," a sibling figure of unspecified age and sex. Each of the cartoons is designed to depict either a stage of psychosexual development or a type of object relationship within that stage of development. The cartoons and the related psychoanalytic dimension for female subjects are listed as follows:

I. Oral Eroticism

II. Oral Sadism

III. Anal Sadism (analyzed along following two dimensions: (1) Anal expulsiveness and (2) anal retentiveness)

IV. Oedipal Intensity

V. Masturbation Guilt

VI. Penis Envy

VII. Identification Process

VIII. Sibling Rivalry

IX. Guilt Feelings

X. Ego Ideal

XI. Love Object (Analyzed along following two dimensions:

(1) Narcissistic love object

(2) Anaclitic love object)

b. Validity

The Blacky Test, like all projective instruments, has an undetermined validity. Until a larger number of Blacky studies are undertaken, the validity of this test cannot be determined. However, in the few short years since its publication, the test has had a certain amount of success that warrants further use. According to Blum[1], upwards of forty studies have been completed involving the use of the Blacky Test. While the Blacky Test was devised in 1947, it has already demonstrated its ability to differentiate known clinical groups such as of Paranoid Schizophrenics, stutterers, ulcer patients, and sexual offenders, according to Blum and Hunt (6). Beck, in his recent review of the Blacky Pictures Test agrees that it has "differentiating potency." (2). This ability to differentiate known clinical groups is certainly one criterion of validity. An especially important consideration for this study is the fact that in a recent dissertation

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[1]Personal Communication.

(47) Pollie was also able to differentiate asthmatics from other psychosomatic groups and control subjects, as was previously noted. The differences reported were in the direction expected from the observations of clinicians. Another measure of the validity of the Blacky has been its predictive usefulness in experimental studies. It has been found effective in predicting quality of interaction (9), perceptual defense and vigilence phenomena (7), relationship of defense preferences to general level of adjustment, and expression of hostility and dependency, toward subjects' mothers in interviewing situation (8).

c. Administration and Scoring

In the group-type administration, the cards are projected one at a time on a screen. The subjects are asked to produce stories ("spontaneous stories") to each card. Two minutes are allowed for completion of each story. After the subjects finish each spontaneous story, they are asked to answer a series of standard questions pertaining to that psychoanalytic dimension (Appendix I). These questions are projected in consecutive order on a screen. The questions are mostly of the multiple-choice type. Each multiple choice item contains one neutral alternative and usually two or three "maladjusted" answers.

The Revised Scoring System for Research Use (Female Form) was used to score the data (4). The writer arranged to receive supervision in the scoring of test data from the author of the test in order to insure a greater measure of reliability in scoring the

"spontaneous stories" and to provide for more valid comparisons with the work of other researchers using the Blacky technique. All Blacky protocols were identifiable only by code numbers, which were assigned on a random basis. Thus this writer, when scoring the "spontaneous stories," did not know whether a particular protocol belonged to an experimental or control subject. The scoring system allowed for the assignment of an "overall dimensional score" for each card; this score is a measure of overall disturbance based upon the spontaneous story produced to the Blacky card, the Inquiry items selected, the Related comments, and the card preference. The overall dimensional scores together with an analysis of the Inquiry choices was used to provide an estimate of the intensity and character of emotional conflicts for the subjects of this study. The Inquiry data, due to its relatively greater structuring, may be assumed to tap dynamic material closer to consciousness. Thus it provides some insight into the defensive functions of the ego, especially as they relate to particular psychosexual areas of conflict.

2. The Parent Attitude Research Inventory (PARI):

a. Scoring and Scales

The PARI (53) was selected to measure attitudes of mothers towards child-rearing and family life. The PARI, developed by Schaefer and Bell at the National Institute of Mental Health, is an inventory consisting of thirty-two 5 - 10 item scales. The items are worded in the form of apparent truisms, cliches, colloquialisms,

and conventional affect-laden phrases. The items are rated by each subject on a 4-point scale: a) strongly agree b) agree c) disagree d) strongly disagree, The majority of the scales are "Pathogenic" scales: less desireable child-rearing attitudes are associated with agreement on these scales. A minority of the scales are called "Rapport Scales": desireable child-rearing attitudes are associated with agreement on these scales. A short form (Form IV) of the PARI, consisting of twenty-three 5 - item scales, was used in this study. The following twenty-three scales are included in the short form:

1. Encouraging Verbalization
2. Fostering Dependency
3. Seclusion of the Mother
4. Breaking the will
5. Martyrdom
6. Fear of Harming the Baby
7. Marital Conflict
8. Strictness
9. Irritability
10. Excluding Outside Influences
11. Deification
12. Suppression of Aggression
13. Rejection of the Homemaking role
14. Equalitarianism
15. Approval of Activity

16. Avoidance of Communication

17. Inconsiderateness of the Husband

18. Suppression of Sex

19. Ascendence of the Mother

20. Intrusiveness

21. Comradeship and sharing

22. Acceleration of Development

23. Dependency of the Mother

b. Reliability

Coefficients of stability and internal consistency are available for the PARI. A median scale coefficient of stability of .64 is reported for Form III of the PARI (53). The population consisted of sixty student nurses who were highly homogeneous in terms of age, education, and socio-economic background. They were retested after a three month interval. A median scale consistency coefficient for Form IV of the PARI is reported of .67. These reliability coefficients seem adequate for the purposes of group data.

c. Validity

The PARI has been based on the Mark (39) and Shoben (54) inventories. The original item pool upon which the final items were based consisted of those items in these two studies that discriminated at the .05 level or better between their experimental and control population. On the basis of these items, Mark was able to discriminate between the mothers of Schizophrenics and the mothers of control subjects, while Shoben was able to discriminate between fifty mothers of "problem children" and fifty controls. Shoben's inventory was then

cross-validated on a group of twenty mothers of problem children and twenty control mothers. A validity coefficient of .763 was obtained. Since the PARI scales contain many of Mark's and Shoben's items, and since many of the other PARI items have been modeled after these items, some measure of "concurrent validity" has been assumed by the authors of the PARI scales (53). Many studies are now underway to determine the usefulness of the PARI scales. In particular, Schaefer and Bell report that a "predictive validity study" has begun at the National Institute of Mental Health. In the strictest sense this instrument must be considered as a relatively unvalidated technique. The fact, however, that it had been developed on the basis of the most valid instruments of this type and its established reliability commended it to its present use in this study.

d. Acquiescence Scale

There is one aspect of the PARI construction that may limit its future usefulness. The Pathogenic scales it will be recalled, are scored upon a 4-point scale running from "Strongly Agree" to "Strongly Disagree". Scales of this type have been found subject to a "response bias." A tendency to agree on the part of the subjects in either the experimental or control groups would constitute such a bias. Consequently, when differences between experimental and control samples are found, they are often discovered to be partly a function of such a response bias. Therefore, higher pathogenic scale scores might not be related only to the content of these items, but

also to some such factor as "acquiescence." Henley (25) has reported in one study involving 153 college students that most of the variance on the F Scale (a scale used in the California study of the "authoritarian personality"; the scale is also constructed along an Agree-Disagree dimension) seems to be a function of such a factor of "acquiescence", rather than of the content of the Authoritarianism scale. Jackson and Messick have (28) found a positive correlation between F Scale scores and reversed F Scale scores, thus indicating the presence of an acquiescent response bias.

To check on this possibility, 15 items from the F Scale of the California Authoritarianism Scale and 15 reversed content F Scale items were interspersed systematically among the PARI items. The reversed F Scale items were prepared by Jackson and Messick (29) in the following manner: The original F Scale item was so altered that agreement with this item indicated an opposite view to the original F Scale item. For example, one F Scale item read: "Obedience and respect for authority are the most important virtues children should learn." After its change it read: "A love of freedom and complete independence are the most important virtues children should learn." Henceforth these 30 items will be referred to as the "Acquiescence Scale." One Acquiescence Scale item was inserted after every three successive PARI items. The total inventory administered (Appendix I) consisted of 145 items (115 PARI

items and 30 Acquiescence items). This feature of the study can be considered as a methodological investigation of the PARI scales, as well as a check on the meaning of the particular results of this study.

B. Experimental and Control Groups

The subjects of this study were drawn from mothers of patients who were receiving outpatient treatment at the Children's Hospital in Detroit, Michigan during the spring and summer of 1957. All mothers bringing their children to the selected clinics during specific times were asked by either their doctors or this writer to participate in the study. With very few exceptions, all agreed to participate. They were a mixed racial group of primarily lower socio-economic and educational status. (See pages 36-40 for a more complete description). They were not a completely indigent group, since they were able to pay small fees for the medical treatment which they received. Hospital authorities state that their average patient pays 30 percent of the regular $5.00 fee; this would apply to the mothers selected for this study. It should be noted that the vast bulk of clinical experience with mothers of asthmatic children has been based on other socio-economic groups, primarily white middle-income families. The use of the present population, aside from considerations of expediency, can be justified on the basis that generalizations based upon clinical experience with white, higher socio-economic groups have not been limited to these groups.

1. Experimental Group (A. Mothers)

The experimental group consisted of twenty-five mothers of asthmatic children under treatment in the Allergy Clinic of Children's Hospital. The diagnosis of asthma was made by the hospital staff on the basis of clinical symptoms as previously described (pages 6-7). The usual range in severity of asthmatic symptoms found in an outpatient clinic was present. Henceforward, these mothers will be referred to as the A. mothers.

2. Healthy Control Group (S.-O.P.D. Mothers)

The first control group consisted of twenty-five mothers of children undergoing routine surgery at Children's Hospital or being treated in the outpatient department at Children's for minor cuts and burns. Nineteen of the mothers were obtained from the Surgery Clinic, where their children had undergone surgery for: hernias, tonsils, adenoids, and circumcisions. These operations were minor and, for the most part, were considered to be relatively non-traumatic. The mothers were tested several days or weeks after the conclusions of their childrens' operations. It can be assumed that most of the mothers' anxiety associated with the operations had been dissipated by this time. The remaining six mothers were obtained from the Outpatient Department. They had brought their children in for treatment of relatively minor cuts and burns. These mothers were also tested during the terminal stages of their childrens' treatment. Any situational anxiety attendant upon their childrens' accidents can be assumed to have dissipated

by that time. Children were excluded if they or their siblings had a history of severe allergic or chronic illness. In short, these mothers from the Surgery Clinic and the Outpatient Department (O.P.D.) can be assumed to be mothers of relatively healthy offspring, who had come to the hospital for minor, non-traumatic, routine services for their children. If the psychoanalytic formulations are correct, it is expected that these mothers would manifest less psychosexual conflict and display less damaging child-rearing attitudes than the mothers of the asthmatic children. Henceforward, these mothers will be referred to as the S.-O.P.D. mothers.

3. Equivalent-Ill Control Group (R.H. Mothers)

The second control group consisted of the mothers of children with rheumatic heart conditions being treated at the Rheumatic Heart Clinic of Children's Hospital. These mothers will be referred to as the R.H. mothers. Rheumatic heart children can be considered as an equivalently-ill group of patients whose condition is not thought to be psychosomatic. Mothers of children in this clinic were excluded if the children also had a severe allergic condition such as asthma; their siblings also had to have a history devoid of a serious allergic condition. Rheumatic heart disease is a severe, chronic condition which is fairly similar to asthma, in terms of severity and chronicity (32). It is a condition that generates great concern and anxiety among parents since it can lead to death and can be very disabling. (As with the asthmatics, the mothers of the very sick Rheumatic Heart children who were bedridden or otherwise unable

to take part in an outpatient treatment program were excluded from the study. These children were restricted in activity much as were the asthmatic children, since overexertion could lead to a recrudescense of symptoms. Their condition could be arrested or somewhat improved, but in most cases could not be permanently and completely cured. Their treatment, as in asthma, required periodic visits to the outpatient department, and they received regular medication. It was felt that it was particularly important to have such a control group in a psychosomatic research project of this sort. Without such a group it would be hazardous to draw any conclusions about differences found between mothers of asthmatics and normals. Many workers concede that mothers of asthmatics are more anxious and conflicted than mothers of non-asthmatic children, but they explain this phenomenon more parsimoniously on the basis of the realistic danger that the asthmatic child is in because of his illness, and the burdensome and continuous demands that such a child places on a mother's psychological resources. If there is something excessive about the anxiety and conflicts of these mothers that in some measure contributes to the illness of their child, then, on the instrument used in this study, the mothers of asthmatics should appear more conflicted than the mothers of the rheumatic heart children. However, recurrence of symptoms in rheumatic heart disease is much more serious in its consequences than is the case in bronchial asthma, for it often leads to death. Therefore, this group of patients represents a very "conservative" control group in this research. On reality grounds alone, the mothers of

children with rheumatic heart conditions have more reason to be anxious and conflicted than the mothers of asthmatic children. If the mothers of asthmatic children give evidence of greater psycho-sexual conflicts in this study, then these findings will be even stronger evidence in support of the psychoanalytic assumptions. This same line of reasoning can be extended to cover the hypothesis made regarding child-rearing attitudes of mothers of asthmatic children, and the necessity for an equivalently-ill non-psychosomatic control group. If such a control group were not included, and differences were found in the hypothesized directions, then it might be argued that the differences were a function of reality considerations i.e., the asthmatic mother, due to the illness of her child, has been compelled to be more restrictive in order to prevent overexertion which could lead to an asthmatic attack, etc. It would then be exceedingly difficult to attribute her excessive restrictiveness, even partially, to factors involving her own emotional difficulties.

C. Sociological Description of Population

The following tables present data (obtained from the Research Volunteer Form, Appendix I) concerning the socio-economic, religious, and racial backgrounds of these mothers. In most areas, as can be observed in Table 1, the mothers are surprisingly similar. They seem to be drawn primarily from upper-lower and lower-middle classes. A family income of approximately $4,000.00 and a better than eleventh grade education of the mothers attests to their not being from the most depressed

socio-economic classes in Detroit. (The perseverance of these mothers who bring their children, year in and year out, for weekly or monthly treatments also reflects a level of personality organization that allows sacrifice for long-term satisfactions; this degree of ego strength is not characteristic of the lower-lower class). The stability of these families is also attested to by the fact that these are primarily intact families (mother and father living together). Perhaps the fact that the asthmatic group did not have an appreciably higher number of mothers separated from their husbands is relevant to the focus of this study. While this is an admittedly crude index of marital stability, it does allow a gross reflection of internal familial harmony or strain. It suggests that the asthmatic group may not be radically different than the control groups in terms of familial stability, at least as measured by this index. The husbands' occupations were also typical for upper-lower and lower-middle classes. The majority held either factory jobs, lower civil service positions, or were clerks and salesmen. (This information also was obtained from the Research Volunteer Forms). Yet, their below median family income (median family income for Detroit in 1957 was over $6,000.00) prevents the group from being considered as a middle-middle or upper-middle class group. With the exception of race, the mothers were unselected for the variables in Table 1; therefore, their similarity is all the more significant. Since race is such a determining personality factor in any multi-racial culture, it was felt necessary to have an equal number of whites and

Negroes in each group. Later on in the analysis of the data, it will be demonstrated that this was a necessary precaution.

TABLE 1

SOME SOCIOLOGICAL CHARACTERISTICS OF EXPERIMENTAL AND CONTROL SUBJECTS

| | RACE | | RELIGION | | EDUCATION | FAMILY | MARITAL STATUS | |
|---|---|---|---|---|---|---|---|---|
| | Negro | White | Protestant | Catholic | Years completed | Income | Living with Husband | Separated |
| A. Mothers | 15 | 10 | 17 | 8 | 11.7 | $3921.28 | 19 | 6 |
| R.H. Mothers | 15 | 10 | 19 | 6 | 11.0 | $4063.00 | 22 | 3 |
| S.-O.P.D. Mothers | 15 | 10 | 24 | 1 | 11.5 | $4133.60 | 22 | 3 |

The differences reflected in Table 2 would seem to be largely a function of the nature of the illness represented. The operations that the children selected from the Surgery Clinic were undergoing, were those normally performed at a young age. Rheumatic heart disease, on the other hand, afflicts children at a later age than does asthma. More boys than girls have hernias. However, the reason why there are more girls than boys among the rheumatic heart children is not presently clear. The large families of the rheumatic heart children afford a hint that these families may be drawn from a slightly lower class than the

TABLE 2

SOME SOCIOLOGICAL CHARACTERISTICS OF SUBJECTS' CHILDREN

| | Yrs. of Age | Sex | | Number of Siblings |
|---|---|---|---|---|
| | | M | F | |
| Asthmatic Children | 7.4 | 14 | 11 | 1.9 |
| Rheumatic Heart Children | 10.8 | 9 | 16 | 3.9 |
| S.-O.P.D. Children | 3.3 | 19 | 6 | 1.9 |

children in the other groups. This speculation is supported by the fact of the slightly lower educational attainment of the rheumatic heart mothers (see Table 1). Rheumatic heart disease, in general, is a disease which is intimately connected to lower socio-economic status (49).

Table 3 describes the ordinal position of the children in relation to

TABLE 3

ORDINAL POSITION OF SUBJECTS' CHILD

| | Only Child | Oldest Child | Youngest Child | Other |
|---|---|---|---|---|
| Asthmatic Children | 2 | 9 | 8 | 6 |
| Rheumatic Heart Children | 0 | 7 | 1 | 17 |
| S.-O.P.D. Children | 5 | 4 | 10 | 6 |

their siblings. No startling differences can be noted that would differentiate the asthmatic children from the other children of both control groups. In particular, the number of asthmatic children who are the eldest should be noted; their number does not seem significantly different than those of the other groups. Many clinicians have speculated that being the oldest child subjects a child to extra psychological difficulties. Students of asthmatic children have noted that they are frequently oldest children (e.g., 30). Yet, this does not seem to be the case in this study. The low number of Rheumatic heart children who are only children or youngest children can also be attributed primarily to the nature of the illness, since it strikes children at more advanced ages than does asthma.

D. Statement of Hypotheses:

Now that the research design has been detailed, the following hypotheses can represent a more final, explicit, and operational restatement of the focus of this research than was possible in an earlier section of this report.

Hypothesis 1: More mothers of asthmatic children are characterized by intense psychosexual conflicts than the mothers of controls. This will be manifested by stronger "Overall Dimensional" scores on the Blacky Pictures Test.

It also was expected that additional differences in the Blacky data relating to the specific nature of the conflicts of these mothers would

appear in the data and provide the basis for future, more precise studies in this area. From the literature already reviewed in this paper, it was expected that these differences would show more A. mothers manifesting a greater degree of conflict in the area of unresolved dependency relationships with their own mothers, with considerable difficulty in expressing their hostility towards their mothers. Also expected were intense feelings of sibling rivalry. Since these conflicts would center about pre-genital conflicts, it was further expected that more mothers of asthmatic children would have stronger Overall Dimensional scores on the Cards I, II, and III of the Blacky test (these cards center about oral and anal conflicts).

Hypothesis 2: The mothers of asthmatics exhibit more psychologically damaging attitudes regarding child-rearing and family life than the mothers of control subjects. This will be manifested by a higher mean score on the pathogenic scales of the PARI.

It was expected that the PARI subscales would allow for a more detailed analysis of group differences. In particular, it was anticipated that the mothers of asthmatics would tend to be more over-possessive in their relationships with their asthmatic offspring. This would be reflected in over-involvement with the activities of their children, a self-sacrificing attitude regarding motherhood, a tendency to discourage the independent strivings of their children, manifested especially by the suppression of their sexual and aggressive strivings, and a general fostering of dependent attitudes in their children. This would

be manifested by a higher mean score on the following OVERPOSSESSIVE subscales of the PARI (Martyrdom, Suppression of Aggression, Fostering Dependency, Intrusiveness, Infantilization, and Suppression of Sexuality).

E. Implementation of the Research Design:

As previously noted, this study was conducted at Children's Hospital, located (5224 St. Antoine) in Detroit, Michigan. All of the instruments used in the study (Research Volunteer Form, Blacky and PARI) were pretested on 12 subjects: four mothers from each of the three groups. This constituted the "pilot study." On the basis of this experience, some minor revisions were made in each of the three instruments to facilitate comprehension (e.g., the word "bowel movement" was substituted for "defecate" in the Blacky, etc.). Due to the insignificant character of the changes, the data collected in the pilot study was included in the final analysis of the protocols.

The study itself was conducted through the spring and early summer of 1957. The mothers were asked by this writer or their doctor to volunteer for the study at the time that they brought their children for treatment. Most mothers readily assented and almost all mothers who agreed appeared for their testing appointments. There seems little room for bias in this area of the study. When mothers were unable to come to the hospital for testing, they were tested at their home. Five or six mothers in each group were tested in their homes. The remainder were tested at the hospital in small groups. The average group size

was three to five subjects. The small size of the groups was simply a function of the difficulty in collecting the mothers together at one time in larger groups.

The subjects were told very little about the purpose of the study. They were informed that this was a study of maternal attitudes toward child-rearing and that the study was being conducted in several clinics in the hospital. It was felt that a minimum of threat was thus involved in the study. Standardized instructions for taking both tests were used. The mothers spent two hours in completing the tests. Their high motivation seemed to be, in part, a result of the intrinsic interest of the test materials and in part, a result of their feeling of loyalty to the hospital. Many of these mothers have been obtaining low-cost medical care at the hospital for years and therefore feel very grateful for the help which hospital personnel have rendered their children.

## III. ANALYSIS OF THE DATA

### A. Blacky Pictures Test Results

#### 1. Analysis of "Overall Dimensional Scores"

a. Total Sample. The overall dimensional score is the most important score in this study, for it alone affords a test of the major question of this study: are the mothers of asthmatic children more emotionally disturbed than the mothers of control subjects. It can do this because it is a comprehensive type of score, which sums up a subject's total test performance along a given psychosexual dimension. A "strong" overall dimensional score for a particular card indicates psychosexual conflict in that area for the subject.

The first analysis of the data consisted of summing up the total strong (both "very strong" and "fairly strong") overall dimensional scores for each mother. Each subject, assuming a maximum of psychosexual conflict, could get a score of 13, since there are 13 psychosexual dimensions in the Blacky test. The Median Test (55) was used to determine whether the A. mothers would exhibit psychosexual conflict in a larger number of areas than the mothers of the control groups. This statistical procedure tests the hypothesis that the A. group would have a larger number of mothers who would have a total of strong overall dimensional scores above the median for the

entire group of A. and R.H. mothers (or A. and S.-O.P.D. mothers). Six was found to be the median number of strong overall dimensional scores for both A. and R.H. mothers. Non-parametric statistics were employed to analyze the data, since the assumption of a normal distribution of scores cannot be made with Blacky data. In the Median Test, the chi square method was used. The Yates correction was also used whenever the theoretical cell frequencies were less than 10 (56). Since predictions were made in a given direction, one-tailed tests of the hypothesis were utilized.

TABLE 4

TOTAL NUMBER OF STRONG OVERALL DIMENSIONAL SCORES BY INDIVIDUAL SUBJECTS FOR A. MOTHERS AND R.H. MOTHERS (TOTAL SAMPLE): n=50

| | Scores Exceeding Median | Scores at or below Median | Totals |
|---|---|---|---|
| A. Mothers | 9 | 16 | 25 |
| R.H. Mothers | 14 | 11 | 25 |
| Totals | 23 | 27 | 50 |

$\chi^2 2.01$; $.10 > p > .05$; (one-tailed test)

TABLE 5

TOTAL NUMBER OF STRONG OVERALL DIMENSIONAL SCORES BY INDIVIDUAL SUBJECTS FOR A. MOTHERS AND S.-O.P.D. MOTHERS (TOTAL SAMPLE): n-50

| | Scores Exceeding Median | Scores at or below Median | Totals |
|---|---|---|---|
| A. Mothers | 9 | 16 | 25 |
| S.-O.P.D. Mothers | 7 | 18 | 25 |
| Totals | 16 | 34 | 50 |

$\chi^2$0.37; not statistically significant; (one-tailed test)

Tables 4 and 5 indicate a lack of statistically significant differences.

Apparently, then, A. mothers do not manifest conflict in a larger number of psychosexual areas than control mothers, at least as measured by the Blacky Test.[2] (Table 4 indicates that the R.H. mothers have a larger number of strong overall dimensional scores than the A. mothers. This difference almost approaches statistical significance ($.10 > p > .05$). The meaning of this

[2]Statistically significant differences were found when the Median Test was applied to the same differences between the Rheumatic Heart mothers and Surgery-O.P.D. mothers. A greater number of R.H. mothers had scores exceeding the median ($\chi^2$ 3.90; $.025 > p > .01$). See Table 26 in the Appendix. These data suggest that R.H. mothers are more psychosexually disturbed than Surg-O.P.D. mothers. (Throughout, the Blacky data analysis, the R.H.-Surg-O.P.D. differences will be analyzed in an attempt to explore the role of the reactive factor in causing psychological distress in A. mothers.)

[2] Statistically significant differences were found when the Median Test was applied to the same difference between the Rheumatic Heart mothers and Surgery-O.P.D. mothers. A greater number of R.H. mothers had scores exceeding the median ($\chi^2$ 3.39; .025 > p > .01). See Table 25 in the Appendix. These data suggest that R.H. mothers are more psychosomatically disturbed than Surg-O.P.D. mothers. (Throughout, the closely data analysis, the R.H.-Surg-O.P.D. differences will be analyzed in an attempt to explore the role of the reactive factor in causing

trend is not clear.)

The results in Table 6 represent a further analysis of the overall dimensional scores for all members of the experimental and both control groups along the 13 individual test dimensions. The A. mothers were paired with each of the other two control groups. The chi square technique again was used to analyze the data. In addition, the Yates Correction was utilized whenever the expected frequencies were below 10. The table indicates that three of the tests were significant beyond the .05 level of significance. In all three of the tests, the asthma mothers had higher overall dimensional scores than the control mothers.[3] Since 26 individual tests were made, one could be significant by chance alone. Therefore, three significant tests reflect better than chance results.

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[3]In a comparison of R.H. and S.-O.P.D. mothers, one significant difference was found. (Table 27 in the Appendix). The R.H. mothers had stronger overall dimensional scores on Card VIII "Sibling Rivalry" ($X^2$ 5.18). There was also a tendency for the R.H. mothers to have stronger overall dimensional scores on Card I ($X^2$ 2.16; $.10 > p > .05$). Card I measures the psychosexual dimension of Oral Eroticism. These findings, together with the significant findings reported involving the A. mothers, is consistent with the claim that some of the conflict of the mother of an asthmatic child may be reactive to the fact of the illness of her child. This would explain why the mothers of rheumatic heart children appear more psychologically conflicted than the mothers of healthy children. The fact that the mothers of asthmatic children were more conflicted than the mothers of rheumatic heart children suggests that some of their conflicts were antecedent to their child's illness.

TABLE 6

OVERALL DIMENSIONAL SCORES FOR TOTAL SAMPLE: n-75

| Blacky Dimension | A. Mothers | | R.H. Mothers | | S.-O.P.D. Mothers | | $X^2$ bet. A.&R.H. Mothers | $X^2$ bet. A.&S.-O.P.D. Mothers |
|---|---|---|---|---|---|---|---|---|
| | + | 0 | + | 0 | + | 0 | | |
| I. Oral Eroticism | 14 | 11 | 12 | 13 | 6 | 19 | .32 | 5.34** |
| II. Oral Sadism | 6 | 19 | 9 | 16 | 10 | 15 | .38 | .82 |
| III. Anal Sadism (Exp.) | 10 | 15 | 8 | 17 | 9 | 16 | .10 | 0.00 |
| III. Anal Sadism (Ret.) | 13 | 12 | 13 | 12 | 13 | 12 | 0.00 | 0.00 |
| IV. Oedipal Intensity | 22 | 3 | 16 | 9 | 14 | 11 | 2.74*** | 4.86* |
| V. Masturbation Guilt | 9 | 16 | 12 | 13 | 10 | 15 | .74 | 0.00 |
| VI. Penis Envy | 0 | 25 | 2 | 23 | 3 | 22 | .52 | 1.42 |
| VII. Identification Process | 19 | 6 | 16 | 9 | 16 | 9 | .38 | .38 |
| VIII. Sibling Rivalry | 14 | 11 | 18 | 7 | 10 | 15 | .78 | 1.28 |
| IX. Guilt Feelings | 8 | 17 | 13 | 12 | 11 | 14 | 2.06*** | .34 |
| X. Ego Ideal | 10 | 15 | 10 | 15 | 8 | 17 | 0.00 | 0.10 |
| XI. Narcissistic Love Object | 18 | 7 | 23 | 2 | 19 | 6 | 2.18*** | 0.00 |
| XI. Anaclitic Love Object | 17 | 8 | 12 | 13 | 14 | 11 | 2.06*** | 0.36 |

*p .025-.01

**p .05-.025

***p .10-.05 (trend)

All $X^2$ values represent one-tailed tests.

Hypothesis I, therefore, gains some support from the results in Table 6. However, since the number of significant tests is so small, it should be emphasized that the support these data gives to the psychosomatic interpretation of asthma is slight.

An analysis of the content of the statistically significant tests affords hints as to the nature of the possible, major conflict areas of the asthma mothers. Table 6 indicates that these mothers are most disturbed in the area of their oedipal relationships. On Card IV ("Oedipal Intensity") they have higher scores than the mothers of both the equivalently-ill and the healthy controls. Moreover, the differences on Card IV between the asthma and surgery-o.p.d. mothers are greater than the difference between asthma and rheumatic heart mothers, as is expected from considerations of the reactive role of physical illness in children in generating psychological conflicts in mothers. The asthma mothers also had higher scores than the surgery-o.p.d. mothers, that were statistically significant, on Card I ("Oral Eroticism"). This last finding is in keeping with Sperling (57), Jessner (30) et al., and Coolidge (10), who have written on the pre-genital nature of the conflicts of mothers of asthmatic children. The possible centrality of oedipal conflicts, however, may be a particular contribution of this study to thinking in this area.

There were some trends ($.10 > p > .05$) in the data that ought to be noted: The R. M. mothers had higher overall dimensional scores than A. mothers on Card IX ("Guilt Feelings") and Card XI

(when scored for "Narcissistic Love Object").[4] The A. mothers had higher overall dimensional scores than the R.H. mothers on Card XI (when scored for "Anaclitic Love Object"). The fact that the R.H. mothers appear so conflicted on Cards IX and XI further underlines their disturbance and again points up the possible importance of the reactive factor in inducing conflict in mothers of physically-ill children. The greater disturbance on Card XI that the A. mothers show reflect their heightened erotic interest in their fathers, an interest that is consistent with their previously noted Oedipal conflicts.

b. White sample. Due to the large negro-white personality differences in our culture, it was decided to make a separate analysis of the data along racial lines. Since this is a study of maternal emotional health and child-rearing attitudes, this is especially indicated in view of the unique role of the mother in negro family life (16).

A non-parametric statistical test was again used to analyze this data. The $X^2$ test could not be used since the number of subjects in each group was less than twenty; there were ten white mothers in each of the three groups. Fisher's Exact Test, consequently, was the statistic employed (55).

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[4]Table 27 (See Appendix) indicates that the R.H. mothers also had significantly higher scores than S.-O.P.D. mothers on Card VIII ("Sibling Rivalry"). The $X^2$ value was 5.18, $.025 > p > .01$. They also showed a tendency ($.10 > p > .05$) to be higher on Card I ("Oral Eroticism") than the S.-O.P.D. mothers.

The Median Test utilizing Fisher's Exact Test was first used to analyze the totals of strong overall dimensional scores for all dimensions between the A. mothers and S.-O.P.D. mothers. The results presented in Tables 7 and 8 indicate a lack of statistically significant differences.[5]

TABLE 7

TOTAL NUMBER OF STRONG OVERALL DIMENSIONAL SCORES BY INDIVIDUAL SUBJECTS FOR A. MOTHERS AND R.M. MOTHERS (WHITE SAMPLE): n-20

| | Scores Exceeding Median | Scores at or Below Median | Totals |
|---|---|---|---|
| A. Mothers | 3 | 7 | 10 |
| R.M. Mothers | 6 | 4 | 10 |
| Totals | 9 | 11 | 20 |

Not statistically significant

[5]There were also no statistically significant differences between the R.M. and Surg.-O.P.D. mothers as regards their total overall dimensional scores (See Table 28 in the Appendix).

TABLE 8

TOTAL NUMBER OF STRONG OVERALL DIMENSIONAL SCORES BY INDIVIDUAL SUBJECTS FOR A. MOTHERS AND S.-O.P.D. MOTHERS (WHITE SAMPLE): n-20

| | Scores Exceeding Median | Scores at or Below Median | Totals |
|---|---|---|---|
| A. Mothers | 3 | 7 | 10 |
| S.-O.P.D. Mothers | 3 | 7 | 10 |
| Totals | 6 | 14 | 20 |

Not statistically significant

Table 9, which analyzes the overall dimensional scores of the white mothers along the 13 separate dimensions reveals a lack of statistically significant differences.[6] The previously noted trends in favor of greater conflict for the asthma mothers than R.M. mothers on Card IV, however, just missed being significant by one case. For this reason, the results obtained from such a small sample can be misleading. Significance would have been achieved in this case, with the same percentage of mothers in both groups showing strong conflict had the sample been larger. This factor of sample size makes the interpretation of results obtained from the racial analysis of the data hazardous, since the separate

[6]The R.M. white mothers had stronger overall dimensional scores than the S.-O.P.D. white mothers on Cards VIII ("Sibling Rivalry") and X ("Ego Ideal"). This again suggests that the R.M. mothers were more disturbed than the S.-O.P.D. mothers. (See Table 29 in the Appendix).

racial samples are so small. Therefore, all results of the racial analysis should be considered as only being suggestive and in need of repetition using larger samples.

TABLE 9

OVERALL DIMENSIONAL SCORES FOR WHITE MOTHERS: n-30

| Blacky Dimension | | A. Mothers | | R.M. Mothers | | S.-O.P.D. Mothers | | Asthma & R.M. Mothers | Asthma & S.-O.P.D. Mothers |
|---|---|---|---|---|---|---|---|---|---|
| | | + | 0 | + | 0 | + | 0 | | |
| I. | Oral Eroticism | 5 | 5 | 6 | 4 | 3 | 7 | N.S.* | N.S. |
| II. | Oral Sadism | 4 | 6 | 5 | 5 | 2 | 8 | N.S. | N.S. |
| III. | Anal Sadism (Exp.) | 5 | 5 | 2 | 8 | 2 | 8 | N.S. | N.S. |
| III. | Anal Sadism (Ret.) | 4 | 6 | 5 | 5 | 6 | 4 | N.S. | N.S. |
| IV. | Oedipal Intensity | 9 | 1 | 5 | 5 | 7 | 3 | N.S. | N.S. |
| V. | Masturbation Guilt | 3 | 7 | 5 | 5 | 2 | 8 | N.S. | N.S. |
| VI. | Penis Envy | 0 | 10 | 0 | 10 | 1 | 9 | N.S. | N.S. |
| VII. | Identification Process | 8 | 2 | 7 | 3 | 7 | 3 | N.S. | N.S. |
| VIII. | Sibling Rivalry | 6 | 4 | 7 | 3 | 2 | 8 | N.S. | N.S. |
| IX. | Guilt Feelings | 3 | 7 | 5 | 5 | 6 | 4 | N.S. | N.S. |
| X. | Ego Ideal | 4 | 6 | 7 | 3 | 2 | 8 | N.S. | N.S. |
| XI. | Narcissistic Love Object | 7 | 3 | 9 | 1 | 8 | 2 | N.S. | N.S. |
| XI. | Anaclitic Love Object | 6 | 4 | 6 | 4 | 8 | 2 | N.S. | N.S. |

*N.S. (Not Significant) signifies a lack of statistically significant differences.

c. Negro sample. Tables 10 and 11 present an analysis of the totals of strong overall dimensional scores for all dimensions between the A. mothers and control mothers. The differences are not statistically significant.[7]

TABLE 10

TOTAL NUMBER OF STRONG OVERALL DIMENSIONAL SCORES BY INDIVIDUAL SUBJECTS FOR A. MOTHERS AND R.H. MOTHERS (NEGRO SAMPLE): $n=30$

| | Scores Exceeding Median | Scores at or below Median | Total |
|---|---|---|---|
| A. Mothers | 6 | 9 | 15 |
| R.H. Mothers | 8 | 7 | 15 |
| Totals | 14 | 16 | 30 |

Not statistically significant

[7] Table 30, in the Appendix, indicates that there are also no statistically significant differences between R.H. and Surg.-O.P.D. mothers (Negro) for total number of overall dimensional scores.

| | | |
|---|---|---|
| | | 15 |
| | | 15 |
| | | 30 |

TABLE 11

TOTAL NUMBER OF STRONG OVERALL DIMENSIONAL SCORES BY INDIVIDUAL SUBJECTS FOR A. MOTHERS AND S.-O.P.D. MOTHERS (NEGRO SAMPLE): n-30

| | Scores Exceeding Median | Scores at or below Median | Total |
|---|---|---|---|
| A. Mothers | 6 | 9 | 15 |
| S.-O.P.D. Mothers | 4 | 11 | 15 |
| Totals | 10 | 20 | 30 |

Not statistically significant

Table 12 indicates that among Negro subjects, three comparisons of overall dimensional scores achieved statistical significance at the .05 level. In two cases, the comparison involved the asthma mothers and the surgery-o.p.d. mothers; the asthma mother emerged with higher overall dimensional scores, reflecting greater psychosexual conflicts. The two cards on which the asthma mothers scored higher were: Card I ("Oral Eroticism") and Card IV ("Oedipal Intensity"). Since only one test would be significant by chance alone among the twenty-six tests involving the asthma group, these findings again indicate some support for the psychosomatic position. In the 3rd significant test, the surgery-o.p.d. mothers show more conflict on Card II ("Oral Sadism") than the asthma mothers.[8]

[8]There were no statistically significant differences between the R.H. and Surg.-O.P.D. mothers in this analysis. (See Table 31 in the Appendix).

TABLE 12

OVERALL DIMENSIONAL SCORES FOR NEGRO MOTHERS: n-45

| Blacky Dimension | Asthma Mothers | | R.H. Mothers | | S.-O.P.D. Mothers | | Asthma & R.H. Mothers | Asthma & S.-O.P.D. Mothers |
|---|---|---|---|---|---|---|---|---|
| | + | 0 | + | 0 | + | 0 | | |
| I. Oral Eroticism | 9 | 6 | 6 | 9 | 3 | 12 | N.S. | .05 |
| II. Oral Sadism | 2 | 13 | 4 | 11 | 8 | 7 | N.S. | .05 |
| III. Anal Sadism (Exp.) | 5 | 10 | 6 | 9 | 7 | 8 | N.S. | N.S. |
| III. Anal Sadism (Ret.) | 9 | 6 | 8 | 7 | 7 | 8 | N.S. | N.S. |
| IV. Oedipal Intensity | 13 | 2 | 11 | 4 | 7 | 8 | N.S. | .05 |
| V. Masturbation Guilt | 6 | 9 | 7 | 8 | 8 | 7 | N.S. | N.S. |
| VI. Penis Envy | 0 | 15 | 2 | 13 | 2 | 13 | N.S. | N.S. |
| VII. Identification Process | 11 | 4 | 9 | 6 | 9 | 6 | N.S. | N.S. |
| VIII. Sibling Rivalry | 8 | 7 | 11 | 4 | 8 | 7 | N.S. | N.S. |
| IX. Guilt Feelings | 5 | 10 | 8 | 7 | 5 | 10 | N.S. | N.S. |
| X. Ego Ideal | 6 | 9 | 3 | 12 | 6 | 9 | N.S. | N.S. |
| XI. Narcissistic Love Object | 11 | 4 | 14 | 1 | 11 | 4 | N.S. | N.S. |
| XI. Anaclitic Love Object | 11 | 4 | 6 | 9 | 6 | 9 | N.S. | N.S. |

In general, the racial analysis continued the same trends that appeared in the analysis of the total sample. Asthma mothers appeared to be more emotionally disturbed, rheumatic heart mothers were less disturbed than asthma mothers, and surgery-o.p.d. mothers

were the least disturbed of all three groups. The asthma mothers still demonstrated greater conflict on Cards I and IV, while rheumatic heart mothers showed greater conflict on Card VIII. The differences on Card IV and VIII were fairly stable in both racial groups; either the differences were statistically significant, or they approached significance. The statistically significant higher scores of the asthma mothers in the area of oral eroticism were found only among the negro sample; the statistically significant higher scores of the surg.-o.p.d. mothers on Card II ("Oral Sadism") were also found only among the negro sample. This analysis suggests that negro-white personality differences may be large enough to prevent them from being analyzed solely as one group. Perhaps the most significant finding revealed to this point is the stability of the group differences that persisted both in the analysis of the total groups and the racial groups. This tripartite method of analysis (totals, whites and negroes) will be followed in subsequent sections of this report.

2. Analysis of the "Spontaneous Stories"

The remainder of the Blacky data discussion will concern itself with an analysis of the various parts of the test that together comprise the overall dimensional score. This is not to be considered as a further test of Hypothesis 1, rather, it is an attempt to examine more closely the data in order to ascertain what the particular items were that contributed to the overall dimensional scores for the experimental and control groups and thus learn more particulars of the psychosexual conflicts of these

mothers.

The "spontaneous stories" are the first separate component of the Blacky protocols to be analysed. There are no significant differences in this analysis as can be seen by examining Table 32 in the Appendix. The same trends ($.10 > p > .05$) for asthma mothers to be high on Card I and IV and for rheumatic heart mothers to be high on Card IX and XI still are present.

Table 33 in the Appendix contains the analysis by Fisher's Exact Test of the spontaneous stories for the white sample. There are no differences that are statistically significant.

Table 34 in the Appendix contains the analysis of the spontaneous stories for the negro sample. Again, there are no statistically significant differences. On Card I the asthma mothers again have higher scores. They miss significance by one case when compared with the rheumatic heart mothers.

3. Analysis of Inquiry Items

a. Total sample. Table 13 presents inquiry items that discriminated between experimental and control groups. The chi square method with the Yates correction for continuity whenever the expected frequency was ten or less was again employed for the statistical analysis of the results for the total sample. Since predictions were not made in a specific direction, two-tailed tests were made. Two hundred and eighty-eight separate tests were made. There were six tests that were significant at the .05 level. Since fifteen significant tests could arise by chance alone, these

differences cannot be considered to be statistically significant. Five additional tests were significant between the .10 and .05 levels of significance.

While not statistically significant, these eleven tests of the inquiry data will be reviewed for the purpose of gaining further insight into the nature of the differences between the A. mothers and control mothers. It is understood that the inferences that will be drawn are speculative.

An examination of Table 13 again points up the greater involvement of the A.mothers in Oedipal conflicts than the R.H. mothers (IV, 3a and b). The asthma mothers seem to be more closely identified with their own mothers and, at the same time, tend more to see their mothers as the disciplinary figure in the household than is the case with the rheumatic heart mothers (VII, 1a and c; VII, 3a and c). The A. mothers also seem to be less concerned with masturbatory conflicts than the R.H. mothers (V, 2a). The A. mothers do not seem confident about Blacky's possibilities of growing up to be like her ego ideal, as compared with the R.H. mothers.(X, 5a). By inference, these mothers seem to view their own prospects in a more pessimistic light.

TABLE 13

INQUIRY CHOICES FOR TOTAL SAMPLE: n-75

| Card | | Question and Answer Selected | Groups Involved | $X^2$ | Sig. Level |
|---|---|---|---|---|---|
| IV. | 3. | Which one of the following makes Blacky most unhappy? | A > R.H. | 3.06 | .10-.05 |
| | | a) Mama keeping Papa all to herself. | A > Surg.-O.P.D. | 3.00 | .10-.05 |
| | | b) The idea that Mama and Papa seem to be ignoring her on purpose. | R.H. > A<br>Surg.-O.P.D. > A | 5.18<br>5.18 | .05-.02<br>.05-.02 |
| V. | 2. | How might Blacky feel about this situation when she is older? | A > R.H. | 2.82 | .10-.05 |
| | | a) Happy without a care in the world. | | | |
| VII. | 1. | Who talks like that to Blacky-Mama or Papa or Tippy? | A > R.H. | 2.94 | .10-.05 |
| | | a) Mama | | | |
| | | c) Tippy | R.H. > A. | 6.60 | .02-.01 |
| VII. | 3. | Whom is Blacky imitating here? Mama or Papa or Tippy? | A > R.H. | 3.36 | .10-.05 |
| | | a) Mama | | | |
| | | c) Tippy | R.H. > A. | 4.78 | .05-.02 |
| VIII. | 3. | Who does Blacky feel is paying more attention to Tippy? | A > Surg.-O.P.D. | 4.72 | .05-.02 |
| | | b) Papa | | | |
| X. | 5. | Actually, what are Blacky's chances of growing up to be like the figure in her dream? | R.H. > A. | 4.13 | .05-.02 |
| | | a) Very good | | | |

As compared with the S.-O.P.D. mothers, the A. mothers also appear to be more conflicted in the area of oedipal relationships (IV, 3a and b). There is also evidence of greater sibling rivalry

feelings on the part of the A. mothers (VIII, 3b). There seems to be an oedipal flavor to these rivalrous feelings inasmuch as the father is the parental figure toward whom the rivalry for affection is directed.[9]

b. White mothers. Again, these data were analyzed by racial groups. Due to the reduced number of subjects in each group, Fisher's Exact Test was employed for the statistical treatment of the data. Table 14 indicates that for the white mothers, six tests were statistically significant. Two hundred and eighty-eight tests were made, therefore, these six tests could have arisen by chance alone. (Fifteen tests could be expected to be statistically significant on a chance basis). The asthma mothers again show more oedipal-type conflicts than the rheumatic heart mothers (IV, 3a). In contrast to the asthma mothers, the rheumatic heart mothers also seem to be more optimistic about realizing their ego ideal (X, 5a). The A. mothers reflect a less bellicose attitude toward authority figures than R.H. mothers (VII, 6d).

The A. mothers also seem to have this more pessimistic view of their life prospects than do the S.-O.P.D. mothers (X, 5a). They exhibit more conflict in the area of oral sadism than the S.-O.P.D. mothers. A. mothers also display more conflict in the

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[9]The statistically significant inquiry items that involved comparisons between the R.H. and S.-O.P.D. mothers can be found in Table 35 in the Appendix. In general, the R.H. mothers seem to exhibit more conflict in the area of sibling rivalry. The S.-O.P.D. mothers tend to prefer father as a love object.

authority figures than N.N. mothers (Vit, 60).

The A. mothers also seem to have this more pessimistic view of their life prospects than do the S.-O.F.O. mothers (K, 50). They exhibit more conflict in the area of oral sadism than the S.-O.F.O. mothers. A. mothers also display more conflict in the

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[2]The statistically significant inquiry items that involved comparisons between the N.N. and S.-O.F.O. mothers can be found in Table 35 in the Appendix. In general, the N.N. mothers seem to exhibit more conflict in the area of sibling rivalry. The S.-O.F.O. mothers tend to prefer father as a love object.

TABLE 14

INQUIRY CHOICES FOR WHITE SAMPLE: n-30

| Card | | Question and Answer Selected | Groups Involved | Sig. Level |
|---|---|---|---|---|
| I. | 2. | How does Mama feel in this scene? | S.-O.P.D. > A. | .025 |
| | | a) Very contented. | | |
| II. | 4. | What will Blacky do next with Mama's collar? | S.-O.P.D. > A. | .05 |
| | | a) Get tired of it and leave it on the ground. | | |
| IV. | 3. | Which one of the following makes Blacky most unhappy? | A > R.H. | .05 |
| | | a) Mama keeping Papa all to herself. | | |
| VII. | 6. | What would Blacky have an impulse to do if she were in the position of the toy dog. | R.H. > A. | .05 |
| | | d) Start fighting | | |
| X. | 5. | Actually, what are Blacky's chances of growing up to be like the figure in her dream? | R.H. > A. | .05 |
| | | a) Very good. | S.-O.P.D. > A. | .025 |

area of oral eroticism than the S.-O.P.D. mothers (1, 2a).[10]

b. Negro Sample. Table 15 presents the statistically significant tests that were present in an analysis of the Blacky data for the Negro mothers. Again, 288 separate tests were made and only 7 are statistically significant at the .05 level or better. Therefore,

[10]The R.H.-S.-O.P.D. tests that achieved statistical significance are presented in Table 36 in the Appendix. These differences suggest that the S.-O.P.D. mothers are more concerned with masturbatory guilt than the R.H. mothers. They also seem to identify more strongly with their mothers.

these differences could have arisen by chance alone. The differences reported in Table 15 suggest that the A. mothers in the negro sample exhibit less conflict in the area of oral eroticism than both groups of control mothers, especially as a function of the frustration of nurturance needs (II, 3a and b). The A. mothers were also distinguished from both control groups by greater oedipal conflict (IV, 3b). They also appeared to be troubled more by feelings of sibling rivalry (VIII, 3b). Their sibling rivalry had an oedipal cast to it inasmuch as they were especially provoked by the attention given to Tippy by the father. The A. mothers also seem to identify more closely with their mothers than the R.H. mothers (VII, 3a).[11]

A comparison of the two racial analyses indicates that many of the same conflicts or strengths seem to characterize a group regardless of racial character. For example, asthma mothers, whether white or Negro, seem conflicted in the area of oedipal relationships. Rheumatic heart mothers, whether negro or white do not evince conflict of an oedipal nature. On the other hand, within each group there were many racial differences. For example, Negro asthma mothers give evidence of a strong identification with their mothers. The white asthma mothers gave no such trends. As can be seen in Tables 14 and 15, there were many such differences. To some extent, this may be a

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[11]Table 37 in the Appendix presents those significant tests in the inquiry data that involved R.H.-Surg-O.P.D. comparisons. The R.H. mothers seemed to manifest more masturbatory guilt, while the Surg-O.P.D. mothers seemed to express more concern over sibling rivalry.

TABLE 15

INQUIRY CHOICES FOR NEGRO SAMPLE: n-45

| Card | Question and Answer Selected | Groups Involved | Sig. Level |
|---|---|---|---|
| II. | 3. Blacky most often acts like this when she can't get enough of which one of the following? | | |
| | a) Attention | R.H. > A. | .025 |
| | b) Recreation | A. > Surg.-O.P.D. | .05 |
| IV. | 3. Which one of the following makes Blacky most unhappy? | | |
| | b) The idea that Mama and Papa seem to be ignoring her on purpose. | R.H. > A. | .05 |
| | | Surg.-O.P.D. > A. | .01 |
| VII. | 3. Whom is Blacky imitating here - Mama or Papa or Tippy? | | |
| | a) Mama | A. > R.H. | .025 |
| VIII. | 3. Who does Blacky feel is paying more attention to Tippy: | | |
| | b) Papa | A. > R.H. | .025 |
| | | A. > Surg.-O.P.D. | |

function of the small size of our sample. Firstly, small sample results can be easily distorted. Secondly, Fisher's Exact Test is a conservative statistical procedure. At any rate, there are sufficient differences to caution the researcher in his interpretation of mixed racial samples. It might be best when samples must be small, as in this study, to base the study either on an all-white or all-Negro population.

## B. PARI Results

### 1. Total sample

An analysis of the PARI results afforded a test of Hypothesis 2. If the mothers of asthmatic children in this sample were psychologically disturbed, then they would be expected to obtain higher scores on the pathogenic scales of the PARI (all PARI scales are pathogenic with the exception of 1, 14, 15, and 21) than would the mothers of control groups. Analysis of variance and analysis of covariance (56) were the statistics employed. Analysis of variance can be used in this instance since the nature of the PARI scores meets the necessary criteria of: normal distribution of scores, independence of scores, and additive nature of scores. Analysis of covariance allowed for partialling out the effects of acquiescence on the PARI scores. In the first treatment of these data (Table 16), the mothers of the experimental and control groups were compared in terms of their total pathogenic scores. This score was obtained by accumulating the scores of each subject for 19 Pathogenic scales.

Table 16 indicates that the experimental group did not differ significantly from either of the two control groups when their total pathogenic scores were compared.

TABLE 16

ANALYSIS OF VARIANCE AND COVARIANCE OF TOTAL PATHOGENIC SCORES OF A. MOTHERS, R.M. MOTHERS AND S.-O.P.D. MOTHERS FOR TOTAL SAMPLE: n-75

| | Total | Between | Within | F Obtained | Level of Significance |
|---|---|---|---|---|---|
| $\sum xy$ | 31470.33 | 496.49 | 30973.84 | --- | --- |
| $\sum y^2$ | 9672.67 | 142.43 | 9530.24 | --- | --- |
| $\sum x^2$ | 2316.51 | 2316.51 | 131289.16 | --- | --- |
| df | 74 | 2 | 72 | --- | --- |
| $\sigma^2_{EST.y}$ | ------ | 71.22 | 132.36 | --- | --- |
| $\sigma^2_{EST.x}$ | ------ | 1158.26 | 1823.46 | --- | --- |
| y | ------ | ------ | ------ | 1 | Not Sig. |
| x | ------ | ------ | ------ | 1 | Not Sig. |
| Adjusted $\sum x^2$ | 31215.98 | 593.62 | 30622.36 | --- | --- |
| df | 73 | 2 | 71 | --- | --- |
| Adjusted $\sigma^2_{EST}$ | ------ | 296.81 | 431.30 | --- | --- |
| ------ | ------ | ------ | ------ | 1 | Not Sig. |

y = Acquiescence Score

x = Total Pathogenic Score

Table 17 presents an analysis of each of the 23 PARI scales. A significant F ratio was obtained only on Scale 23 (Dependency of Mother Scale). Since by chance alone, one significant F ratio would have been present in twenty tests (at the .05 level), the differences observed between the groups on Scale 23 may be assumed

to be chance differences. Therefore, the mothers of asthmatic children in this sample did not have more psychologically-damaging attitudes about child-raising than control mothers, at least as measured by the PARI Scales.

TABLE 17

PARI SCORES OF A. MOTHERS, R.H. MOTHERS, AND S.-O.P.D. MOTHERS FOR TOTAL SAMPLE: n=75

| Scale | Analysis of Variance | Analysis of Covariance | Scale | Analysis of Variance | Analysis of Covariance |
|---|---|---|---|---|---|
| 1. | - | - | 13. | - | - |
| 2. | - | 1.00 | 14. | 1.52 | 1.35 |
| 3. | - | - | 15. | 1.37 | - |
| 4. | - | - | 16. | - | - |
| 5. | - | - | 17. | 2.18 | 2.04 |
| 6. | - | - | 18. | - | - |
| 7. | 1.30 | - | 19. | - | - |
| 8. | - | - | 20. | - | - |
| 9. | 1.15 | - | 21. | 1.23 | 1.11 |
| 10. | - | - | 22. | - | - |
| 11. | - | - | 23. | 3.15* | 4.45* |
| 12. | - | 1.43 | | | |

F. ratios of less than 1 are indicated by dashes (-)

* F. ratio significant at .05-.01 level

Scale 23 was further analyzed by the t-test (56) to determine between which groups lay the larger, more significant differences. These data are presented in Table 18. The asthma mothers appear significantly less dependent as mothers than do control subjects.

TABLE 18

DEPENDENCY OF MOTHER (PARI SCALE #23) FOR TOTAL SAMPLE: n-75

| | Raw Mean | Adjusted Mean | t Between Adjusted Means | Level of Significance |
|---|---|---|---|---|
| A. Mothers | 12.32 | 12.48 | 2.01 | .05-.025 |
| R.H. Mothers | 14.28 | 13.93 | | |
| A. Mothers | 12.32 | 12.48 | 2.88 | Beyond .005 |
| S.-O.P.D. Mothers | 14.32 | 14.51 | | |
| R.H. Mothers | 14.28 | 13.93 | 0.78 | Not significant |
| S.-O.P.D. Mothers | 14.32 | 14.51 | | |

Perhaps the most interesting aspect of these data lies in their methodological implications. Table 17 indicates that F ratios were altered when acquiescence was controlled by the analysis of covariance technique. In this particular table no radical changes in the results occurred as a consequence of using analysis of covariance. However, a dramatic change did follow from the use of this statistic when the Negro sample was compared with the white sample on total

pathogenic score (Table 19). When the analysis of variance results was considered, it appeared that the Negroes and White had widely differing pathogenic scores; the difference was significant far beyond the .01 level of significance. One might have erroneously concluded that Negro mothers had more psychologically damaging child-rearing attitudes than the white mothers. However, when adjustments were made for acquiescence, the differences in total pathogenic scores dramatically vanished.

TABLE 19

TOTAL PATHOGENIC SCORES OF NEGRO MOTHERS AS COMPARED WITH WHITE MOTHERS: n-75

| | Analysis of Variance | Analysis of* Covariance |
|---|---|---|
| F Ratio | 9.95 | 1 |
| Level of Significance | .01 | Not significant |

*Adjusted for Acquiescence

This analysis reveals serious inadequacies in the PARI and similarly structured attitude inventories, i.e., the ease with which a response bias can weight the scores obtained. This points up the necessity for redesigning this type of test. To avoid this type of response bias, one-half of the items in each Pathogenic Scale could be reworded so that agreement with the items reflects a non-pathogenic attitude. (At the present time all items are

worded so that agreement indicates a pathogenic attitude). By this comparatively simple maneuver, the factor of acquiescence could be neutralized and prevented from seriously distorting the data obtained from such instruments. The large Negro-white differences in regard to the acquiescence variable also re-emphasizes the necessity for caution in the selection of samples from public hospitals. These hospitals, as is the case with Children's Hospital, often service a predominantly Negro clientele. These Negroes have socio-psychological characteristics that differentiate them from their white social class peers, e.g., acquiescence. Therefore, the racial variable must be rigorously controlled when selecting subjects from this patient population.

2. White sample

The PARI data was also analyzed by racial groups; the total Pathogenic Scores of the white sample were first considered. Table 20 indicates that there were no significant differences between the white mothers for the total Pathogenic Scores.

TABLE 20

TOTAL PATHOGENIC SCORES OF A. MOTHERS, R.H. MOTHERS, AND S.-O.P.D. MOTHERS IN WHITE SAMPLE: n-30

| | Analysis of Variance | Analysis of* Covariance |
|---|---|---|
| F Ratio | 2.58 | 1 |
| Level of significance | Not significant | Not significant |

*Adjusted for acquiescence

The data for the white sample was also analyzed separately for each of the 23 PARI Scales (Table 21). Two of the F ratios (Scales 18 and 23) were significant at the .05 level. Since only one F ratio would be significant by chance alone, these differences are statistically significant. However, as will be presently demonstrated, these significant differences do not lend support to the hypotheses of this study.

TABLE 21

PARI SCORES OF A. MOTHERS, R.M. MOTHERS AND S.-O.P.D. MOTHERS FOR WHITE SAMPLE: n-30

| Scale | Analysis of Variance | Analysis of Covariance | Scale | Analysis of Variance | Analysis of Covariance |
|---|---|---|---|---|---|
| 1. | 1.34 | 1.11 | 13. | 1.65 | 1.16 |
| 2. | 1.52 | - | 14. | - | 2.83 |
| 3. | - | 1.35 | 15. | - | - |
| 4. | - | - | 16. | 1.21 | - |
| 5. | 4.65* | 2.60 | 17. | 1.24 | 1.78 |
| 6. | - | - | 18. | 2.56 | 4.13* |
| 7. | 2.02 | 2.38 | 19. | - | - |
| 8. | - | - | 20. | 1.04 | - |
| 9. | 2.30 | 3.11 | 21. | - | - |
| 10. | 3.40* | 1.51 | 22. | 1.46 | - |
| 11. | 2.92 | 1.25 | 23. | 1.36 | 3.51* |
| 12. | - | - | | | |

F ratios of less than one are indicated by dashes (-)

*F ratio significant at .05-.01 level

| | | | | | |
|---|---|---|---|---|---|
| 10. | 3.40* | 1.51 | 25. | 1.46 | - |
| 11. | 3.32 | 1.44 | 25. | 1.36 | 3.51* |
| 12. | - | - | | | |

* ratios of lines upon one are indicated by dashes (-)

** ratio slightly at .05-.01 level

To determine which group differences were contributing to the significant F ratios in Scales 18 and 23, t-tests were next made between each two groups. The results in Tables 22 and 23 indicate that neither of the 3 groups exhibited consistently more pathogenic trends. For example, in the Suppression of Sex Scale (Scale 18), the Surg.-O.P.D. and Asthma mothers appear to manifest the most pathogenic attitudes. The Rheumatic Heart mothers apparently have the least pathogenic attitudes in this area. However, in the Dependency of Mother Scale (Scale 23), the Rheumatic Heart mothers exhibit the most pathogenic attitude, while the Asthma mothers apparently demonstrate the most constructive attitudes in this area.

TABLE 22

SUPPRESSION OF SEX: (PARI SCALE #18) FOR WHITE SAMPLE: n-30

| | Raw Mean | Adjusted Mean | t Between Adjusted Means | Level of Significance |
|---|---|---|---|---|
| A. Mothers | 10.0 | 9.3 | 2.13 | .025-.01 |
| R.H. Mothers | 8.2 | 8.2 | | |
| A. Mothers | 10.0 | 9.3 | 1.35 | .10-.05 |
| S.-O.P.D. Mothers | 9.2 | 9.8 | | |
| R.H. Mothers | 8.2 | 8.2 | 2.71 | .01-.005 |
| S.-O.P.D. Mothers | 9.2 | 9.8 | | |

TABLE 23

DEPENDENCY OF MOTHER (PARI SCALE #23) FOR WHITE SAMPLE: n-30

| | Raw Mean | Adjusted Mean | t Between Adjusted Means | Level of Significance |
|---|---|---|---|---|
| A. Mothers | 11.6 | 10.8 | 2.80 | .01-.005 |
| R.H. Mothers | 13.6 | 13.6 | | |
| A. Mothers | 11.6 | 10.8 | 1.33 | .15-.10 |
| S.-O.P.D. Mothers | 12.4 | 13.1 | | |
| R.H. Mothers | 13.6 | 13.6 | 0.40 | .35-.30 |
| S.-O.P.D. Mothers | 12.4 | 13.1 | | |

c. Negro sample. The first analysis (Table 24) deals with the comparison of total Pathogenic Scores between Negro mothers of experimental and control groups. The differences were not found to be statistically significant.

TABLE 24

TOTAL PATHOGENIC SCORES OF A. MOTHERS, R.H. MOTHERS AND S.-O.P.D. MOTHERS IN NEGRO SAMPLE: n-45

| | Analysis of Variance | Analysis of Covariance |
|---|---|---|
| F Ratio | 2.33 | 1.18 |
| Level of Significance | Not significant | Not significant |

An analysis of each of the 23 PARI Scales (data presented in Table 25) also reflects a lack of statistically significant differences. Two of the scales had significant F ratios before adjustment for acquiescence. These differences were no longer significant after the adjustment was made through the analysis of covariance technique. This again underscores the large role that the acquiescence response set played in the Negro sample selected for this study.

TABLE 25

PARI SCORES OF A. MOTHERS, R.H. MOTHERS, AND S.-O.P.D. MOTHERS FOR NEGRO SAMPLE: n-45

| Scale | Analysis of Variance | Analysis of Covariance | Scale | Analysis of Variance | Analysis of Covariance |
|---|---|---|---|---|---|
| 1. | - | - | 13. | - | - |
| 2. | 1.58 | 1.99 | 14. | - | - |
| 3. | - | - | 15. | 2.23 | 1.70 |
| 4. | 1.94 | - | 16. | - | 2.76 |
| 5. | 4.10* | 2.32 | 17. | 1.93 | - |
| 6. | 1.30 | - | 18. | - | - |
| 7. | - | - | 19. | - | - |
| 8. | 1.34 | - | 20. | 2.42 | - |
| 9. | - | - | 21. | - | - |
| 10. | 3.55* | 1.84 | 22. | 1.24 | - |
| 11. | - | - | 23. | 2.76 | 1.99 |
| 12. | 1.20 | - | | | |

F ratios of less than one are indicated by dashes (-)
*F ratio significant at .05-.01 level

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 8. | 1.34 | - | | 20. | 2.42 | - | | |
| 9. | - | - | | 21. | - | - | | |
| 10. | 3.59* | 1.34 | | 22. | 1.29 | - | | |
| 11. | - | - | | 23. | 3.76 | 1.39 | | |
| 12. | 1.20 | - | | | | | | |

- Ratios of less than one are indicated by dashes (-)

* Ratio significant at .05-(2) level

## IV. DISCUSSION OF FINDINGS

An overall evaluation of the Blacky and Pari results indicates some support for the psychoanalytic formulations of the psychodynamics of the mother-child relationship in asthma. In this population, mothers of asthmatic children appear to be more emotionally disturbed than mothers of non-asthmatic children. However, the reported differences are slight, in comparison with the claims of clinicians (E. G. 44) regarding the etiological involvement of psychological factors. In particular, the small differences in favor of the psychosomatic hypotheses raises some doubt about the sweeping claims of many clinicians regarding the psychopathology of mothers of asthmatic children. Replication of this study with identical and different experimental populations would be desirable. For example, the study of mothers of children with other psychosomatic diseases could aid in determining whether the present findings are particular to asthma or psychosomatic disease in general. The study of mothers of neurotic or psychotic children would be also necessary to fully answer the very fundamental question whether different types of mother-child relationships help to predispose one child to a psychosomatic disease and another child to a neurosis.

Those who state that much of the psychological distress of the mother of the asthmatic child is reactive to the child's illness can draw some comfort from this data. The mothers of rheumatic heart children did appear to be more psychologically disturbed than the mothers of normal children.

However, this reactive factor did not account for all of the variance, in view of the fact that the asthma mothers appeared to be more emotionally disturbed than the rheumatic heart mothers. This reactive factor is too often ignored in the psychosomatic literature. It may account for a major portion of the pathology which clinicians have observed in the mothers of psychosomatic patients. This theoretical distinction could be of crucial importance in the psychotherapeutic management of such cases.

The background data obtained from the Research Volunteer Forms is also worthy of attention. Many have speculated about a possible link between ordinal position and asthma; they have observed that asthmatics are often oldest children. It will be recalled that Jessner et al., (30) found that seventeen out of twenty-eight asthmatics in their sample were oldest children. This was not the case in this study, for only nine out of twenty-five cases were oldest children. Another common observation is that asthmatic children come from homes marked by instability in marital relationship. Insofar as this is measured by separation of spouses, this was not borne out in this study. There were approximately as many asthmatic children as controls living together, with both parents in the sample studied.

The content of the mothers' psychosexual conflicts is also of interest. The fact that the asthma mothers had higher scores on the Oral Eroticism dimension is consistent with psychoanalytic speculations. Mothers of asthmatic children have been described as being overly dependent and having inordinate nurturance needs by Sperling, (57) Jessner et al., (30) and also by Coolidge (10). The possibility that they are particularly disturbed

in the area of Oedipal relationships, as is indicated by the present study, while implicit in all of these writings, has never been made a point of especial attention. The inquiry data hinted at the manifold ramifications of the A. mothers' Oedipal conflict. For example, they expressed their sibling rivalry in terms of competition for father's affection rather than for mother's attention. The A. mothers tended to prefer their fathers as love objects, to a greater extent than did the control mothers. They also were more closely identified with their mothers, and did not expect to realize their ego ideals. These latter two trends in the inquiry data can also be explained in terms of their heightened Oedipal conflicts. Identification with the mother is assumed to be an integral step in a girl's attempt to resolve her Oedipal problem; an exaggerated attempt at identification can follow from an exacerbated Oedipal conflict. Finally, if a woman renounces her ability to achieve her ego ideals (e.g., become an attractive woman, desired by men) she cannot be "accused" of being a serious rival of her mother's for her father's affections. In this fashion, anxiety over Oedipal wishes is allayed.

Finally, in view of the large claims of clinicians regarding the "asthmatogenic mother", it might be useful to consider several different interpretations of the meager trends in the data in support of the psychosomatic position. Firstly, it is possible that the present findings are limited to a lower income group. Perhaps larger differences in favor of the psychosomatic hypothesis would be found in higher socio-economic groups. This is especially likely since the psychoanalytic formulations have been based primarily on work with such patients. Another possibility lies in the fact that the mother may not be as potent an etiological factor in asthma as is commonly believed by clinicians. Psychological causation may be a

more general phenomenon. In one case, it may be the father who plays the primary role; in another case, it may be the siblings. In a third case, it may be a function of the interaction of the entire family and due to no primary single factor. In view of the latter possibility, perhaps small significant differences are all that can be expected when attempts are made to isolate single etiological factors which are presumed to be responsible for large, complex psychological phenomena. Another consideration, which would be less sympathetic to the psychoanalytic position, is that the psychological involvement is only primary in a few cases and reactive in the large majority. If this is correct, then psychological differences are leveled out when the two groups are studied as one group.

The most important implications of the present study are methodological in character. In this area, more definite conclusions can be made, and the discussion need be less speculative than in the preceeding section of this chapter.

The most significant findings is related to the effect of the response bias in the PARI. Acquiescence, or the tendency to agree, had a great deal to do with the scores which subjects received on this test. In view of this finding, the usefulness of the PARI and similarly structured psychological tests is in question, unless corrections are made for acquiescence along the lines of the present study's efforts. This type of response bias had already been much discussed in the literature, e.g. in connection with the F Scale (29). New instruments should be designed to eliminate this cause of error. This deficiency is remediable by the expedient of wording items so that only one-half of the items yield a high score on the basis of

agreement. Unless this is done, largely spurious results can be easily obtained. The Negro sample in this study could have been described as possessing many, very definite, psychologically damaging attitudes about child-rearing, if the scores had not been adjusted for acquiescence.

The second major conclusion is that an equivalent-ill control group is very necessary in this type of psychosomatic research. Without such a group, the reactive factor cannot be properly assessed. Yet, a large majority of psychosomatic studies do not provide for such a control group. Consequently, differences that are found in such studies are attributed to primary psychological agents (rather than to reactive factors).

The racial differences in the data analysis are also instructive, in that they demonstrate the necessity of establishing racially balanced experimental-control groups in such studies. If samples must be small, it might be wiser to restrict them to one racial group; this will allow the researcher to better delineate the variables involved in the study.

The fact that the Blacky Test was able to differentiate the clinical groups, while the PARI was not, is also worthy of note. Perhaps projective tests are more appropriate for research involving "depth-type" psychological phenomena. As was previously indicated, the same underlying conflicts can accompany totally different personality types; conscious attitudes of such individuals may differ, although the underlying pathology is identical. Their performance on attitude-type questionnaires therefore will cancel each other out, and as a group, they may appear similar to controls. Of course, no combination of instruments can adequately test many psychoanalytical propositions regarding psychosomatic disease, which

have been derived from intensive analytic study of patients. Some of this elusive data perhaps can only be tapped by conducting research under similar conditions, however time-consuming and costly the process. Long-term psychoanalytic treatment of patients with proper controls, large number of subject-patients, observers, recording apparatus, etc., may be the most adequate method of studying these phenomena.

Finally, there is the consideration that this study represent a further advance in the validation of the Blacky Test. Since the Blacky Test was able to differentiate a clinical group more or less along lines predicted by clinicians, this can be interpreted as another confirmation of its discriminating ability (construct validity). Admittedly, this appears to be begging the question; yet, at this stage of development of projective test validation, it represents one of the better methods.

# V. SUMMARY AND CONCLUSIONS

## A. Design and Hypotheses

The mother-child relationship has long been implicated as an etiological factor in the development of asthmatic symptoms in children. There has been a dearth of experimental evidence regarding the child-rearing attitudes and psychological status of mothers of asthmatic children. In order to test hypotheses regarding the mother-child relationship in psychosomatic disease, twenty-five mothers of asthmatic children were studied to determine whether they were more emotionally disturbed than mothers of control groups. One control group consisted of twenty-five mothers of children with rheumatic heart disease. This was considered to be a group of children with a non-psychosomatic illness equivalent in severity to asthma. The second control group consisted of twenty-five mothers of children undergoing minor surgery or receiving treatment for minor or transient illnesses (Surg.-O.P.D.). This latter group was considered to be the normal control group. All of the subjects were obtained in Children's Hospital, a publicly-supported hospital in Detroit, Michigan that primarily serves a lower-socio-economic population of mixed racial character. The Blacky and PARI (Parental Attitude Research Instrument) tests were administered to these mothers. It was hypothesized that the asthma mothers would manifest greater psychosexual conflict on the Blacky Test (Hypothesis 1). It was also hypothesized that the A. mothers would display more pathogenic child-rearing attitudes on the PARI (Hypothesis 2).

B. The Blacky Results

An individual analysis of the overall dimensional scores indicates that the asthma mothers are more psychologically disturbed than the control mothers. The asthma mothers manifest greater disturbance in the area of Oedipal conflicts (Card IV) than either of the two control groups; they also give evidence of greater conflict in the area of oral eroticism (Card I) than the Surg.-O.P.D. mothers. These results indicate some support for Hypothesis 1. The reactive role that the child's illness plays in aggravating the psychological conflicts of their mothers is suggested by the fact that in both Cards I and IV, while asthma mothers had the highest disturbance scores, the Surg.-O.P.D. mothers (Healthy controls) had the lowest scores. The rheumatic heart mothers' scores were in between.

C. PARI Results

The PARI results did not support the psychosomatic interpretation of asthma. There were no significant differences between the total Pathogenic Scores of the three groups. The 23 scales of the PARI also showed a lack of statistically significant differences. Therefore, Hypothesis 2 is unconfirmed by this data.

A measure of acquiescence had been included with the PARI scales to allow for a check on response bias. There were differences between the results obtained by means of analysis of variance and covariance (adjustment made for acquiescence). The distorting potential of the acquiescence response bias was especially revealed by an analysis of

Negro-white differences. Before adjusting for acquiescence, the Negro sample had a significantly higher total Pathogenic Score than the white sample (beyond the .01 level). After adjustment for covariance, the differences were no longer statistically significant.

D. Conclusions

The major findings of this study are both theoretical and methodological. The Blacky findings lend some support to the psychosomatic interpretation of the mother's role in Asthma. The acquiescence scale data indicates that a response bias exists in the PARI, a bias which seriously limits its usefulness as a research instrument.

Signed

Dr. Albert I. Rabin, Chairman,
Guidance Committee

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# APPENDIX I

# RESEARCH VOLUNTEER FORM

**TO BE FILLED OUT BY DOCTOR:** Dr._____

Patient's Name_____
(1st) (last)

Diagnosis_____ Case Number_____

Has Patient ever had Asthma or severe allergic disease? Yes_____ No_____

Has Patient ever had severe, chronic disease? Yes_____ No_____

Has any sibling of patient had severe allergic or chronic disease? Yes____No_____

**TO BE FILLED OUT BY MOTHER (or by adult accompanying child to the Clinic):**

Patient's Birth date_____Patient's Sex_____

Mother's Name_____
(1st) (last)

Telephone number_____ Address_____

Husband's Occupation_____

Mother's Education: Completed____grades; completed____years in College.

Religious Preference of Mother: _____.

Annual Family Income: Approximately _____.

Marital Status: Living with husband_____Separated_____Remarried_____

Date of Remarriage_____

Number of children in family:_____.

The patient is an only child_____ oldest child_____ youngest child_____
other_____.

Mother's Race: White_____ Negro_____ Other _____.

**PREFERRED TIME FOR MOTHER'S TESTING:** (check two)

| | | | |
|---|---|---|---|
| Monday | 8-10:00 A.M._____ | Saturday | 8-10:00 A.M._____ |
| Wednesday | 8-10:00 A.M._____ | Saturday | 10-12:00 A.M._____ |
| Friday | 8-10:00 A.M._____ | Saturday | 1- 3:00 P.M._____ |
| Friday | 10-12:00 A.M._____ | Saturday | 3:30-5:30 P.M._____ |

# INVENTORY OF ATTITUDES ON FAMILY LIFE AND CHILDREN

Read each of the statements below and then rate them as follows:

| A | a | d | D |
|---|---|---|---|
| strongly agree | mildly agree | mildly disagree | strongly disagree |

Indicate your opinion by drawing a circle around the "A" if you strongly agree, around the "a" if you mildly agree, around the "d" if you mildly disagree, and around the "D" if you strongly disagree.

There are no right or wrong answers so answer according to your own opinion. It is very important to the study that all questions be answered. Many of the statements will seem alike but all are necessary to show slight differences of opinion.

| | | AGREE | | DISAGREE | |
|---|---|---|---|---|---|
| 1. | Children should be allowed to disagree with their parents if they feel their own ideas are better. | A | a | d | D |
| 2. | A good mother should shelter her child from life's little difficulties. | A | a | d | D |
| 3. | The home is the only thing that matters to a good mother. | A | a | d | D |
| 4. | Obedience and respect for authority are the most important virtues children should learn. | A | a | d | D |
| 5. | Some children are just so bad they must be taught to fear adults for their own good. | A | a | d | D |
| 6. | Children should realize how much parents have to give up for them. | A | a | d | D |
| 7. | You must always keep tight hold of baby during his bath for in a careless moment he might slip. | A | a | d | D |
| 8. | The deeper and more enduring qualities in getting along well with people are far more important than external things like manners, habits, and breeding. | A | a | d | D |
| 9. | People who think they can get along in marriage without arguments just don't know the facts. | A | a | d | D |
| 10. | A child will be grateful later on for strict training. | A | a | d | D |
| 11. | Children will get on any woman's nerves if she had to be with them all day. | A | a | d | D |
| 12. | If people would talk less and work more, everybody would be better off. | A | a | d | D |
| 13. | It's best for the child if he never gets started wondering whether his mother's views are right. | A | a | d | D |
| 14. | More parents should teach their children to have unquestioning loyalty to them. | A | a | d | D |

| | | AGREE | | DISAGREE | |
|---|---|---|---|---|---|
| 15. | A child should be taught to avoid fighting no matter what happens. | A | a | d | D |
| 16. | What this country needs most, more than willful leaders, are laws and political programs requiring all citizens to actively share responsibility. | A | a | d | D |
| 17. | One of the worst things about taking care of a home is a woman feels that she can't get out. | A | a | d | D |
| 18. | Parents should adjust to the children some rather than always expecting the children to adjust to the parents. | A | a | d | D |
| 19. | There are so many things a child has to learn in life there is no excuse for him sitting around with time on his hands. | A | a | d | D |
| 20. | The businessman and the manufacturer are much more important to society than the artist and the professor. | A | a | d | D |
| 21. | If you let children talk about their troubles they end up complaining even more. | A | a | d | D |
| 22. | Mothers would do their job better with the children if fathers were more kind. | A | a | d | D |
| 23. | A young child should be protected from hearing about sex. | A | a | d | D |
| 24. | Nobody ever learned anything really important through suffering. | A | a | d | D |
| 25. | If a mother doesn't go ahead and make rules for the home the children and husband will get into troubles they don't need to. | A | a | d | D |
| 26. | A Mother should make it her business to know everything her children are thinking. | A | a | d | D |
| 27. | Children would be happier and better behaved if parents would show an interest in their affairs. | A | a | d | D |
| 28. | Science has its place, but there are many important things that can never possibly be understood by the human mind. | A | a | d | D |
| 29. | Most children are toilet trained by 15 months of age. | A | a | d | D |
| 30. | There is nothing worse for a young mother than being alone while going through her first experience with a baby. | A | a | d | D |
| 31. | Children should be encouraged to tell their parents about it whenever they feel family rules are unreasonable. | A | a | d | D |

| | | AGREE | | DISAGREE | |
|---|---|---|---|---|---|
| 32. | Sex offenses, such as rape and attacks on children, never merit punishment; such offenders should always be treated with kindness and sympathy by qualified psychiatrists. | A | a | d | D |
| 33. | A mother should do her best to avoid any disappointment for her child. | A | a | d | D |
| 34. | The women who want lots of parties seldom make good mothers. | A | a | d | D |
| 35. | It is frequently necessary to drive the mischief out of a child before he will behave. | A | a | d | D |
| 36. | Young people sometimes get rebellious ideas, but as they grow up they ought to get over them and settle down. | A | a | d | D |
| 37. | A mother must expect to give up her own happiness for that of her child. | A | a | d | D |
| 38. | All young mothers are afraid of their awkwardness in handling and holding the baby. | A | a | d | D |
| 39. | Sometimes it's necessary for a wife to tell off her husband in order to get her rights. | A | a | d | D |
| 40. | Every truly mature person outgrows childish feelings of submissive respect and of excessive love and gratitude for his parents. | A | a | d | D |
| 41. | Strict discipline develops a fine strong character. | A | a | d | D |
| 42. | Mothers very often feel that they can't stand their children a moment longer. | A | a | d | D |
| 43. | A parent should never be made to look wrong in a child's eyes. | A | a | d | D |
| 44. | No sane, normal, decent person could ever think of hurting a close friend or relative. | A | a | d | D |
| 45. | The child should be taught to revere (respect and honor) his parents above all other grown-ups. | A | a | d | D |
| 46. | A child should be taught to always come to his parents or teachers rather than fight when he is in trouble. | A | a | d | D |
| 47. | Having to be with the children all the time gives a woman the feeling her wings have been clipped. | A | a | d | D |
| 48. | There would be no immoral, crooked, or feeble-minded people, if we could get down to brass tacks and somehow get rid of our social problems. | A | a | d | D |
| 49. | Parents must earn the respect of their children by the way they act. | A | a | d | D |

| | | AGREE | | DISAGREE | |
|---|---|---|---|---|---|
| 50. | Children who don't try hard for success will feel that they have missed out on things later on. | A | a | d | D |
| 51. | Parents who start a child talking about his worries don't realize that sometimes it's better to just leave well enough alone. | A | a | d | D |
| 52. | What the youth needs is strict discipline, rugged determination, and the will to work and fight for family and country. | A | a | d | D |
| 53. | Husbands could do their part better if they were less selfish. | A | a | d | D |
| 54. | It is very important that young boys and girls not be allowed to see each other completely undressed. | A | a | d | D |
| 55. | Children and husbands do better when the mother is strong enough to settle most of the problems. | A | a | d | D |
| 56. | When a person has a problem or worry, he should drop everything and concentrate upon it until the solution appears. | A | a | d | D |
| 57. | A child should never keep a secret from his parents. | A | a | d | D |
| 58. | Laughing at children's jokes and telling children jokes makes things go more smoothly. | A | a | d | D |
| 59. | The sooner a child learns to walk the better he's trained. | A | a | d | D |
| 60. | An insult to our honor should always be punished. | A | a | d | D |
| 61. | It isn't fair that a woman has to bear just about all the burden of raising children by herself. | A | a | d | D |
| 62. | A child has a right to his own point of view and ought to be allowed to express it. | A | a | d | D |
| 63. | A child should be protected from jobs which might be too tiring or hard for him. | A | a | d | D |
| 64. | Every person should have complete faith in his independent judgment, not in some supernatural power whose decisions he obeys without question. | A | a | d | D |
| 65. | A woman has to choose between having a well run home and hobnobbing around with neighbors and friends. | A | a | d | D |
| 66. | A wise parent will teach a child early just who is boss. | A | a | d | D |
| 67. | Few women get the gratitude they deserve for all they have done for their children. | A | a | d | D |

| | | AGREE | | DISAGREE | |
|---|---|---|---|---|---|
| 68. | Homosexuals are hardly better than criminals and ought to be severely punished. | A | a | d | D |
| 69. | Mothers never stop blaming themselves if their babies are injured in accidents. | A | a | d | D |
| 70. | No matter how well a married couple love one another, there are always differences which cause irritations and lead to arguments. | A | a | d | D |
| 71. | Children who are held to firm rules grow up to be the best adults. | A | a | d | D |
| 72. | All attempts to divide people into the two distinct classes of the weak and the strong are doomed to failure. | A | a | d | D |
| 73. | It's a rare mother who can be sweet and even tempered with her children all day. | A | a | d | D |
| 74. | Children should never learn things outside the home which make them doubt their parents' ideas. | A | a | d | D |
| 75. | A child soon learns that there is no greater wisdom than that of his parents. | A | a | d | D |
| 76. | Some people are born with an urge to jump from high places. | A | a | d | D |
| 77. | There is no good excuse for a child hitting another child. | A | a | d | D |
| 78. | Most young mothers are bothered more by the feeling of being shut up in the home than by anything else. | A | a | d | D |
| 79. | Children are too often asked to do all the compromising and adjustment and that is not fair. | A | a | d | D |
| 80. | The so-called science of astrology (astrologists tell your fortune by studying the position and characteristics of the stars) has never explained anything and never will, because it is not really a science. | A | a | d | D |
| 81. | Parents should teach their children that the way to get ahead is to keep busy and not waste time. | A | a | d | D |
| 82. | Children pester you with all their little upsets if you aren't careful from the first. | A | a | d | D |
| 83. | When a mother doesn't do a good job with children it's probably because the father doesn't do his part around the home. | A | a | d | D |
| 84. | Wars and social troubles may some day be ended by an earthquake or flood that will destroy the whole world. | A | a | d | D |

| | | AGREE | | DISAGREE | |
|---|---|---|---|---|---|
| 85. | Children who take part in sex play become sex criminals when they grow up. | A | a | d | D |
| 86. | A mother has to do the planning because she is the one who knows what's going on in the home. | A | a | d | D |
| 87. | An alert parent should try to learn all her child's thoughts. | A | a | d | D |
| 88. | All the will power in the world will not help us when weaknesses and difficulties stand in our way. | A | a | d | D |
| 89. | Parents who are interested in hearing about their children's parties, dates and fun help them grow up right. | A | a | d | D |
| 90. | The earlier a child is weaned from it's emotional ties to it's parents the better it will handle it's own problems. | A | a | d | D |
| 91. | A wise woman will do anything to avoid being by herself before and after a new baby. | A | a | d | D |
| 92. | Most people don't realize how much our lives are controlled by plots hatched in secret places. | A | a | d | D |
| 93. | A child's ideas should be seriously considered in making family decisions. | A | a | d | D |
| 94. | Parents should know better than to allow their children to be exposed to difficult situations. | A | a | d | D |
| 95. | Too many women forget that a mother's place is in the home. | A | a | d | D |
| 96. | Only if prewar authorities (Nazis, Facists, etc.) are kept out of the German government, will true democracy be achieved in that country. | A | a | d | D |
| 97. | Children need some of the natural meanness taken out of them. | A | a | d | D |
| 98. | Children should be more considerate of their mothers since their mothers suffer so much for them. | A | a | d | D |
| 99. | Most mothers are fearful that they may hurt their babies in handling them. | A | a | d | D |
| 100. | Familiarity breeds contempt (getting to know people too well leads to disliking them). | A | a | d | D |
| 101. | There are some things which just can't be settled by a mild discussion. | A | a | d | D |
| 102. | Most children should have more discipline than they get. | A | a | d | D |

| | | AGREE | | DISAGREE | |
|---|---|---|---|---|---|
| 103. | Raising children is a nerve-racking job. | A | a | d | D |
| 104. | Because human nature is improving, war and conflict will eventually be eliminated. | A | a | d | D |
| 105. | The child should not question the thinking of his parents. | A | a | d | D |
| 106. | Parents deserve the highest esteem (respect) and regard of their children. | A | a | d | D |
| 107. | Children should not be encouraged to box or wrestle because it often leads to trouble or injury. | A | a | d | D |
| 108. | Nowadays when so many different kinds of people move around and mix together so much, a person has to protect himself especially carefully against catching an infection or disease from them. | A | a | d | D |
| 109. | One of the bad things about raising children is that you aren't free enough of the time to do just as you like. | A | a | d | D |
| 110. | As much as is reasonable a parent should try to treat a child as an equal. | A | a | d | D |
| 111. | A child who is "on the go" all the time will most likely be happy. | A | a | d | D |
| 112. | In this scientific age there can be no justification for denying investigators the right to study so-called personal and private matters. | A | a | d | D |
| 113. | If a child has upset feelings it is best to leave him alone and not make it look so serious. | A | a | d | D |
| 114. | If mothers could get their wishes they would most often ask that the husband be more understanding. | A | a | d | D |
| 115. | Sex is one of the greatest problems to be contended with in children. | A | a | d | D |
| 116. | The true American way of life is disappearing so fast that force may be necessary to preserve it. | A | a | d | D |
| 117. | The whole family does fine if the mother puts her shoulder to the wheel and takes charge of things. | A | a | d | D |
| 118. | A mother has a right to know everything going on in her child's life because her child is a part of her. | A | a | d | D |
| 119. | If parents would have fun with their children, the children would be more apt to take their advice. | A | a | d | D |
| 120. | The wild sex life of the old Greeks and Romans makes sexual goings on in this country seem tame. | A | a | d | D |
| 121. | A mother should make an effort to get her child toilet trained at the earliest possible time. | A | a | d | D |

| | | AGREE | | DISAGREE | |
|---|---|---|---|---|---|
| 122. | Most women need more time than they are given to rest up in the home after going through childbirth. | A | a | d | D |
| 123. | When a child is in trouble he ought to know he won't be punished for talking about it with his parents. | A | a | d | D |
| 124. | Children should be kept away from all hard jobs which might be discouraging. | A | a | d | D |
| 125. | A good mother will find enough social life within the family. | A | a | d | D |
| 126. | It is sometimes necessary for the parent to break the child's will. | A | a | d | D |
| 127. | Mothers sacrifice almost all their own fun for their children. | A | a | d | D |
| 128. | A mother's greatest fear is that in a forgetful moment she might let something bad happen to the baby. | A | a | d | D |
| 129. | It's natural to have quarrels when two people who both have minds of their own get married. | A | a | d | D |
| 130. | Children are actually happier under strict training. | A | a | d | D |
| 131. | It's natural for a mother to "blow her top" when the children are selfish and demanding. | A | a | d | D |
| 132. | There is nothing worse than letting a child hear criticisms of his mother. | A | a | d | D |
| 133. | Loyalty to parents comes before everything else. | A | a | d | D |
| 134. | Most parents prefer a quiet child to a "scrappy" one. | A | a | d | D |
| 135. | A young mother feels "held down" because there are lots of things she wants to do while she is young. | A | a | d | D |
| 136. | There is no reason parents should have their own way all the time, any more than that children should have their own way all the time. | A | a | d | D |
| 137. | The sooner a child learns that a wasted minute is lost forever the better off he will be. | A | a | d | D |
| 138. | The trouble with giving attention to children's problems is they usually just make up a lot of stories to keep you interested. | A | a | d | D |
| 139. | Few men realize that a mother needs some fun in life, too. | A | a | d | D |
| 140. | There is usually something wrong with a child who asks a lot of questions about sex. | A | a | d | D |

| | | AGREE | | DISAGREE | |
|---|---|---|---|---|---|
| 141. | A married woman knows that she will have to take the lead in family matters. | A | a | d | D |
| 142. | It is a mother's duty to make sure she knows her child's innermost thoughts. | A | a | d | D |
| 143. | When you do things together, children feel close to you and can talk easier. | A | a | d | D |
| 144. | A child should be weaned away from the bottle or breast as soon as possible. | A | a | d | D |
| 145. | Taking care of a small baby is something that no woman should be expected to do all by herself. | A | a | d | D |

# RECORD BLANK

## THE BLACKY PICTURES

NAME_____ SEX_____ AGE_____

DATE_____ EXAMINER_____

**Instructions to Subject — Examiner says:**

I've got something here which I think you'll find pretty interesting. It's a bunch of cartoons, like you see in the funny papers, except that there are no words. I'll show them to you one at a time and the idea is for you to make up a little story about each one — just tell what is happening in the picture, why it is happening, and so on. Since this is sort of a test of how good your imagination can be, try to tell as much as possible about how the characters feel. You can have as long as you like for each story, and to make it easier to go back over them later I'll write them down. At the end of each story I will want to ask you some questions to be sure I got everything that you had in mind. There are no right or wrong answers to these questions — I'm just interested in what you imagine the answers to be. Before we start, here are the characters who appear in this comic strip [show frontispiece for about 20 seconds]. Here [pointing] is Papa, Mama, Tippy, and the son (*daughter*), Blacky, who is the main figure in the cartoons. I'll leave this over here for you to look at later if you want to [place frontispiece off to one side for subject to refer to during the test if he wishes].

Cartoon I (Ora. Ero.) "All right, now for the first cartoon. Here is Blacky with Mama . . ."

(Record SS here.)

Inquiry† for Males

1. Is Blacky
   (a) happy?•
   (b) unhappy?
   (c) or doesn't he feel one way or the other?
2. How does Mama feel in this scene?
   (a) Very contented.
   (b) Pleased but tired.•
   (c) Rather unhappy.
3. Which would Blacky rather do?
   (a) Stay until his feeding is over and then go someplace else.•
   (b) Stay as long as possible to be sure he gets enough nourishment.

*Inquiry† for Females*

1. *Is Blacky*
   *(a) happy?•*
   *(b) unhappy?*
   *(c) or doesn't she feel one way or the other?*
2. *How does Mama feel in this scene?*
   *(a) Very contented.*
   *(b) Pleased but tired.•*
   *(c) Rather unhappy.*
3. *Which would Blacky rather do?*
   *(a) Stay until her feeding is over and then go someplace else.•*
   *(b) Stay as long as possible to be sure she gets enough nourishment.*

† Examiner hands subject appropriate set of Inquiry cards and tells him (*her*) to follow silently while examiner reads questions aloud, signaling subject when to turn to next card. Tell subject he (*she*) is not allowed to look at cards preceding or following one being read. Ask subject to respond by letter of the one alternative which he (*she*) thinks fits best, not by reading statement of the alternative. Check the letter given by subject and record verbatim all comments.

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4. Which one of the following best describes Blacky?
   (a) He's a little glutton who never stops eating.
   (b) He's got a hearty appetite which usually gets satisfied.•
   (c) He sometimes doesn't get enough to replace all the energy he burns up.
5. Judging by appearances, how much longer will Blacky want to be nursed by Mama before being weaned?
   (a) He'll want to be on his own fairly soon.•
   (b) He'll want to continue being nursed until he's quite a bit older.
   (c) He feels Mama would like to turn him loose right now.
6. How will Blacky feel about eating when he grows older?
   (a) He will rather eat than do most anything else.
   (b) He will enjoy eating but will like lots of other things just as much.•
   (c) He will never get enough to satisfy his appetite.

4. *Which one of the following best describes Blacky?*
   *(a) She's a little glutton who never stops eating.*
   *(b) She's got a hearty appetite which usually gets satisfied.•*
   *(c) She sometimes doesn't get enough to replace all the energy she burns up.*
5. *Judging by appearances, how much longer will Blacky want to be nursed by Mama before being weaned?*
   *(a) She'll want to be on her own fairly soon.•*
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6. *How will Blacky feel about eating when she grows older?*
   *(a) She will rather eat than do most anything else.*
   *(b) She will enjoy eating but will like lots of other things just as much.•*
   *(c) She will never get enough to satisfy her appetite.*

**Cartoon II** (Ora. Sad.) "Here is Blacky with Mama's collar . . ."

1. Why is Blacky doing that to Mama's collar?

2. How often does Blacky feel like acting up this way?
   (a) Once in a while.•
   (b) Fairly often.
   (c) Very often.
3. Blacky most often acts like this when he can't get enough of which one of the following?
   (a) Attention.
   (b) Milk.
   (c) Recreation.•
4. What will Blacky do next with Mama's collar?
   (a) Get tired of it and leave it on the ground.•
   (b) Return it to Mama.
   (c) Angrily chew it to shreds.

1. *Why is Blacky doing that to Mama's collar?*

2. *How often does Blacky feel like acting up this way?*
   *(a) Once in a while.•*
   *(b) Fairly often.*
   *(c) Very often.*
3. *Blacky most often acts like this when she can't get enough of which one of the following?*
   *(a) Attention.*
   *(b) Milk.*
   *(c) Recreation.•*
4. *What will Blacky do next with Mama's collar?*
   *(a) Get tired of it and leave it on the ground.•*
   *(b) Return it to Mama.*
   *(c) Angrily chew it to shreds.*

5. If Mama comes on the scene, what will she do?
   (a) Feed Blacky again.
   (b) Send him off to bed without his dinner.
   (c) Bark.•
6. What would Blacky do if Mama did come over to feed him?
   (a) He'd ignore Mama and continue chewing the collar.
   (b) He'd put down the collar and start eating.•
   (c) He'd get even with Mama by trying to bite her instead of the collar.

5. *If Mama comes on the scene, what will she do?*
   *(a) Feed Blacky again.*
   *(b) Send her off to bed without her dinner.*
   *(c) Bark.•*
6. *What would Blacky do if Mama did come over to feed her?*
   *(a) She'd ignore Mama and continue chewing the collar.*
   *(b) She'd put down the collar and start eating.•*
   *(c) She'd get even with Mama by trying to bite her instead of the collar.*

Cartoon III (Ana. Sad.) "Here Blacky is relieving himself (*herself*) . . ."

1. What was Blacky's main reason for defecating there?
   (a) He wanted to spite somebody. . . . Who?†
   (b) He was doing what Mama and Papa told him to.
   (c) He picked the spot by accident.•
   (d) He wanted to keep his own area neat and clean.
2. Which one of the following is Blacky most concerned with here?
   (a) Throwing dirt over what he did so that it will be neatly covered up.
   (b) Relieving himself so that his system feels more comfortable.•
   (c) Getting rid of his anger.
3. Why is Blacky covering it up?
   (a) He wants to make as little mess as possible.
   (b) He doesn't want Mama and Papa to find out.
   (c) He's automatically doing what he's been taught.•

1. *What was Blacky's main reason for defecating there?*
   *(a) She wanted to spite somebody. . . . Who?†*
   *(b) She was doing what Mama and Papa told her to.*
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3. *Why is Blacky covering it up?*
   *(a) She wants to make as little mess as possible.*
   *(b) She doesn't want Mama and Papa to find out.*
   *(c) She's automatically doing what she's been taught.•*

† Wherever an inquiry or an alternative is followed by a supplementary question, this additional query is not reproduced on the Inquiry Cards but is asked by the examiner following the subject's original reply.

4. How does Blacky feel about the training he's been getting?
   (a) By relieving himself in the way he's been taught, he now has an opportunity to show his family what a good dog he can be.
   (b) He feels Mama and Papa are expecting too much of him at this early stage.
   (c) He is very happy to have control of himself.•
   (d) He thinks he's got Mama and Papa right where he wants them.
5. What will Mama say to Blacky?
6. What will Papa say to Blacky?

4. *How does Blacky feel about the training she's been getting?*
   *(a) By relieving herself in the way she's been taught, she now has an opportunity to show her family what a good dog she can be.*
   *(b) She feels Mama and Papa are expecting too much of her at this early stage.*
   *(c) She is very happy to have control of herself.•*
   *(d) She thinks she's got Mama and Papa right where she wants them.*
5. *What will Mama say to Blacky?*
6. *What will Papa say to Blacky?*

Cartoon IV (Oed. Int.) "Here is Blacky watching Mama and Papa . . ."

1. How does Blacky feel about seeing Mama and Papa make love? . . . Why?
2. When does Blacky get this feeling?
   (a) Whenever he sees Mama or Papa.
   (b) Whenever he sees Mama and Papa together.
   (c) Whenever he sees Mama and Papa making love.•
3. Which one of the following makes Blacky most unhappy?
   (a) Papa keeping Mama all to himself.
   (b) The idea that Mama and Papa seem to be ignoring him on purpose.•
   (c) He is ashamed watching them make love out in the open.
4. What does Blacky suspect is the reason behind the scene he's watching?
   (a) He suspects Mama and Papa are planning an addition to the family.
   (b) He suspects Mama and Papa are very much in love.•
   (c) He suspects Papa is having his own way about things.
   (d) He suspects Mama and Papa are purposely depriving him of attention.

1. *How does Blacky feel about seeing Mama and Papa make love? . . . Why?*
2. *When does Blacky get this feeling?*
   *(a) Whenever she sees Mama or Papa.*
   *(b) Whenever she sees Mama and Papa together.*
   *(c) Whenever she sees Mama and Papa making love.•*
3. *Which one of the following makes Blacky most unhappy?*
   *(a) Mama keeping Papa all to herself.*
   *(b) The idea that Mama and Papa seem to be ignoring her on purpose.•*
   *(c) She is ashamed watching them make love out in the open.*
4. *What does Blacky suspect is the reason behind the scene she's watching?*
   *(a) She suspects Mama and Papa are planning an addition to the family.*
   *(b) She suspects Mama and Papa are very much in love.•*
   *(c) She suspects Papa is having his own way about things.*
   *(d) She suspects Mama and Papa are purposely depriving her of attention.*

5. What will Papa do if he sees Blacky peeking?

6. What will Mama do if she sees Blacky peeking?

7. Which would make a happier picture?
   (a) Mama left on the outside watching Blacky together with Papa. . . . Why?•
   (b) Papa left on the outside watching Blacky together with Mama. . . . Why?

*5. What will Papa do if he sees Blacky peeking?*

*6. What will Mama do if she sees Blacky peeking?*

*7. Which would make a happier picture?*
   *(a) Mama left on the outside watching Blacky together with Papa. . . . Why?*
   *(b) Papa left on the outside watching Blacky together with Mama. . . . Why?•*

Cartoon V (Mas. Glt.) "Here Blacky is discovering sex . . ."

1. How does Blacky feel here?
   (a) Happy, without a care in the world.•
   (b) Enjoying himself, but a little worried.
   (c) Mixed up and guilty.
2. How might Blacky feel about this situation when he is older?
   (a) Happy, without a care in the world.•
   (b) Enjoying himself, but a little worried.
   (c) Mixed up and guilty.
   (d) The situation won't come up again when he is older.
3. Whom might Blacky be thinking about here?

4. Does Blacky naively fear that something might happen to him? . . . What?

5. What will Mama say if she comes over and finds Blacky?

6. What will Papa say if he comes over and finds Blacky?

*1. How does Blacky feel here?*
   *(a) Happy, without a care in the world.•*
   *(b) Enjoying herself, but a little worried.*
   *(c) Mixed up and guilty.*
2. *How might Blacky feel about this situation when she is older?*
   *(a) Happy, without a care in the world.•*
   *(b) Enjoying herself, but a little worried.*
   *(c) Mixed up and guilty.*
   *(d) The situation won't come up again when she is older.*
3. *Whom might Blacky be thinking about here?*

4. *Does Blacky naively fear that something might happen to her? . . . What?*

5. *What will Mama say if she comes over and finds Blacky?*

6. *What will Papa say if he comes over and finds Blacky?*

Cartoon VI (Cas. Anx.—M; *Pen. Env.—F*) "Here Blacky is watching Tippy . . ."

1. How does Blacky feel here?
   (a) Terrified that he's going to be next.
   (b) Puzzled and upset.
   (c) Curious but calm.•

2. What does Blacky suspect might be the reason for this scene?
   (a) He suspects Tippy is being punished for having done something wrong.
   (b) He suspects Tippy is an innocent victim of someone else's ideas.•
   (c) He suspects Tippy is being improved in some way.

3. How does Blacky feel about his own tail?
   (a) He's not particularly worried about it.•
   (b) He's thinking desperately about a way to save it.
   (c) He thinks he might look better if it is cut off.
   (d) He's so upset he wishes he never saw or heard of tails.

4. Do you suppose Blacky would prefer to have his own tail cut off right away rather than go through the suspense of wondering if it will happen to him? . . . Why?

5. Which member of the family most likely arranged for Tippy's tail to be cut off?

6. What will other dogs in the neighborhood do when they see Tippy's short tail?
   (a) Start worrying about their own tails.
   (b) Make fun of Tippy.
   (c) Wonder what's going on.•
   (d) Admire Tippy.

1. *How does Blacky feel about her own tail?*
   *(a) She has resigned herself to the inevitable.*
   *(b) She's thinking desperately about a way to save it.*
   *(c) She thinks she might look better if it is cut off.•*

2. *What would Blacky be most upset about if she were in Tippy's place?*
   *(a) The fact that nobody loved her enough to prevent this from happening.•*
   *(b) The fact that she would not have her tail any more.*
   *(c) The fact that she had allowed herself to be bad enough to deserve this.*

3. *Which member of the family most likely arranged for Tippy's tail to be cut off?*

4. *How will Tippy feel afterward about having had the tail cut off?*
   *(a) Tippy will always be envious of dogs that have tails to wag.*
   *(b) Tippy will try to make the best of a bad situation.*
   *(c) Tippy will be proud to be different from the others.•*

5. *What will other dogs in the neighborhood do when they see Tippy's short tail?*
   *(a) Start worrying about their own tails.*
   *(b) Make fun of Tippy.*
   *(c) Wonder what's going on.•*
   *(d) Admire Tippy.*

6. *How would Blacky feel about trading her tail for a pretty bow which the male dogs would all admire?*

Cartoon VII (Pos. Ide.) "Here is Blacky with a toy dog . . ."

1. Who talks like that to Blacky — Mama or Papa or Tippy?

2. Whom is Blacky most likely to obey — Mama or Papa or Tippy?

3. Whom is Blacky imitating here — Mama or Papa or Tippy?

4. Whom would Blacky rather pattern himself after — Mama or Papa or Tippy?

5. Blacky's disposition, actually, is most like the disposition of which one — Mama or Papa or Tippy?

6. What would Blacky have an impulse to do if he were in the position of the toy dog?
   (a) Get frightened and hide.
   (b) Stand there and take it.•
   (c) Get mad and sulk.
   (d) Start fighting.

1. *Who talks like that to Blacky — Mama or Papa or Tippy?*

2. *Whom is Blacky most likely to obey — Mama or Papa or Tippy?*

3. *Whom is Blacky imitating here — Mama or Papa or Tippy?*

4. *Whom would Blacky rather pattern herself after — Mama or Papa or Tippy?*

5. *Blacky's disposition, actually, is most like the disposition of which one — Mama or Papa or Tippy?*

6. *What would Blacky have an impulse to do if she were in the position of the toy dog?*
   *(a) Get frightened and hide.*
   *(b) Stand there and take it.•*
   *(c) Get mad and sulk.*
   *(d) Start fighting.*

Cartoon VIII (Sib. Riv.) "Here Blacky is watching the rest of the family . . ."

1. What does Blacky probably feel like doing now?
   (a) Beat Tippy up.
   (b) Bark happily at the group and join them.•
   (c) Show up Tippy by doing something better.
   (d) Run away to spite Mama and Papa.

2. According to Blacky, how much praise does Tippy actually deserve?
   (a) He feels Tippy fully deserves the praise.
   (b) He feels Tippy deserves some praise, but not that much.•
   (c) He feels Tippy deserves to be punished instead of praised.

3. Who does Blacky feel is paying more attention to Tippy?
   (a) Mama.
   (b) Papa.
   (c) Both paying the same amount.•

4. How often does Blacky see this?
   (a) Once in a while.•
   (b) Fairly often.
   (c) Very often.

5. How does Blacky think Mama and Papa really feel toward him at this time?
   (a) He thinks they love him more than they do Tippy.
   (b) He thinks they love him about the same as they do Tippy.•
   (c) He thinks they love him less than they do Tippy.

6. If Blacky is angry, whom is he most angry at — Mama or Papa or Tippy? . . . Why?

1. *What does Blacky probably feel like doing now?*
   *(a) Beat Tippy up.*
   *(b) Bark happily at the group and join them.•*
   *(c) Show up Tippy by doing something better.*
   *(d) Run away to spite Mama and Papa.*

2. *According to Blacky, how much praise does Tippy actually deserve?*
   *(a) She feels Tippy fully deserves the praise.*
   *(b) She feels Tippy deserves some praise, but not that much.•*
   *(c) She feels Tippy deserves to be punished instead of praised.*

3. *Who does Blacky feel is paying more attention to Tippy?*
   *(a) Mama.*
   *(b) Papa.*
   *(c) Both paying the same amount.•*

4. *How often does Blacky see this?*
   *(a) Once in a while.•*
   *(b) Fairly often.*
   *(c) Very often.*

5. *How does Blacky think Mama and Papa really feel toward her at this time?*
   *(a) She thinks they love her more than they do Tippy.*
   *(b) She thinks they love her about the same as they do Tippy.•*
   *(c) She thinks they love her less than they do Tippy.*

6. *If Blacky is angry, whom is she most angry at — Mama or Papa or Tippy? . . . Why?*

Cartoon IX (Glt. Fee.) "Here Blacky is very upset . . ."

1. What might have happened between the last picture and this one?

2. How is Blacky's conscience here?
   (a) His conscience is so strong he's practically paralyzed.
   (b) His conscience is bothering him somewhat, but he's mostly afraid of what will be done to him.•
   (c) He's hardly bothered at all by his conscience, just afraid of what will be done to him.

3. Which character do the actions of the pointing figure remind Blacky of?

4. Who is really to blame for Blacky's feeling this way?
   (a) Himself.
   (b) Somebody else. . . . Who?
   (c) The situation couldn't be helped.•

5. How guilty does Blacky feel here?
   (a) He feels very guilty.
   (b) He feels fairly guilty.
   (c) He hardly feels guilty at all.•

6. What might Blacky do now?

7. Do you think Blacky will
   (a) have this feeling as long as he lives?
   (b) feel bad every now and then?
   (c) feel bad for a little while and then go out to play?•

1. *What might have happened between the last picture and this one?*

2. *How is Blacky's conscience here?*
   *(a) Her conscience is so strong she's practically paralyzed.*
   *(b) Her conscience is bothering her somewhat, but she's mostly afraid of what will be done to her.*•
   *(c) She's hardly bothered at all by her conscience, just afraid of what will be done to her.*

3. *Which character do the actions of the pointing figure remind Blacky of?*

4. *Who is really to blame for Blacky's feeling this way?*
   *(a) Herself.*
   *(b) Somebody else. . . . Who?*
   *(c) The situation couldn't be helped.*•

5. *How guilty does Blacky feel here?*
   *(a) She feels very guilty.*
   *(b) She feels fairly guilty.*
   *(c) She hardly feels guilty at all.*•

6. *What might Blacky do now?*

7. *Do you think Blacky will*
   *(a) have this feeling as long as she lives?*
   *(b) feel bad every now and then?*
   *(c) feel bad for a little while and then go out to play?*•

**Cartoon X-(M) [Cartoon XI-(*F*)†] (Pos. Eg. Id.) "Here Blacky is having a dream . . ."**

†Cartoons are numbered consecutively in the Inquiry Cards in order not to distract the subject. However, the questions follow the order as presented here.

1. Whom does the figure remind Blacky of?

2. In Blacky's mind, how does Papa stack up against the dream figure when he compares them?

3. What would be the main reason for Blacky wanting to be like the figure in his dream?
   (a) Then he would show up Tippy.
   (b) Then he would be the envy of all male dogs.
   (c) Then he would be loved more by Mama and Papa.
   (d) Then he would be very popular with the females.•

4. What does Blacky himself probably feel about his chances of growing up to be like the figure in his dream?
   (a) He probably feels he has a very good chance to grow up to be like that.•
   (b) He probably feels he has a fair chance to grow up to be like that.
   (c) He probably feels he has a very poor chance to grow up to be like that.

5. Actually, what are Blacky's chances of growing up to be like the figure in his dream?
   (a) Very good.•
   (b) Fair.
   (c) Very poor.

6. How often does Blacky probably have this kind of dream?
   (a) Very often.
   (b) Fairly often.
   (c) Once in a while.•

1. *Whom does the figure remind Blacky of?*

2. *In Blacky's mind, how does Mama stack up against the dream figure when she compares them?*

3. *What would be the main reason for Blacky wanting to be like the figure in her dream?*
   *(a) Then she would show up Tippy.*
   *(b) Then she would be the envy of all female dogs.*
   *(c) Then she would be loved more by Mama and Papa.*
   *(d) Then she would be very popular with the males.•*

4. *What does Blacky herself probably feel about her chances of growing up to be like the figure in her dream?*
   *(a) She probably feels she has a very good chance to grow up to be like that.•*
   *(b) She probably feels she has a fair chance to grow up to be like that.*
   *(c) She probably feels she has a very poor chance to grow up to be like that.*

5. *Actually, what are Blacky's chances of growing up to be like the figure in her dream?*
   *(a) Very good.•*
   *(b) Fair.*
   *(c) Very poor.*

6. *How often does Blacky probably have this kind of dream?*
   *(a) Very often.*
   *(b) Fairly often.*
   *(c) Once in a while.•*

Cartoon XI-(M) [Cartoon X-(F)] (Lv-obj.) "Here Blacky is having another dream . . ."

1. Who is the figure Blacky is dreaming about?

2. Whom does the figure remind Blacky of?

1. *Who is the figure Blacky is dreaming about?*

2. *Whom does the figure remind Blacky of?*

3. Which of the following possibilities would attract Blacky most?
   (a) The possibility that the dream figure looks like himself, which would increase his pride.
   (b) The possibility that the dream figure looks like Mama, which would remind him of the good old days.
   (c) The possibility that the dream figure looks like someone else, whom he would make happy by giving her all his love.*
4. Why does Blacky feel so contented while he is dreaming?
   (a) He feels everyone will admire him.
   (b) He feels Mama will comfort him.
   (c) He feels the dream figure will be delighted by his attentions.*
5. In Blacky's mind, how does Mama stack up against the dream figure when he compares them?
6. Would Blacky rather be like the figure in his dream? . . . Why?

3. *Which of the following possibilities would attract Blacky most?*
   *(a) The possibility that the dream figure looks like herself, which would increase her pride.*
   *(b) The possibility that the dream figure looks like Papa, which would remind her of the good old days.*
   *(c) The possibility that the dream figure looks like someone else, whom she would make happy by giving him all her love.**
4. *Why does Blacky feel so contented while she is dreaming?*
   *(a) She feels everyone will admire her.*
   *(b) She feels contented thinking about Papa.*
   *(c) She feels the dream figure will be delighted by her attentions.**
5. *In Blacky's mind, how does Papa stack up against the dream figure when she compares them?*
6. *Would Blacky rather be like the figure in her dream? . . . Why?*

Cartoon Preferences

Hand the subject the stack of cartoons [minus the frontispiece] in their original order and say:

Now I'd like you to sort all the pictures into two piles — the ones you like over here, and the ones you dislike over there. Just glance at each picture quickly and put it into one of the two piles. [Record sorting.]

That's fine. Now pick out from this pile [point to "likes"] the one picture you like best. [Pause.] Why did you pick that one? [Record choice and reason.] Now from this other pile [point to "dislikes"] pick the one cartoon you dislike most. [Pause.] Why did you pick that one? [Record choice and reason.]

Likes Dislikes Best: Worst:

Family Information — Record the following information after the technique has been administered:

(1) Parents living or not (approximate date of death in latter case).

Mother:

Father:

(2) Siblings listed in chronological order, including sex, age, and approximate date of death if not alive.

Sibling Sex Age

**SUMMARY NOTES AND COMMENTS:**

# APPENDIX II

TABLE 26

TOTAL NUMBER OF STRONG OVERALL DIMENSIONAL SCORES BY INDIVIDUAL SUBJECTS FOR R.H. MOTHERS AND S.-O.P.D. MOTHERS (TOTAL SAMPLE): n-50

| | Scores Exceeding Median | Scores at or below Median | Total |
|---|---|---|---|
| R.H. Mothers | 14 | 11 | 25 |
| S.-O.P.D. Mothers | 7 | 18 | 25 |
| Total | 21 | 29 | 50 |

$X^2$ 3.90; .025 > p > .01; one-tailed test.

TABLE 27

OVERALL DIMENSIONAL SCORES FOR R.H. AND S.-O.P.D. MOTHERS: n-50

| Blacky Dimension | R.H. Mothers | | S.-O.P.D. Mothers | | $X^2$ between R.H. and S.-O.P.D. Mothers |
|---|---|---|---|---|---|
| | + | 0 | + | 0 | |
| I. Oral Eroticism | 12 | 13 | 6 | 19 | 2.16*** |
| II. Oral Sadism | 9 | 16 | 10 | 15 | 0.00 |
| III. Anal Sadism (Exp.) | 8 | 17 | 9 | 16 | 0.00 |
| III. Anal Sadism (Ret.) | 13 | 12 | 13 | 12 | 0.00 |
| IV. Oedipal Intensity | 16 | 9 | 14 | 11 | 0.34 |
| V. Masturbation Guilt | 12 | 13 | 10 | 15 | 0.32 |
| VI. Penis Envy | 2 | 23 | 3 | 22 | 0.00 |
| VII. Identification Process | 16 | 9 | 16 | 9 | 0.00 |
| VIII. Sibling Rivalry | 18 | 7 | 10 | 15 | 5.18* |
| IX. Guilt Feelings | 13 | 12 | 11 | 14 | 0.32 |
| X. Ego Ideal | 10 | 15 | 8 | 17 | 0.10 |
| XI. Narcissistic Love Object | 23 | 2 | 19 | 6 | 1.34 |
| XI. Analitic Love Object | 12 | 13 | 14 | 11 | 0.32 |

* p .025-.01

** p..05-.025

*** p .10-.05 (trend)

One-tailed tests.

TABLE 28

TOTAL NUMBER OF STRONG OVERALL DIMENSIONAL SCORES BY INDIVIDUAL SUBJECTS FOR R.H. AND S.-O.P.D. WHITE MOTHERS: n-20

| | Scores Exceeding Median | Scores at or below Median | Totals |
|---|---|---|---|
| R.H. Mothers | 6 | 4 | 10 |
| S.-O.P.D. Mothers | 3 | 7 | 10 |
| Totals | 9 | 11 | 20 |

Not statistically significant

TABLE 29

OVERALL DIMENSIONAL SCORES FOR R.H. AND S.-O.P.D. MOTHERS (WHITE SAMPLE): n-20

| Blacky Dimension | R.H. Mothers | | S.-O.P.D. Mothers | | Significance Level |
|---|---|---|---|---|---|
| | + | 0 | + | 0 | |
| I. Oral Eroticism | 6 | 4 | 3 | 7 | N.S.* |
| II. Oral Sadism | 5 | 5 | 2 | 8 | N.S. |
| IIIa. Anal Sadism (Exp.) | 2 | 8 | 2 | 8 | N.S. |
| IIIb. Anal Sadism (Ret.) | 5 | 5 | 6 | 4 | N.S. |
| IV. Oedipal Intensity | 5 | 5 | 7 | 3 | N.S. |
| V. Masturbation Guilt | 5 | 5 | 2 | 8 | N.S. |
| VI. Penis Envy | 0 | 10 | 1 | 9 | N.S. |
| VII. Identification Process | 7 | 3 | 7 | 3 | N.S. |
| VIII. Sibling Rivalry | 7 | 3 | 2 | 8 | .05 |
| IX. Guilt Feelings | 5 | 5 | 6 | 4 | N.S. |
| X. Ego Ideal | 7 | 3 | 2 | 8 | .05 |
| XIa. Narcissistic Love Object | 9 | 1 | 8 | 2 | N.S. |
| XIb. Anaclitic Love Object | 6 | 4 | 8 | 2 | N.S. |

*N.S. (Not Significant) signifies a lack of statistically significant differences.

TABLE 30

TOTAL NUMBER OF STRONG OVERALL DIMENSIONAL SCORES BY INDIVIDUAL SUBJECTS FOR R.H. AND S.-O.P.D. NEGRO MOTHERS: n-30

| | Scores Exceeding Median | Scores at or below Median | Total |
|---|---|---|---|
| R.H. Mothers | 8 | 7 | 15 |
| S.-O.P.D. Mothers | 4 | 11 | 15 |
| Totals | 12 | 18 | 30 |

Not statistically significant

TABLE 31

OVERALL DIMENSIONAL SCORES FOR R.H. AND S.-O.P.D. MOTHERS (NEGRO SAMPLE): n-30

| Blacky Dimension | R.H. Mothers | | S.-O.P.D. Mothers | | Significance Level |
|---|---|---|---|---|---|
| | + | 0 | + | 0 | |
| I. Oral Eroticism | 6 | 9 | 3 | 12 | N.S.* |
| II. Oral Sadism | 4 | 11 | 8 | 7 | N.S. |
| III. Anal Sadism (Exp.) | 6 | 9 | 7 | 8 | N.S. |
| III. Anal Sadism (Ret.) | 8 | 7 | 7 | 8 | N.S. |
| IV. Oedipal Intensity | 11 | 4 | 7 | 8 | N.S. |
| V. Masturbation Guilt | 7 | 8 | 8 | 7 | N.S. |
| VI. Penis Envy | 2 | 13 | 2 | 13 | N.S. |
| VII. Identification Process | 9 | 6 | 9 | 6 | N.S. |
| VIII. Sibling Rivalry | 11 | 4 | 8 | 7 | N.S. |
| IX. Guilt Feelings | 8 | 7 | 5 | 10 | N.S. |
| X. Ego Ideal | 3 | 12 | 6 | 9 | N.S. |
| XI. Narcissistic Love Object | 14 | 1 | 11 | 4 | N.S. |
| XI. Anaclitic Love Object | 6 | 9 | 6 | 9 | N.S. |

*N.S. (Not Significant) signifies a lack of statistically significant differences.

TABLE 32

SPONTANEOUS STORY SCORES FOR TOTAL SAMPLE: n-75

| Blacky Dimension | A. Mothers | | R.H. Mothers | | S.-O.P.D. Mothers | | $X^2$ bet. A. & R.H. | $X^2$ bet. A. & S.-O.P.D. | $X^2$ bet. R.H. & S.-O.P.D. |
|---|---|---|---|---|---|---|---|---|---|
| | + | 0 | + | 0 | + | 0 | | | |
| I. Oral Eroticism | 17 | 8 | 13 | 12 | 12 | 13 | N.S.* | 2.06** | N.S. |
| II. Oral Sadism | 3 | 22 | 7 | 18 | 6 | 19 | 1.12 | N.S. | N.S. |
| III. Anal Sadism (Exp.) | 6 | 19 | 4 | 21 | 5 | 20 | N.S. | N.S. | N.S. |
| III. Anal Sadism (Ret.) | 8 | 17 | 9 | 16 | 5 | 20 | N.S. | N.S. | N.S. |
| IV. Oedipal Intensity | 15 | 10 | 10 | 15 | 11 | 14 | 2.00** | N.S. | N.S. |
| V. Masturbation Guilt | 6 | 19 | 7 | 18 | 4 | 21 | N.S. | N.S. | N.S. |
| VI. Penis Envy | 0 | 25 | 0 | 25 | 1 | 24 | N.S. | N.S. | N.S. |
| VII. Identification Process | 0 | 25 | 0 | 25 | 0 | 25 | N.S. | N.S. | N.S. |
| VIII. Sibling Rivalry | 7 | 18 | 11 | 14 | 6 | 19 | N.S. | N.S. | N.S. |
| IX. Guilt Feelings | 1 | 24 | 5 | 20 | 3 | 22 | 1.70** | N.S. | N.S. |
| X. Ego Ideal | 4 | 21 | 4 | 21 | 2 | 23 | N.S. | N.S. | N.S. |
| XI. Narcissistic Love Object | 12 | 13 | 17 | 8 | 13 | 12 | 2.06** | N.S. | N.S. |
| XI. Anaclitic Love Object | 9 | 16 | 3 | 22 | 5 | 20 | N.S. | N.S. | N.S. |

*N.S. (Not Significant) signifies a lack of statistically significant differences.

**Significant between the .10 and .05 level.

One-tailed tests

TABLE 33

SPONTANEOUS STORY SCORES FOR WHITE MOTHERS: n-30

| Blacky Dimension | A. Mothers | | R.H. Mothers | | S.-O.P.D. Mothers | | A. & R.H. | A. & S.-O.P.D. | R.H. & S.-O.P.D. |
|---|---|---|---|---|---|---|---|---|---|
| | + | 0 | + | 0 | + | 0 | | | |
| I. Oral Eroticism | 7 | 3 | 8 | 2 | 6 | 4 | N.S.* | N.S. | N.S. |
| II. Oral Sadism | 2 | 8 | 4 | 6 | 2 | 8 | N.S. | N.S. | N.S. |
| III. Anal Sadism (Exp.) | 3 | 7 | 1 | 9 | 1 | 9 | N.S. | N.S. | N.S. |
| III. Anal Sadism (Ret.) | 4 | 6 | 4 | 6 | 1 | 9 | N.S. | N.S. | N.S. |
| IV. Oedipal Intensity | 5 | 5 | 2 | 8 | 5 | 5 | N.S. | N.S. | N.S. |
| V. Masturbation Guilt | 1 | 9 | 2 | 8 | 0 | 10 | N.S. | N.S. | N.S. |
| VI. Penis Envy | 0 | 10 | 0 | 10 | 1 | 9 | N.S. | N.S. | N.S. |
| VII. Identification Process | 0 | 10 | 0 | 10 | 0 | 10 | N.S. | N.S. | N.S. |
| VIII. Sibling Rivalry | 1 | 9 | 3 | 7 | 2 | 8 | N.S. | N.S. | N.S. |
| IX. Guilt Feelings | 1 | 9 | 3 | 7 | 2 | 8 | N.S. | N.S. | N.S. |
| X. Ego Ideal | 1 | 9 | 1 | 9 | 0 | 10 | N.S. | N.S. | N.S. |
| XI. Narcissistic Love Object | 5 | 5 | 6 | 4 | 5 | 5 | N.S. | N.S. | N.S. |
| XI. Anaclitic Love Object | 4 | 6 | 1 | 9 | 1 | 9 | N.S. | N.S. | N.S. |

*N.S. (Not Significant) signifies a lack of statistically significant differences.

TABLE 34

SPONTANEOUS STORY SCORES FOR NEGRO MOTHERS: n-45

| Blacky Dimension | A. Mothers | | R.H. Mothers | | S.-O.P.D. Mothers | | A. & R.H. | A. & S.-O.P.D. | R.H. & S.-O.P.D. |
|---|---|---|---|---|---|---|---|---|---|
| | + | o | + | o | + | o | | | |
| I. Oral Eroticism | 10 | 5 | 5 | 10 | 6 | 9 | N.S.* | N.S. | N.S. |
| II. Oral Sadism | 1 | 14 | 3 | 12 | 4 | 11 | N.S. | N.S. | N.S. |
| III. Anal Sadism (Exp.) | 3 | 12 | 3 | 12 | 4 | 11 | N.S. | N.S. | N.S. |
| III. Anal Sadism (Ret.) | 4 | 6 | 4 | 6 | 1 | 9 | N.S. | N.S. | N.S. |
| IV. Oedipal Intensity | 10 | 5 | 8 | 7 | 6 | 9 | N.S. | N.S. | N.S. |
| V. Masturbation Guilt | 5 | 10 | 5 | 10 | 4 | 11 | N.S. | N.S. | N.S. |
| VI. Penis Envy | 0 | 15 | 0 | 15 | 0 | 15 | N.S. | N.S. | N.S. |
| VII. Identification Process | 0 | 15 | 0 | 15 | 0 | 15 | N.S. | N.S. | N.S. |
| VIII. Sibling Rivalry | 6 | 9 | 8 | 7 | 4 | 11 | N.S. | N.S. | N.S. |
| IX. Guilt Feelings | 0 | 15 | 2 | 13 | 1 | 14 | N.S. | N.S. | N.S. |
| X. Ego Ideal | 3 | 12 | 3 | 12 | 2 | 13 | N.S. | N.S. | N.S. |
| XI. Narcissistic Love Object | 7 | 8 | 11 | 4 | 8 | 7 | N.S. | N.S. | N.S. |
| XI. Anaclitic Love Object | 5 | 10 | 2 | 13 | 4 | 11 | N.S. | N.S. | N.S. |

*N.S. (Not Significant) signifies a lack of statistically significant differences.

TABLE 35

INQUIRY CHOICES FOR TOTAL SAMPLE: n-75

| Card | Question and Answer Selected | Groups Selected | $X^2$ | Sig. Level |
|---|---|---|---|---|
| V. 2. | How might Blacky feel about this situation when she is older? | | | |
| | d) The situation won't come up again when she is older. | R.H. > S.-O.P.D. | 3.14 | .10-.05 |
| VII. 1. | Who talks like that to Blacky-Mama or Papa or Tippy? | | | |
| | a) Mama | S.-O.P.D. > R.H. | 3.82 | .10-.05 |
| | c) Tippy | R.H. > S.-O.P.D. | 3.87 | .05-.02 |
| VII. 3. | Whom is Blacky imitating here? Mama or Papa or Tippy? | | | |
| | a) Mama | S.-O.P.D. > R.H. | 8.82 | .01-.001 |
| | c) Tippy | R.H. > S.-O.P.D. | 4.76 | .05-.02 |
| VII. 5. | Blacky's disposition, actually, is most like the disposition of which one - Mama or Papa or Tippy? | | | |
| | b) Papa | S.-O.P.D. > R.H. | 3.06 | .10-.05 |

TABLE 35--Continued

INQUIRY CHOICES FOR TOTAL SAMPLE: n-75

| Card | Question and Answer Selected | Groups Selected | $X^2$ | Sig. Level |
|---|---|---|---|---|
| VIII. | 5. How does Blacky think Mama and Papa really feel toward her at this time? | | | |
| | c) She thinks they love her less than they do Tippy | R.H. > S.-O.P.D. | 3.54 | .10-.05 |
| XI. | 4. Why does Blacky feel so contented while she is dreaming? | | | |
| | b) She feels contented thinking about Papa. | S.-O.P.D. > R.H. | 4.18 | .05-.02 |

TABLE 36

INQUIRY CHOICES FOR WHITE SAMPLE: n-30

| Card | Question and Answer Selected | Groups Involved | Sig. Level |
|---|---|---|---|
| V. | 1. How does Blacky feel here? | | |
| | b) Enjoying herself but a little worried. | S.-O.P.D. > R.H. | .05 |
| VII. | 1. Who talks like that to Blacky- Mama or Papa or Tippy? | | |
| | a) Mama | S.-O.P.D. > R.H. | .05 |
| | c) Tippy | R.H. > S.-O.P.D. | .05 |
| VII. | 3. Whom is Blacky imitating here - Mama or Papa or Tippy? | S.-O.P.D. > R.H. | .05 |
| | a) Mama | | |
| | c) Tippy | R.H. > S.-O.P.D. | .05 |

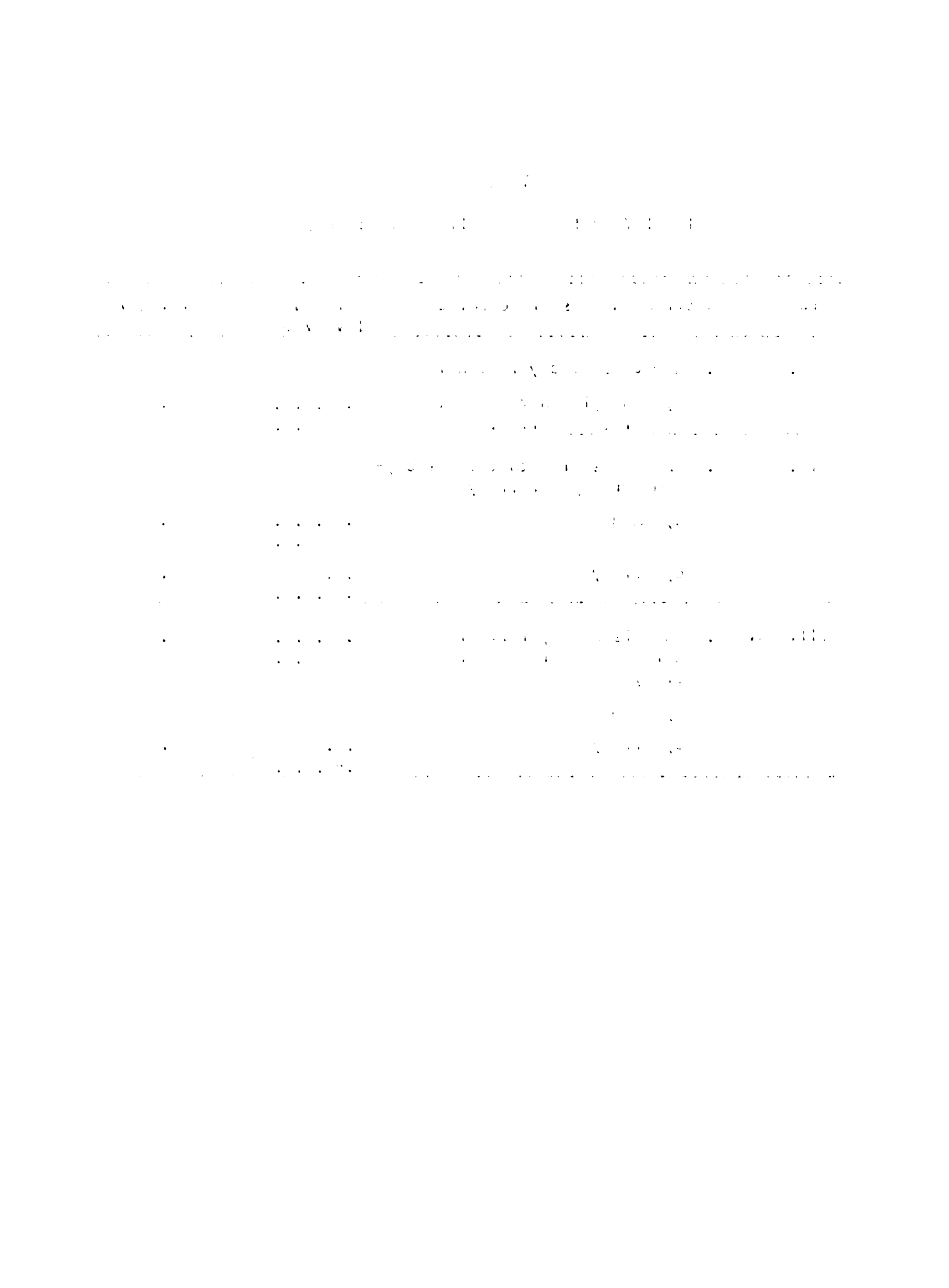

TABLE 37

INQUIRY CHOICES FOR NEGRO SAMPLE: n-45

| Card | Question and Answer Selected | Groups Involved | Sig. Level |
|---|---|---|---|
| V. | 2. How might Blacky feel about this situation when she is older? | | |
| | d) The situation won't come up again when she is older. | R.H. > S.-O.P.D. | .05 |
| VII. | 3. Whom is Blacky imitating here - Mama or Papa or Tippy? | | |
| | a) Mama | S.-O.P.D. > R.H. | .01 |
| VIII. | 4. How often does Blacky see this? | | |
| | a) Once in a while | R.H. > S.-O.P.D. | .05 |
| | b) Fairly often | S.-O.P.D. > R.H. | .01 |