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PERSONALITY FACTORS IN CHILDHOOD ASTHMA

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A Dissertation submitted to the Faculty of Arts,
University of the Witwatersrand, Johannesburg
in partial fulfilment of the requirements
for the Degree of Master of Arts in Clinical Psychology.

Johannesburg 1976

DECLARATION

I hereby declare that this dissertation, which is being submitted to the Faculty of Arts of the University of the Witwatersrand for the Degree of Master of Arts in Clinical Psychology is my own work and that it has not been incorporated in any thesis submitted for any degree at this or any other university.

I Chait
.....
Irene Chait

ABSTRACT

Childhood asthma is viewed as a psychosomatic illness with a multifactorial etiology. Most investigators are in agreement in that they attribute some degree of causation to each of three separate factors, namely, allergy, infection and psychological processes.

A review of the psychological literature reveals numerous attempts to explain the part played by personality factors in childhood asthma. Two conflicting approaches are evident, namely, the specificity and the non-specificity approaches. Those authors who favour the specificity approach are influenced by the psychoanalytic school of thought. They give numerous descriptions of a specific personality in asthmatic children and their mothers, and their dynamic interaction to form a specific mother-child relationship. The non-specificity theorists claim that no specificity is found in personality or mother-child relationships and that behavioural disturbance seen in asthmatics and their families are the result of the chronic illness rather than the cause.

This study was designed to ascertain whether in fact there is a specific personality in the asthmatic child and his mother and hence, a specific mother-child relationship. The experimental group consisted of a heterogeneous group of asthmatic children who were compared with a control group of non-asthmatic chronically ill children (cardiac cases). The sample consisted of children of latency age, living with both their parents. They were drawn from the English speaking middle socio-economic class and all were attending the Transvaal Memorial Hospital

for Children, Johannesburg. The groups were matched for age, sex, ordinal position, number of siblings and extent and duration of illness. The mothers of these two groups of children were also included in this study. The measuring instruments consisted of a battery of psychological tests. The personalities of the children were measured by means of the Children's Personality Questionnaire (CPQ), the Rorschach Inkblot Test and the Family Relations Test (FRT); the personalities of the mothers were assessed by means of the Sixteen Personality Factor Questionnaire (16PF) and the Rorschach; and the mother-child relationship was investigated by the FRT, the Maryland Parent Attitude Survey (MPAS) and a Biographical Questionnaire.

From the findings of the study, the following tentative conclusions were drawn when asthmatic children were compared with cardiac children :

(1) The asthmatic child's personality is characterized by tension, affection-seeking tendencies, and dominant and aggressive traits.

(2) Asthmatic children are less introverted and more concerned with relationships, particularly with the mother, than cardiac children who are neurotically constricted and have a greater concern with their bodies.

(3) The asthmatic child is ambivalent in his relationships. He seeks affection while manifesting dominant and aggressive feelings.

(4) The asthmatic child perceives a closer positive bond between himself and his mother and appears more dependent on her than does the chronically ill cardiac child.

(5) Asthmatic children have a great deal of aggressive feelings towards their siblings.

The data relating to the mother's personality and the mother-child relationship yielded equivocal results. However, there was some suggestion that the mothers of the asthmatic children have personality problems and that there was some difficulty in the mother-child relationship of asthmatic children. The personalities of the asthmatic child and his mother were within the normal limits of the test used and did not reflect pathological disturbance.

The present investigation gives partial support to the psychoanalytic specificity hypotheses concerning childhood asthma. However, the psychological tests used were felt not to be sufficiently sensitive to satisfactorily investigate the psychoanalytic hypotheses. The research design was seen to have limitations which may have influenced the findings, which should, therefore, be accepted with some reservation.

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TABLE OF CONTENTS

	PAGE
DECLARATION	(i)
ABSTRACT	(ii)
ACKNOWLEDGEMENTS	(v)
TABLE OF CONTENTS	(vii)
LIST OF TABLES	(x)
LIST OF FIGURES	(xi)
1. INTRODUCTION	1
1.1 The Problem	1
1.2 The Plan of the Investigation	3
2. REVIEW OF PSYCHOSOMATIC MEDICINE	5
2.1 The Meaning and Scope of Psychosomatic Medicine ...	5
2.2 Historical Development of Psychosomatic Medicine ...	8
2.3 Theoretical Models	11
2.3.1 Physiological Model	11
2.3.2 Personality Specificity	13
2.3.3 Conflict Specificity	14
2.3.4 Protective Adaptive Response	19
2.3.5 Individual Specificity	21
2.3.6 The Illness-Onset Situation	21
2.3.7 General Systems Theory	22
2.3.8 Object Loss, Affect State and Illness ...	23
2.3.9 Adaptation	24
2.4 Summary	25
3. REVIEW OF THE LITERATURE ON ASTHMA	28
3.1 Asthmatic Subgroups	28
3.2 Etiology of Asthma	32
3.2.1 Hereditary Factors	33
3.2.2 Allergic Factors	34
3.2.3 Infective Factors	35
3.2.4 Climatic Factors	36
3.2.5 Social Factors	36
3.2.6 Conditioning	39
3.2.7 Personality Factors	41
3.2.7.1 Clinical Description	42
3.2.7.2 Studies Relating to the Specificity Approach	51
3.2.7.3 Studies Relating to the Non-Specificity Approach	70
3.2.7.4 Critical Appraisal of Personality Studies	77
3.3 Summary and Conclusion	81

PAGE

4. THE INVESTIGATION 86

4.1 Hypotheses 86
4.2 Description of the Sample 87
4.2.1 Experimental Group Children 87
4.2.2 Control Group Children 90
4.2.3 Mothers 92
4.3 Tests 92
4.3.1 The Children's Personality Questionnaire (CPQ) 93
4.3.2 The Sixteen Factor Personality Questionnaire (16PF) 95
4.3.3 The Family Relations Test (FRT) 98
4.3.4 The Maryland Parent Attitude Survey (MPAS) ... 100
4.3.5 The Biographical Questionnaire 102
4.3.6 The Rorschach Inkblot Test 107
4.4 Procedure 110

5. RESULTS 114

5.1 Analysis of Data 114
5.2 First Level of Analysis 118
5.2.1 Results at the First Level of Analysis ... 118
5.2.2 Interpretation of Results at the First Level of Analysis 122
5.2.2.1 Children 122
5.2.2.2 Mothers 125
5.2.2.3 Children and Mothers 126
5.3 Second Level of Analysis 127
5.3.1 Cluster Analysis on Child Variables ... 127
5.3.2 Interpretation of Cluster Analysis on Child Variables 133
5.3.3 Cluster Analysis of Mother Variables ... 137
5.4 Biographical Questionnaire 139
5.5 Qualitative Analysis of the Rorschach 141
5.5.1 Asthmatic Children (Group Q) 141
5.5.2 Mothers of Asthmatic Children (Group T) ... 146
5.6 Summary of Results 147
5.6.1 Children 147
5.6.2 Mothers 149
5.6.3 Children and Mothers 150
5.7 Conclusion 151

6. DISCUSSION 152

6.1 Children 152
6.2 Mothers 156
6.3 Mother-Child Relationship 159
6.4 Cause and Effect Relationships 163
6.5 Criticism of the Study 165
6.5.1 Sample Selection 165
6.5.2 Testing Procedure 167
6.5.3 Measuring Instruments 167
6.5.4 Statistical Analysis 171
6.6 Suggestions for Further Research 171
6.7 Conclusion 175

PAGE

APPENDICES 177

APPENDIX A 178
Table 10 179
Table 11 183
Table 12 184
... ...
APPENDIX B 185
Maryland Parent Attitude Survey 186
Scoring Keys for the Maryland Parent Attitude Survey ... 193
Biographical Questionnaire 194
Rorschach Psychogram plus Ratios for Mother Group S ... 196
Rorschach Psychogram plus Ratios for Mother Group T ... 197
Rorschach Psychogram plus Ratios for Children Group P ... 198
Rorschach Psychogram plus Ratios for Children Group Q ... 199
Psychologist's Interpretation of the Rorschach Psychogram of the Four Groups plus the Two Rorschach Protocols per Group 200

REFERENCES 206

LIST OF TABLES

TABLE		PAGE
1.	Classification of Asthmatic Subjects	89
2.	Summary of the Group Data of the Experimental and Control Children	97
3.	Variables which distinguish significantly between the Experimental and the Control Group Children ...	119
4.	Variables which distinguish significantly between the Experimental and the Control Group Children ...	120
5.	Segregated Groups on the Cluster Analysis on Child Variables	128
6.	The means, standard deviations and t-test values calculated for the 38 Child Variables in the two groups indicated by the Ward Cluster Analysis	130
7.	Child Variables which significantly differentiated the Experimental and Control Group Children at the First and Second Level of Analyses	136
8.	Segregated Groups on the Cluster Analysis of Mother Variables	139
9.	Primary Maternal Rejection Items on the Biographical Questionnaire	140
10.	The means, standard deviations and t-tests values calculated for the 138 variables extraced from the test battery	179
11.	Child Variables selected for the Ward Cluster Analysis...	183
12.	Mother Variables selected for the Ward Cluster Analysis..	184

LIST OF FIGURES

FIGURE		PAGE
1.	Dendogram of the Grouping of the Children on the Ward Cluster Analysis	129
2.	Dendogram of the Grouping of the Mothers on the Ward Cluster Analysis	138
3.	Rorschach Psychogram of the Asthmatic Children ...	142
4.	Rorschach Psychogram of the Cardiac Children ...	143
5.	Rorschach Psychogram of the Mothers of the Asthmatic Children	144
6.	Rorschach Psychogram of the Mothers of the Cardiac Children	145

1. INTRODUCTION

1.1 The Problem

Numerous attempts have been made to explain the part played by personality factors in childhood asthma. Authors from various schools have put forward different hypotheses regarding the explanation and description of personality in childhood asthma. In the literature two conflicting approaches are evident, namely, the specificity and the non-specificity approaches. Those authors who favour the specificity approach are influenced by the psychoanalytic school of thought. They specify numerous descriptions of a specific personality type found in asthmatic children and their mothers, and their dynamic interaction to form a specific mother-child relationship. The non-specificity theorists support the view that no specific personality is to be found in asthmatic children and their mothers and hence no specific mother-child relationship.

Those workers in the field who support the specificity approach, claim to have identified a distinctive personality type or profile of traits. However, the description of the asthmatic child's personality tends to vary according to the theoretical standpoint of the individual investigator. Most commonly, the asthmatic child is described as 'neurotic' as he is caught in a neurotic conflict. His illness is interpreted as the masochistic symbol of his struggle for independence from his overpossessive mother, with the fear of separation from her at the core of his neurosis. Many authors feel that in order to understand the asthmatic child, one must first understand his mother. It is suggested that the mother's neurosis primarily produces and perpetuates

his illness. She is described as being emotionally immature and unable to accept the maternal role, simultaneously rejecting and, in compensation, overpossessing her child. The child in turn, both resents and fears the rejection and oscillates between attempts to escape her domination and attempts to placate and be subservient to her so as not to lose her love (Benedek, 1956; French and Alexander, 1941; Rogerson, Hardcastle and Duguid, 1935).

The other researchers have found no specific personality type in the child asthmatic and in his mother, and no specific mother-child relationship. In addition Neuhaus (1958) has shown the personality characteristics of asthmatic children are like those of chronically ill children (cardiac cases) and thus regarded these characteristics as a reaction to the restrictions of the chronic illness. There has been a further recent development in the tendency to de-emphasize the underlying neurotic conflict and to explain asthma in terms of learning theory as a result of conditioning.

Faced with such controversy, it is little wonder that many allergists tend to discount the suggestion that the asthmatogenic personality invariably antedates or accompanies the illness. The criticism is levelled that the nature of this personality is dependent upon the persuasion of the individual theorist. However, for two reasons, a purely allergenic explanation of the cause of asthma seems equally inadequate. Firstly, no allergens specific to asthma have been isolated. Secondly, allergic sensitivity has been demonstrated to vary dramatically in different environments to the extent that an asthmatic patient may be hypersensitive to house dust at home, yet have no allergic reaction to the same dust in hospital (Long et al., 1958).

At the present time, most studies agree in attributing some degree of causation to each of three separate factors, namely those of allergic, infective and psychological processes. From individual to individual, and even perhaps within the same individual from time to time, the predominance of any one of these factors will vary. Asthmatic episodes in children will probably result from a combination of allergic, infective and psychological stimuli, rather than from the exclusive action of only one type of stimulus.

The problem therefore exists as to how much emphasis can be placed on personality factors in the etiology and maintenance of childhood asthma. It is difficult to draw conclusions since the majority of the studies relating to this problem are inadequate. Many studies are deficient in experimental design, employ imprecise measures of personality and often use unsophisticated statistical analyses of data.

1.2 The Plan of the Investigation

The aim of the present study is to improve on the methodological inadequacies of the previous studies. It was decided therefore to study some personality variables of an unbiased group of child asthmatics in order to investigate theories relating to personality factors and the conflicts underlying them. At the same time an investigation of some personality characteristics of the mothers of asthmatic children and some of their attitudes to child rearing was undertaken. This was in order to ascertain whether theories of rejection and early parent-child conflict could be substantiated. Both groups were compared with a carefully matched group of chronically ill children (cardiac cases) and their mothers so as to specify more accurately any underlying personality

factors. A battery of tests was used in order to g[illegible]information about possible different areas of personality functio[illegible]

The study includes :

(a) A review of the literature on psychomatic medicine.

(b) A review of the literature on asthma with special emphasis on those studies relating to personality factors.

(c) An account of the present experimental study.

(d) A presentation of the results.

(e) A discussion of the results, and integration of the findings with the existing literature.

2. REVIEW OF PSYCHOSOMATIC MEDICINE

Before reviewing the literature on childhood asthma, it is necessary to discuss the field of psychosomatic medicine, as asthma is generally considered to be one of the psychosomatic disorders. Halliday's (1948) definition of a psychosomatic disorder seems to be the one most commonly accepted : 'A bodily disorder in which the application of the psychological approach provides information of high aetiological relevance' (p.46). A brief survey of psychosomatic medicine will be given. This will include a discussion of the meaning and scope of psychosomatic medicine, and historical development with theoretical models.

2.1 The Meaning and Scope of Psychosomatic Medicine

The word 'psychosomatic' implies that there are two classes of phenomena, namely psychic and somatic, which require separate methods of observation and distinct languages for their description. The methodological and semantic dualism that is thus implied reflects current scientific strategy and reality, but is neutral with regard to metaphysical questions concerning the nature of the mental and the physical. *Woodger's (1952) viewpoint concerning this issue* seems relevant, namely that the concepts of body and mind are reached by abstractions from something more concrete, that is, persons. Both the psychic and somatic phenomena are aspects or modes of abstractions of persons. A person is and responds as a unity, but the limitations of man as an investigator necessitate the breakdown of unity for the purpose of observation, description, and the study of relationships among selected

variables. It is the task of those working in the field of psychosomatic medicine to attempt to integrate the three modes of abstractions of man, namely the biological, psychological and social.

'Psychosomatic' does not imply a value judgement that psychic events are more important than somatic or vice versa. Nor does it connote the assumption of specific causal relationships, that is, psychic events causing somatic ones or somatic causing psychic. Engel (1967) has recently emphasized that the main current task for psychosomatic investigators is the study of simultaneity or sequence, that is, of temporal relationships, of psychic and somatic phenomena. The word 'medicine' in this context, fixed by traditional usage, is unfortunate as it implies a primary concern with disease and is thus unduly restricting. Hence the term 'psychosomatics' is more neutral and therefore preferable. However, the two terms will be used synonymously here.

Groen (1964) attempted to give a schematic classification of the various forms in which a disturbance in the psychosomatic relationship can manifest itself. The following classification of psychosomatic disturbances is the result of a provisional exploration of the field :

1. Somatic Manifestations of Psychoses :
   (a) Motor : agitation, catatonia, etc.
   (b) Sensory : hallucinations.
   (c) Vegetative : changes in circulation, respiration, digestion, metabolism, etc.
   (d) Indirect bodily consequences : effects of poisons and trauma after suicidal attempts, exhaustion, deficiency diseases, etc. in psychotic patients.
2. General "Nervous" Disorders in Psychoneuroses :
   Fatigue, insomnia, irritability, impairment of concentration, decreased libido, etc.
3. Conversion Phenomena, Usually with an Obvious Symbolic Significance
   (a) Motor (in voluntary muscles) : paralysis, hyperkinesia, aphonia, hyperphonia.
   (b) Sensory : blindness, deafness, anesthesia.

4. Organ Neuroses (functional disturbances localized in one or more organs of the vegetative sphere, without morphologic substrate and with a predominant psychogenic etiology) :

   (a) Motor (involuntary muscles) : cardiospasm, functional vomiting, habitual constipation, nervous arrhythmias, diarrhoea, impotence,etc.

   (b) Sensory : nervous angina pectoris, abdominal pain, headache, dizziness, etc.

   (c) Vegetative (secretory and vascular) : hyperhidrosis, Raynaud's disease, erythralgia, migraine.

5. Psychosomatoses (functional disturbances with morphologic changes, localized in one or more organs of the vegetative sphere, developing under the influence of unexpressed emotional stresses, usually in predisposed individuals) : ulcerative colitis, peptic ulcer, asthma.

6. Psychogenic Influences on Bodily Diseases :

   (a) Metabolic (diabetes).
   (b) Vascular (thromboangiitis obliterans, coronary thrombosis, hypertension).
   (c) Joint (rheumatoid arthritis).
   (d) Endocrine (hyperthyroidism).
   (e) Allergic (hay fever, urticaria).

7. Psychogenic Changes in Resistance against Infections, Influencing the Outbreak and Course of the Disease :

   Herpes simplex, erysipelas, tonsillitis, tuberculosis, etc.

8. Combinations and Transitions (p.6).

It follows from the preceding discussion that a composite definition of psychosomatic medicine is necessary to encompass the scope of its meaning. Many writers have insisted that, as Alexander and Flagg (1965) put it : 'The term "psychosomatic" designates merely a method of approach both in research and in therapy ...' (p.860). However, confining psychosomatic medicine to an approach seems to be too vague and at the same time too narrow. As Lipowski (1968) rightly points out in his definition of psychosomatic medicine :

> Psychosomatic medicine is more than a set of techniques, more than an approach; it is also a science. There is at present no other discipline whose avowed purposes are to study, and to formulate explanatory hypotheses about, the relationships between biological, psychological, and social phenomena as they pertain to persons (p.397).

Hence, there can be seen to be two aspects of psychosomatic medicine - the scientific and the applied or clinical. The subject matter of psychosomatics as a science are the psycho-somato-social relationships. In its applied sense, the psychosomatic approach is expressed in a body of postulates and norms conceived as guidelines for medical practice. The hallmark of this approach is the insistence that psychosocial as well as biological factors be considered in the diagnosis, treatment and prevention of all disease. This approach has practical value and does not have to await definitive results of the study of psychophysiological relationships. Such study, however, may be expected to give increasing precision to remedial action.

2.2 Historical Development of Psychosomatic Medicine

The oldest approach to medicine was psychosomatic. In primitive societies, a holistic approach to disease was adopted and there was apparently no division into physical and mental disease (Alexander, 1950; Alexander and Flagg, 1965; Sigerist, 1951). This trend continued and the importance of the interrelationship of mind and body was recognized throughout the periods of Babylonian, Assyrian, Greek and Roman civilization and during the Dark Ages. However, during the Renaissance, in contrast to the tremendous growth and progress in science and medicine, interest in the role of emotions in physical as well as mental disorders diminished. This was a reaction to the concept which had dominated the Dark Ages of the psyche as a mystical and irrational force and hence, the psyche was no longer considered the proper concern of science and medicine and was relegated to the fields of religion and philosophy. This dichotomy between the soma and the psyche which continued in eighteenth and nineteenth century medicine was also partly due to the seventeenth century Cartesian

philosophical distinction of the body and the mind as separate entities. This attitude was further bolstered by the remarkable advances made during this period in the identification and understanding of specific factors that were of major etiological significance in enhancing specific somatic processes. Those processes that did not lend themselves to a single-cause-single-effect formulation were defined as functional illnesses. Until the present, those disorders of behaviour, emotion and thinking have fallen under this label, although many investigators of mental illness have always felt that eventually underlying or associated organic features would be discovered.

With the dramatic and rapid formulations of Freud and his colleagues in the late nineteenth century, especially as they related to hysteria and conversion reactions, the importance of emotions in mental and bodily disturbances was again recognized. Prior to this re-emphasis, there had been an unfortunately increasing tendency for medicine to look upon the patient as 'the uninteresting vehicle of a fascinating disease process' (Noyes and Kolb, 1963, p.380). Freud's work remained at first an alien body in medical thought. Under his influence the rift in psychiatry between the psychological and the organic orientation broadened, and the psychiatric world became divided into two camps : the organicists versus the psychologically minded followers of Freud. From this historical perspective, the current psychosomatic approach appears to be an effort to find a synthesis between these two orientations.

Though psychosomatic ideas can be traced back to antiquity, the first serious work began only after World War I and its establishment as a discipline in Western civilization can be dated only to the formation

of the American Psychosomatic Society in 1939. A brief review of research into psychosomatic medicine during the past thirty years indicates that the main body of this research was carried out in the United States of America. However, active psychosomatic groups have been formed in France, Great Britain, Italy, Germany and in Japan, but the main body of research to be discussed has been carried out in North America. Wittkower and his colleagues (1969) noted that the acceptance of the psychosomatic view varied from country to country. It has been most readily accepted in the United States, and has gained ground in Japan. The approach met with considerable resistance in Germany, it has a small but flourishing group in Great Britain and is rejected in the Soviet Union, where cortico-visceral medicine takes its place. Most of these groups are eclectic in their theoretical orientation. The exceptions are the French group which shows some bias in favour of psychoanalytic theory, and the British group which is observationally minded and tends to oppose psychoanalytic theory.

The development of psychosomatic medicine over the last three decades has been reviewed extensively by writers such as Wittkower and Lipowski (1966), Lipowski (1968) and Kimball (1970), who noted that psychosomatic medicine has undergone vast changes during the last thirty years. There had been a shift away from clinical observation to laboratory research and from retrospective psychodynamic reconstructions to phenomenological description of behaviour in experimental situations. In general, psychosomatic medicine has continued to flourish as a science rather than as a largely undefined area of research. It is found that while psychiatrists continue to contribute most of the relevant research, there is an increasing participation of psychologists and other scientists. The explanation for this lies in the fact that the focus of interest has moved

from clinical observation, which is largely the domain of psychiatrists, to basic research, the domain of psychologists. Concurrently, there has been a shift away from the investigation of causative factors by psychoanalysts, to psychophysiology, neurophysiology and neuroendocrinology and hence, physiological psychologists, neurophysiologists and biochemists took on a greater share of the research.

2.3 Theoretical Models

Comprehensive reviews of theoretical models and conceptual developments in the field of psychosomatic medicine have been undertaken by numerous authors, including Alexander (1950); Macleod, Wittkower and Margolin (1954); Mendelson, Hirsch and Webber (1956) and Kimball (1970). The present review highlights some of the major trends and theoretical models of the last three decades.

2.3.1 Physiological Model

Cannon's (1920) work on the physiologic accompaniments of fear and rage gave impetus to the psychosomatic movement in America. Cannon hypothesized that an organism responds to emergency situations with adaptive changes in the total physiological economy and that emotional states activate physiological processes that prepare the organism for the situation these emotions signify. He proposed that the organism responds to fear and rage as though preparing for fight or flight by the inhibition of anabolic and storing functions of the body and the activation of catabolic ones that would release energy for the organism's response. In 1957, Funkenstein, King and Drolette demonstrated in experimental subjects a correlation between induced anger and anxiety and norepinephrine and epinephrine, respectively. It was at this point

that the relationship of emotion to physiologic processes was clearly established. This approach has remained one of the most productive within psychosomatic medicine and has been extended by workers such as Cleghorn and Graham (1950), Hamburg and Adams (1967) and Mason (1968) to an investigation of the responses of all hormonal systems to stresses and associated emotion. These investigators observed specific response secondary to specific environmental stresses. They felt, as did Selye (1950), that the response, although it may be simultaneously adaptive for the organism in handling the stress, may also lead to disease by upsetting the internal balance of the body. An organ system once sensitized to respond to a stressful event may continue to do so with overused, stereotyped responses to similar or even different stressful situations. Gellhorn (1967) has taken a rather complex approach to the interaction between emotions and physiology, involving the autonomic nervous system and alternating sympathetic and parasympathetic responses, but one which appreciates the cyclical or feedback processes of the body whereby a process once induced may in itself give rise to feelings or behaviour that in turn give rise to further dysfunction. Most of the physiological research done today in the field of psychosomatic medicine appears to be involved in one way or another with the cyclical nature of the body, that is, that either the emotion may give rise to biological change or the biological change may give rise to the emotion (Adkisson, 1966; Schildkraut and Kety, 1967). There has also been research correlating emotional states with organic diseases, for example, suicidal behaviour with frontal-lobe meningioma, depression with carcinoma of the pancreas and delusions with temporal-lobe astrocytoma, to name a few (Steinhilber, Peterson and Martin, 1966).

2.3.2 Personality Specificity

One of the earliest of the psychiatric or psychoanalytic excursions into the field of psychosomatic medicine was the attempt to view psychosomatic symptoms as conversion phenomena. These symptoms were seen to symbolize through a form of body language, the character of the individual's repressed intrapsychic conflicts. For example, Ferenczi (1926) considered diarrhoea to be an aggressive form of giving to others which substituted for real performance, and Garma (1950) conceived peptic ulcers to be symbolic attacks upon the mucous lining of the stomach by the patient's introjected hostile mother.

Psychosomatic workers, such as Dunbar (1935), refused to accept the conversion theory of psycho-physiological symptoms. These investigators attempted to demonstrate that certain diseases have a high statistical correlation with certain personality types. Dunbar (1935) reviewed the literature and collected data on more than 1,600 patients to identify a personality profile for what she considered eight illness states in which psychosomatic relationships could be established : fracture, coronary occlusion, hypertensive cardiovascular disease, anginal syndrome, rheumatic heart disease, cardiac arrhythmias, rheumatic fever and rheumatoid arthritis, and diabetes. On the basis of her observations, Dunbar formulated the Personality Specificity of Disease.

Ruesch (1948) termed an Infantile Personality as the core problem in psychosomatic medicine. He was less concerned with specificity factors and did not explain why one organ system rather than another was chosen for the expression of conflict. Rather, he outlined a therapeutic approach, rare in the history of psychosomatic medicine, for physicians

working with patients having infantile or immature personalities. Personality studies of patients with various diseases are still very much a part of psychosomatic medicine. Those studies relating to asthma will be discussed later (see Section 3.2.7).

2.3.3 Conflict Specificity

Alexander and French (1948) and their colleagues were most influential in fusing psychoanalytic concepts with organic dysfunction during the 1950's. Alexander and his group moved away from a personality-specificity concept toward one of conflict-specificity by studying what Kimball (1970)called the 'holy seven' diseases : hyperthyroidism, neurodermatitis, peptic ulcer, rheumatoid arthritis, essential hypertension, bronchial asthma and ulcerative colitis. Although not denying the importance of an individual's personality trait in predisposing the individual to particular types of conflict, Alexander turned the attention of his followers to the immediate situation of the individual at the time he developed his illness or the onset situation. When frustrated by external events the vulnerable individual through repression will channel this frustration via the vulnerable organ system that ultimately will manifest disease. He felt that in each psychosomatic illness there was a nuclear emotional conflict which was chronically present and which had a specific physiological accompaniment. He emphasized that the psychosomatic disorder was not an expression or symbolization of an emotion,but it was the physiological responses of the organ to chronically present or periodically returning emotional states. Moreover, in addition to the psychological factors, he gave emphasis to the concept of organ vulnerability, presumed to be on the basis of inherited or early development.

Alexander (1950) drew on Cannon's (1920) work that the bodily reactions are divided into two systems : one based on sympathetic nervous system, producing increased heart rate, high blood pressure; the other based on the parasympathetic system producing such effects as stimulation of gastrointestinal activity. According to Alexander the basic emotion giving rise to sympathetic activity is aggression, while the basic emotion correlating with parasympathetic activity is dependency. He conceived of aggression and dependency as rather broad classifications of emotional reactions. Within these classes he believed specific patterns of emotion would be found that would relate to specific patterns of physiological response. While he did not assume a direct correlation between personality and disease, he did believe that certain emotional constellations would be found for different conditions. His methods for finding out what these emotional constellations were, included clinical observation and psychoanalysis. Based on such data Alexander postulated a number of hypotheses relating emotional patterns to disease. For example, a conflict involving separation from the mother was believed to be associated with asthma, while unexpressed hostility was seen as a problem in essential hypertension.

Alexander's theory, like other specificity theories, offers the promise of a parsimonious approach for determining why people develop specific forms of psychosomatic illness. Specificity theories have been in vogue, but have never won complete acceptance. They are open to criticism as being oversimplications of complex problems. Theorists opposed to the theory would tend to say that there are basic personality constellations underlying a variety of psychosomatic complaints, that the

specific symptoms are not important, that one symptom may be the functional equivalent of another, and a specific cure for one would tend to be replaced by the appearance of another (Badal, Driscol and Maultsby, 1957; Browning and Houseworth, 1953; Buck and Hobbs, 1959; Nemiah and Sifneos, 1968; Rees, 1953).

However, although there are questions raised about specificity theory, this could be partly due to difficulties in the following areas :

(a) The methods of study

(b) The problem of selecting control groups

(c) The difficulty of interpreting a cause-effect relationship.

(a) The Methods of Study

In studying the relationship of personality and disease, what is ideally required is a personality measure that is clinically rich and does not oversimplify the problem, yet at the same time obtains quantification that allows for a precise testing of the hypothesis. The discipline of personality measurement is still in an early stage of development and there are few instruments that do justice to the above requirements. As a consequence, studies relating personality to disease have serious limitations for they are dependent on the techniques available. The approaches that have been used may be classified into four types : case study, studies using self-report measures of personality, studies employing experimental techniques to measure personality, and intervention into the course of the disease process.

The literature contains many case reports where attempts were made to correlate crucial events in the life of an individual with the onset or exacerbations of the disease. Although such studies provide insight

into how the illness is related to developmental features in the patient's life, they are limited in that they are not useful in establishing generalizations or testing hypotheses.

Studies using self-report and experimental techniques measure only whether there is a relation between the presence and absence of disease and personality. The methods used in self-report studies are mainly interviews and psychometric techniques, both self report and projective tests. Studies using experimental techniques have compared disease and control groups on such variables as level of aspiration (Little and Cohen, 1951), conformity (Weiss, 1962) and selective memory (Scodel, 1953). Approaches developed in the psychological laboratory for the study of normal behaviour by Asch (1957), Rotter (1942) and others have been used with psychosomatic patients.

Intervention into the course of a psychosomatic illness has been attempted by the disciplines of medicine, surgery, psychotherapy, and by environmental modification. Remission of the disease under psychotherapy or environmental modification would be consistent with the hypothesis that the personality needs were involved in the causation of the disease.

(b) The Problem of Selecting Control Groups

Research in this area has been conducted by comparing patients with a given illness with some other group of persons on a personality measure. A variety of control groups have been used, including normals, another psychosomatic group, a group of mixed psychosomatic patients, persons with nonpsychogenic illness such as pneumonia, neurotics and even psychotics. This diversity of controls makes comparisons between studies very difficult.

A further problem is the selection of a suitable control group. P.R. Robbins (1969) feels that the most suitable approach would be a fairly large scale effort to obtain comparable information on various disease categories, using standardized personality tests. For example, Wiener (1952) administered the MMPI to eight groups of patients with different diseases, and Thaler, Weiner and Reiser (1957) used projective techniques on five groups of patients with different diseases. It seems that more comprehensive research is needed to obtain baseline data on how a variety of patient groups compare in terms of standardized tests. Until such data are available, it is very difficult to interpret the many comparisons already undertaken between two or three specific clinical groups.

(c) The Difficulty of Interpreting a Cause-Effect Relationship

Most studies in the field consider whether psychological factors cause or contribute to the development of an illness. However, some studies have been carried out to ascertain what effects physical illnesses have on personality. Most of the studies stemming from either orientation are correlational in nature, and the direction of causation is not obvious. The best way to establish cause and effect in this area would be a series of prospective studies. Such studies appear to be very rare.

Lacking such prospective studies, a second approach is to study the psychological effects of physical illness and conditions believed to be nonpsychogenic in origin. If such conditions were followed by high levels of anxiety, dependency or other disturbances of affect,

then one must be very cautious not to attribute a causal role to the personality when correlations are obtained between such variables and disease. However, treatment or anticipated treatment for nonpsychological illness can compound the psychological effects of the illness itself, for example, Thaler et al.(1957) found that patients awaiting thoracic surgery gave anxious and depressed responses on the Rorschach.

A third approach involves considering the length of onset of the illness. If psychological variables are effects rather than causes, one might expect higher correlations between personality factors and the disease the longer the disease progresses. However, this approach seems doubtful for adaptation to the illness and efforts at adjustment could alter, if not reverse, the picture.

It does seem from the above discussion that there are as yet no clear cut parameters for assigning cause and effect to correlations obtained between personality and the presence of disease. Anxiety, depression and hypochondriacal tendencies may follow a disease as well as cause one, while the long range psychological response to illness does not seem to follow a predictable pattern. The need for prospective studies seems clear.

2.3.4 Protective Adaptive Response

Wolff (1953) is the author of another significant contribution to psychosomatic theory. He postulated that the body reacts to stress with what he calls a protective adaptive response. He dissociated himself from the 'emotion-acting-on-the-body' language. He pointed out that altered feeling, bodily adjustments and behaviour all occur at the same time, though in varying relative amounts, and are all

aspects of the individual's reaction to stress. Wolff and his colleagues, using sophisticated experimental designs, demonstrated how conflictual situations (expressed in modified psychoanalytic concepts), learned or conditioned responses (explained in Pavlovian terms), and environmental stress were interrelated in precipitating a response of an organ system. The organ system used was that which was most appropriate to the organism in fending off hostile environmental stress, whether an actual physical assault or symbolic of such threat. Their contribution to psychosomatic medicine was both one of method and of incorporating Pavlovian concepts. Wolff's disciples in time dispersed to a number of major teaching centres, each carrying on his own phase of psychosomatic investigation.

Grace and Graham and co-workers (Grace and Graham, 1952; Graham, Lundy and Benjamin, 1962) studied the attitudes of patients to symptoms, correlating these for many somatic processes. By attitude they meant a clear and unambiguous statement of what was happening to the patient, and what he wanted to do about it, at the time of the occurrence of the symptom. For instance, patients experiencing diarrhoea were found to be in life situations that they expressed as 'I want to get rid of it'. On the basis of the above they suggested that emotion be defined as an attitude together with the associated bodily change.

Hinkle and Wolf (1952) extended the new methods from the traditional psychosomatic diseases to the investigation of patients with diabetes mellitus. Noting that diabetes mellitus is a notoriously labile and unpredictable syndrome, they explored the relationship of life stress to fluctuations in the patient's symptoms and physiology as far as the diabetic condition was concerned. They concluded that it was not only

the conflictual situation, but also the way in which the individual coped with the situation that determined his physiological response.

2.3.5 Individual Specificity

Individual variation of autonomic reactivity in response to stress has been studied by Sontag and Wallace (1934) and by Bridger and Reiser (1959) among others. Sontag and Wallace measured changes in heart rate and other processes of fetuses in response to stimulation of the mother. They noted that differences existed between fetuses and between different *periods in the life of the individual fetus in response to different* stimuli. Bridger, Birn and Blank (1965) noted that neonates differed as to the level at which a stimulus starts to produce a response, the type of response produced, and the degree of response. They further demonstrated that a response pattern remained constant to the same stimulus on subsequent testing. These studies indicate that there is individual variation very early in life and tend to support Alexander's *concept of inherited organ vulnerability.*

2.3.6 The Illness-Onset Situation

Followers of Wolff, such as Holmes and Rahe (1967) turned their attention to the external environment of the individual and viewed the social situation preceding the onset of the illness. They collected data for different populations. They found that there was general agreement among populations as to what constituted a life stress and that there was an 80 per cent correlation of major life stress and the onset of the illness. They found a further correlation between the severity of the illness and the number of life crises. However, the Holmes

group has not offered an explanation as to how these crises interrelate with specific physiological mechanisms or to those processes that protect 20 per cent of those studied from succumbing to illness.

Lipowski (1973) has recently focused on what he feels is a relatively neglected aspect of the psychosomatic field, namely, its ecological dimension. This approach regards variables in man's environment, such as weather and pollution, as having a possible effect on his well-being. Hence the emphasis goes beyond the usual social field of investigation, namely the family. Lipowski (1973) put forward a theory in the format of a computer paradigm involving information input overload as a class of variables to link conceptually man's social environment with psychophysiological functioning.

2.3.7 General Systems Theory

Grinker and Robbins (1954) have investigated psychosomatic relationships for many years and on the basis of their experience they have put forward a multi-dimensional field theory approach. They suggested that no one conceptual approach is ever appropriate for the entire explanation of a particular process, but that specific aspects of a number of theories would help the physician understand what was going on with a particular individual at a particular time. Thus Grinker stressed fitting the theory to the patient, rather than fitting patient to theory. He also put forward the concept of 'dis-ease' so that the diagnosis of any disease would include elements of social, psychic and somatic factors (Grinker, 1956).

2.3.8 Object Loss, Affect State and Illness

Greene (1954, 1956, 1959), working with the Rochester group in the 1950's, shifted attention from personality and intrapsychic processes as single determinants relating to psychosomatic disease. He pioneered the development of what was happening in the object world of the individual in terms of interpersonal and other object relationships. Studying the field of reticuloendothial diseases, including lymphomas, leukemias and Hodgkin's disease, he demonstrated not only similarity in premorbid personality factors in patients with these diseases, but also that there had been object loss shortly before the onset of the illness. He observed patients over the course of their illness and was able to correlate the onset with a real, threatened or imminent loss; exacerbations with disruptions in crucial object relationships; accelerations at periods of major life change, such as the menopause and separations; and death with ultimate object loss.

Much research has been done by the Rochester group over the past twenty-five years (Adamson and Schmale, 1965; Engel and Reichsman, 1956; Schmale, 1958). It has been on the basis of their research that they have conceptualized a 'giving up-given up' state that they regard as a frequent and nonspecific condition for the onset and exacerbation of both psychiatric and somatic disease (Engel and Schmale, 1967; Engel, 1968). They suggest that the 'giving up' phase occurs when there is a failure of usual defences and coping devises of the individual in handling the stresses of life, with the resulting awareness of the loss of or inability to achieve gratification. This reaction includes not only feelings of helplessness and hopelessness but loss of self-esteem, a disinterest in relating to objects, a lack of motivation to change what seems to be unchangeable and a recall of similar feelings experienced

in the past. The 'given-up' phase marks the identification that all attempts to continue to struggle or to expect external sources for assistance have ceased. The giving up-given up reaction

> acts as a facilitating factor which permits disease to appear when it does. The reaction, however, has little or nothing to do with the choice of the disease that may ensue. The individual's specific somatic and psychic predispositions as well as the then current environment and its pathogens will influence the actual chance for disease to occur as well as the type of disease which may ensue (Schmale, Meyerowitz and Tinling,1970,p.11).

2.3.9 Adaptation

In the anticipation that more fruitful and pragmatic considerations for the treatment of illness may be forthcoming, many researchers have recently turned their attention to a study of individuals' adaptation to illness and disease (Romano,1949). Adaptational studies have cited behavioural and physiologic correlates of coping and have attempted to discern between those processes that were beneficial and those that were maladaptive for the protection of the organism. Schwab and his colleagues (1967) have identified 'somatopsychic' relationships occurring in patients with somatic disease and described four patterns or responses : (1) grief and depression, (2) anxiety and denial, (3) changed self-percept, and (4) disturbed interpersonal relations. Others have noted that the way in which an individual copes with a disease process of a potentially life-threatening procedure correlates and has predictive value as to the outcome of that procedure. They have studied patients with illnesses such as hemophilia or diabetes; patients undergoing cardiac surgery; those dying of cancer and patients with permanent physical impairment such as paraplegia.

When an individual becomes seriously ill there is a marked disruption in his usual homeostatic adjustment to his environment which extends beyond the individual to the domestic and social situation. The ill individual invariably experiences the shock of his own vulnerability and the possibility of death which results in a grieving process that includes disbelief, shock, intellectual acceptance, anger, guilt, repudiation, denial, withdrawal and various attempts directed at self-restitution(Engel, 1961; Lindemann, 1944). Catastrophic illness may precipitate a depressive reaction or a conservation-withdrawal state that seriously interferes with the patient's ability to fight his disease.

2.4 Summary

In summary, a survey of the literature in the field of psychosomatic medicine has shown that it is a field still without a unifying theory of cause or process. By certain definitions all illnesses are psychosomatic, by others hardly any. After the initial theorizing in the 1940's under the impetus of the psychoanalytic school, the field of psychosomatic medicine appeared to some to be so diffuse as to be meaningless, or to others to be so narrow as to be relatively worthless. As Lewis (1967) put it : ' psychosomatic ' reflects merely 'a rather muddled phase of specialized ignorance' (p.195). At the present time, there is a resurgence of interest in the field as new laboratory and interdisciplinary studies offer testable evidence that pertains to the original aim of the psychosomatic approach, namely,to reveal and modify operative changes between psychic and physiological events.

The term psychosomatic medicine has undergone theoretical shifts during the last three decades. After Cannon's (1920) initial observations of physiological changes accompanying specific emotions, Dunbar (1935)

emphasized the relation of specific diseases to personality. Alexander (1950) introduced the concept of illness-onset situations in terms of conflict specificity and organ vulnerability. Wolff (1953) elaborated sophisticated experimental designs to investigate the relation of environment, psychological stress and bodily reaction. Mason (1968) and others used new techniques of hormonal research to study final organ reaction to stress. Others are focusing on intracerebral processes by which endocrine function is triggered. Engel (1968) and the Rochester school emphasized illness-onset in terms of loss and the development of the 'giving up-given up' state with affects of displeasure, helplessness and hopelessness. Psychosomatic medicine has come to embrace all illness rather than Alexander's 'holy seven'. Psychomatic investigators have shifted attention from sole concern with intrapsychic events and disease to emphasis on the environments in which illness occurs. There has been a decreasing preoccupation with single factors, either psychological or physical, in the cause of disease and increasing attention to the multiple factors associated with illness. A linear model of causality has given way to a cyclical model in which illness is viewed as behaviour representing the final common pathway resulting from interrelated psychological, physiological and social factors for each individual. Thus, at present the term psychosomatic medicine applies not to a discrete set of diseases but rather to a scientific approach to illness which studies the interrelationships of the organic, the psychologic and the social.

On the basis of the preceding discussion, the following formulations may be made :

(a) Most illnesses have psychosocial aspects that influence their cause, precipitation, manifestation, course and outcome.

(b) Cause and effect relationships between psychic and somatic processes are of lesser significance than establishing the interrelatedness of psychological, social and organic processes and their effect on one another in the ill patient.

(c) There is no fundamental difference between mental and physical illness, but all illnesses have psychological and somatic components.

(d) There is no special treatment of psychosomatic diseases as opposed to any other diseases, but in the treatment of all illness there are therapeutic procedures that are required for the psyche as well as for the body.

(e) The approach to the individual suffering from a specific illness is specific, depending on the idiosyncracy of the patient's life situation, which includes, in addition to attending to the disease process, attending to the psychological and social correlates.

3. REVIEW OF THE LITERATURE ON ASTHMA

The rationale which forms the basis of this investigation is that asthma being a psychosomatic disorder is not only determined *organically but by psychological* and social factors as well. The writer accepts Paley and Luparello's (1973) definition of asthma : 'Asthma is defined as intermittent, reversible obstructive airway *disease often manifested by intermittent* wheezing. It is not necessarily mediated by allergy ' (p.54).

3.1 Asthmatic Subgroups

Workers in the field have for some time been interested in the possibility that psychological differences exist in the asthmatic *population. Numerous* authors have put forward different classifications of asthma with the earlier researchers seeing a clear division between psychological and physiological groups,and the later investigators *seeing subgroups varying* in the degree of importance of psychological and physiological factors.

There were a few early investigations, most of which lacked careful definition of samples, did not use objective methods, and drew overly broad generalizations from their findings. Rachemann (1931) divided asthma into extrinsic and intrinsic groups. Extrinsic asthma is caused by extrinsic factors such as allergens, whereas intrinsic asthma is caused by intrinsic factors like infection and emotions. Helman (1956) specified three types of asthma, namely asthma caused by infection, by allergies and through emotion. According to Helman, it is important for treatment to know under which group the patient falls.

Mitchell, Curran and Myers (1947) differentiated 100 patients with hayfever or perennial extrinsic asthma and positive skin tests from 147 patients with perennial vasomotor rhinitis, intrinsic asthma or chronic urticaria. The latter group frequently had negative skin tests and did not respond to treatment. They were older and more often female with many physical complaints and adjustment difficulties. Rees (1956a, 1956b) tried to assess the relative dominance of allergic, infective and emotional factors in asthma from interviews and case histories. Fifty to sixty per cent of asthmatics were rated as having emotional factors in the etiology usually along with allergic or infective factors. This proportion increased in patients over sixty years old.

Notable improvements in methodology are seen in the more recent group of studies. Block and her colleagues separated two groups of asthmatic children on the basis of their immunological pathology or allergic potential as measured by various biological tests (Block, Harvey, Jennings and Simpson, 1964; Block, 1968). They devised an index to measure sensitivity to allergens, called the Allergic Potential Scale (APS), which combined various factors such as reactions to skin tests, allergy in the family history and blood counts. Asthmatic children were contrasted on psychological testing, interviews and behaviour ratings. Interactions of parents with children and with each other were observed and parents evaluated their children. Children with low scores on the APS manifested more psychopathology than high scorers, and parents more often described them as inadequate and anxious. Mothers of low scorers were less secure and less well integrated; interactions with their child n were more negative, and with their spouses they were demanding and dependent.

Thus, asthmatic children with low allergic potential and their parents scored more frequently in psychopathological directions than did children in whom the allergic factor was high.

At the Children's Asthma Research Institute and Hospital (CARIH) in Denver there are usually 150 children in hospital with chronic and intractable asthma who stay between eighteen and twenty-four months. It has been noted by Purcell and his colleagues that these children had different responses in terms of reduction in asthmatic symptoms following separation from their homes and admission to the institute (Purcell, Bernstein and Bukantz, 1961; Purcell and Metz, 1962; Purcell, Turnbull and Bernstein, 1962; Purcell, 1963; Purcell, 1965). More than one-third of the children quite promptly experienced symptom remission and required virtually no medication for their entire period of residence. These children are called 'rapid remitters'. At the other extreme and comprising something under one-quarter of the population is a group labelled 'steroid dependent', consisting of those children who require continuous maintenance doses of the corticosteroid drugs for adequate control although most of these children also are somewhat better than at home. A third group, labelled 'intermediate', consists of those children who experience substantial relief but continue to have relatively mild asthma that is responsive to therapy without the use of corticosteroid drugs. Certain psychological differences have been found between these groups, particularly between rapidly remitting and steroid dependent groups. For example, in response to a structured interview technique, rapidly remitting children reported significantly more often than did steroid dependent children that emotions such as anger, anxiety and depression triggered an attack of asthma (Purcell, 1963). Furthermore, the

results of a questionnaire to assess child rearing attitudes, the Parent Attitude Research Inventory, have indicated that both mothers and fathers of rapidly remitting children showed authoritarian and punitive attitudes to a greater degree than the parents of steroid dependent children (Purcell et al., 1961; Purcell and Metz, 1962). It is felt that among rapidly remitting children, asthma more often functions as a response to cope with neurotic conflict and anxiety. The asthma of steroid dependent children, on the other hand, is viewed as a response that is more regularly linked to the influences of allergic and infectious factors.

Thus, it has been shown that the asthmatic population is heterogeneous, physiologically and psychologically. In general, those asthmatics who clearly demonstrate an allergic constitution have been shown to have less psychopathology than those who show little or no allergic constitution. However, it should be noted that there is ambiguous evidence in the literature concerning this issue. For example, Dekker, Barendregt and de Vries (1961) failed to find differences in neuroticism between a group of adult female asthmatics who shared 'manifest allergy' and those who showed 'no manifest allergy' based on skin reactivity and inhalation tests. Similarly, Purcell, Turnbull and Bernstein (1962), by using a large battery of tests, found no difference in overall psychopathology between a group of rapidly remitting and steroid dependent children. Pinkerton (1967) was able to show that emotional factors operate throughout the whole range of physiological severity in childhood asthma with a definite tendency for the more negative or rejective attitudes to be correlated with the severe end of the physiological spectrum, where the steroid dependent cases are located.

Observing that psychological variables may vary among subgroups of asthmatics, it has been suggested that this may account for the apparent contradictions in the literature and that it may be more fruitful to deal with a heterogeneous sample, with subgroups differing in physiological and psychological factors, so as not to obscure relationships that may exist only for a portion of the population (Block et al., 1964; Freeman, Feingold, Schlesinger and Gorman, 1964; Harrington, 1968; Purcell, 1965; Resh, 1970).

3.2 Etiology of Asthma

From the previous discussion it is evident that there are cases where the causes of asthma are mainly of a physical nature and other cases where the causes are mainly of a psychological nature. These are, however, only the extreme poles and in most cases the causes would probably be found between the two extremes and have elements of both.

The following factors are thought to have etiological significance for asthma :

1. Heredity
2. Allergy
3. Infection
4. Climate
5. Social Factors
   - (a) Race
   - (b) Social Class
   - (c) Density Incidence
   - (d) Family Size
   - (e) Birth Order
   - (f) Sex
   - (g) Age
   - (h) Intelligence

6. Conditioning

7. Personality

These etiological factors will be reviewed with special emphasis on personality factors.

3.2.1 Hereditary Factors

The incidence of asthma in families of asthmatic patients appears to be relatively high when compared with a similar group of non-asthmatic patients. A family history of allergy has been reported by several researchers, including Boland, 1963; Criep, 1962; Hill, 1966; Ratner and Silberman, 1953; and Wesley, Clyde and Wallace, 1969.

According to Boland (1963) hereditary factors are found in 60 per cent of all asthmatic patients. A study in Durban on asthma in three racial groups found a family history of allergy in 72 per cent of the Indian children, 66 per cent of the Bantu children and 69 per cent of the White children (Wesley et al., 1969). However, Hill's (1966) study on the occurrence of asthma in the parents of asthmatic children in the United States of America found a much lower incidence of heriditary factors. He found that 73 per cent of the patients' parents did not have asthma at all, while in only 27 per cent of the cases one or both parents had asthma. In only 1,4 per cent of his cases both the parents had asthma.

Although nearly all researchers indicate heredity as a causative factor in asthma, it is clear that the findings of investigations into the incidence of hereditary factors vary greatly. In the few studies mentioned above the occurrence varies from 27 per cent to 72 per cent. Thus, it is possible to find substantial numbers of asthmatics with

essentially negative family histories. After reviewing their own experience, Ratner and Silverman (1953) commented :

> It seems to us that what may be inherited is not the capacity to become sensitized (immunologically), but a respiratory tract which may react with the production of asthma or rhinitis due to a multiplicity of stimuli, one of which may be the antigen-antibody mechanism (p.375).

This hypothesis of organ vulnerability seems to be a current trend in psychosomatic medicine.

3.2.2 Allergic Factors

Several workers in the field have noted allergic conditions in asthmatics and have referred to numerous allergens responsible for the occurrence of an asthmatic attack. It is felt that in the allergic asthmatic patient the immunological mechanism of his body has broken down. The allergens, for example some proteins, are taken in by breathing or by the digestive system and cause the allergic reaction. According to Boland (1963), it is not clear as to precisely what happens to the allergens in the body to produce the allergic reaction. However, he noted the following explanation :

> ... one theory is that they act by producing antibodies in allergic subjects, and that the combination of allergens with fixed antibodies in the tissues produces the allergic response, possibly by the release of histamine or some allied substance. The nature of the response depends on the site of the allergen-antibody reaction and in the bronchi consists of oedema of and hypersecretion by the mucous membranes. The afferent pathways may be from the nose or from the bronchi themselves or possibly from the stomach or other organs, and the action is by vagal stimulation with consequent hypersecretion and constriction of the smooth muscle of the bronchi (p.475).

De V. Heese (1961) found in 70 per cent of his sixty-eight patients an allergic history and decided that allergy is possibly the most important single cause of asthma in children. In contrast, Rees (1956a) found evidence for only 20 per cent allergic factors as causative of asthma. Various allergies are seen as the forerunners of asthma and it has been noted, that in 30 to 60 per cent of asthmatic children eczema and allergic rhinitis usually precede asthma (Dees and Durham, 1957). Researchers such as Ratner and his colleagues (1951), Glaser (1956) and Clein (1945) found that eczema in children developed eventually into asthma in 59 per cent, 53 per cent and 33 per cent of the cases, respectively.

Although allergies play an important role in the etiology of asthma, findings however indicate that this is not true for all asthmatics. Dunbar (1954) cited several researchers who found that people who were not allergic still developed asthma and those who were allergic did not develop asthma. Thus, although most asthmatics are allergic to some extent, some are not. Furthermore, not all people who are allergic develop asthma.

3.2.3 Infective Factors

Infection, by damaging the air passages, can make a person more susceptible to asthma and can also be a direct cause of the asthmatic syndrome. The findings of De V. Heese (1961) indicated that colds or infection, followed by allergic factors, are one of the most important causes of asthma. According to Mirvish (1942) there is no family history of allergy in patients where the asthma is caused by infection, also called asthmatic bronchitis. The attacks start at the age of four or five, usually after whooping cough, pneumonia or measles. Attacks usually last longer and occur more often in winter because these

patients are extremely sensitive to colds, and respiratory infections are more prevalent. Mirvish estimated that 60 per cent of all asthmatics suffer from asthmatic bronchitis. He felt that medical treatment was more successful in these cases.

3.2.4 Climatic Factors

It is fairly well accepted that asthma can be influenced by climatic factors. In South Africa, a higher incidence of asthma has been noted along the coastal areas from Cape Town to Lourenco Marques (Ordman, 1955, 1956, 1958a, 1958b). Ordman felt that at sea level high temperature and high humidity play an important part in asthma. According to him, asthmatic patients would be cured if they moved inland to higher areas with a warm, dry climate. In support of his findings, Ordman (1956) cited several overseas researchers who referred to the geographic occurrence of asthma, and the higher incidence at the coast and other low-lying areas with a warm, humid climate. He discussed the work of Maunsell (1951) and Marsch (1951) who found that house dust from coastal areas contains more dust allergens. They ascribed it to the warm, humid climate, which is favourable to bacterial growth of micro-organisms such as mildew, fungus and agaric in house dust. Marais (1972) noted that an important discovery by biologist Spieksma (1966), of a previously unknown organism which exists in house dust, placed the climatic theory more in the foreground. Investigations of house dust from various parts of the world revealed that these organisms are found only in warm, humid environments.

3.2.5 Social Factors

Social factors shall be discussed briefly under the following headings : race, social class, density incidence, family size, birth order, sex, age, intelligence.

(a) Race

The incidence of asthma has been reported to be higher in civilized races than in more primitive races (Boland, 1963; Freeman and Johnson, 1969; Wesley et al., 1969).

(b) Social Class

There is a distinct tendency for a higher incidence of asthma in the upper socio-economic levels andprofessional groups (Boland, 1963; Freeman and Johnson, 1969; Marais, 1972).

Boland (1963) noted that :

> The condition is rather more common in the relatively well-to-do, and is seen more in the sedentary than manual workers, even after allowing for the exposure of the latter group in particularly dusty trades, such as flour-milling, cloth-working, rag and feather sorting, fur-dressing and hairdressing (pp.477-478).

It is interesting to note that Wesley et al. (1969) found that all the Bantu asthmatic children in the study came from relatively prominent Bantu families.

(c) Density Incidence

Research in England and America placed the density incidence at 0,59 per cent (Boland, 1963). However, Hill (1966) found a 2,8 per cent incidence of asthma in 70,812 primary school students in Houston public schools. This finding corresponds with the figures of the Talent Survey results in South Africa. It was found in 1965 that 1,942 or 2,8 per cent of 69,908 Standard Six students were asthmatic (Marais, 1972; Roos, 1970).

(d) Family Size

There is a higher incidence of asthma in the smaller family as compared with the larger family (Boland, 1963; Marais, 1972).

(e) Birth Order

It has been noted that in most cases the asthmatic is the eldest child in the family (Burton, 1968; Hill, 1966; McDermott and Cobb, 1939). Hill (1966), for example, found in his study that 65 per cent of the asthmatics were the eldest, 21 per cent were the only child and 44 per cent were the youngest.

(f) Sex

It is a well documented fact that the ratio of boy asthmatics to girl asthmatics is equal to or greater than two to one (Boland, 1963; Burton, 1968; Marais, 1972; Purcell, 1965; Rees, 1956a). Moreover, a history of allergy is frequently noted in girl asthmatics, but not in boys (Rees, 1956a).

(g) Age

The onset of asthma is usually in childhood and the attacks may continue throughout the person's life. Asthma is less common after the age of fifty (Boland, 1963).

(h) Intelligence

Asthmatic children have been found to have above average intelligence (Boland, 1963; Marais, 1972; Speer, 1963).

3.2.6 Conditioning

The phenomenon of conditioned asthma appears to have been accepted as an accomplished fact. In 1941 French and Alexander felt that the available evidence permitted them to make the following statement : 'There seems to be ample evidence, therefore, for the fact that asthma attacks may be precipitated by a conditioned reflex mechanism and either precipitated or inhibited by suggestion...' (p.18). The famous example of MacKenzie in 1886 of a woman who was supposedly allergic to roses and who developed asthma when an artificial rose was held before her has been cited many times in the literature (Purcell, 1965). The 'hoarse, labored breathing' of Nick, the dog, who was made neurotic by Gantt (1944), has also been frequently cited in support of the psychogenic production of asthma.

However, it is questionable whether 'conditioned' asthma has been demonstrated under controlled conditions in either humans or animals. For example, references have often been made to the results of Liddell (1951), who produced experimental neuroses in sheep, as well as to the results of Gantt (1944). In both, impressive evidence is presented of altered respiration accompanying the neurotic behaviour in the dog and the sheep. A number of writers have pointed to these data as evidence that asthma can be produced experimentally by psychological manipulation. However, examination of the monograph by Gantt discloses a clear statement that Nick was examined for asthma and that there was no evidence of the sounds of asthma despite the fact that respiration was clearly affected. Liddell, on the other hand, did not report any clinical examination for asthma. Another of the early and widely cited reports is the one of Ottenberg, Stein, Lewis and Hamilton (1958) who appeared to show successful classical conditioning of asthma in the guinea pig. The

criterion for conditioned asthma was an observer's visual judgement about the animal's heavy, laboured respiration and use of accessory muscles. Attempts to replicate these observations with the use of objective recordings of the respiratory pattern have not been successful. Stein (1962) noted that all that was definitely established in the original study was that a marked respiratory disturbance occurred, perhaps associated with anxiety. Airway obstruction with the prolonged expiration characteristic of asthma was not demonstrated.

Herxheimer (1951) studied the response of human asthmatic subjects to inhalational challenge tests, that is, by having subjects breathe a substance to which they were sensitive. Part of Herxheimer's procedure was to have the subject blow hard into a spirometer, prior to being exposed to the challenging substance. He noted that in some subjects asthma appeared to develop after the subject had blown hard a few times, but before they were exposed to the antigen. A number of psychologically orientated investigators have referred to this as evidence of conditioning. It is a fact, however, that all that is necessary to trigger asthma in some asthmatics is to have them blow hard several times. This respiratory stimulation is often accompanied by coughing and/or wheezing.

In the late 1950's, Dekker, Pelser and Groen (1957) published an article that reported the successful classical conditioning of asthma in two subjects. These were two patients out of approximately 100 in whom conditioning was attempted. In a communication to Purcell dated October 1961, Dekker reported that he was unable to replicate these results. Purcell (1965, p.2105) quoted from this letter as an illustration of how a researcher's expectations may influence his findings :

> If you are trying to condition your patients to have attacks of asthma, I would not be surprised if it takes some doing. We obtained positive proof that it is not possible to condition an asthmatic to any given stimulus within a reasonable time. I did a series of studies combining histamine-induced attacks with a sound from a buzzer. This was repeated 16 to 24 times on different patients. At the end of this period the histamine aerosol was exchanged for saline without the patient being aware of the fact. When the buzzer sound was produced, there was no attack - much to the surprise of the patients (and the observer !).

Knapp (1963) conducted a careful and elaborate series of experiments on conditioned asthma in human beings. He summarized his impressions as follows :

> Our negative results would lead me at this moment to feel confident that conditioning, conceived in the most simple, mechanical model, cannot account for attacks of asthma in the human, but that 'learning', particularly with the right kind of emotional concomitants,may well be important in certain individuals (p.5).

In summary, it appears accurate to state that with either animals or humans, the successful conditioning of asthma remains to be demonstrated, even in the opinion of those investigators whose original positive reports on conditioning are cited frequently. The writer agrees with Maurer's (1965) conclusions concerning the studies in the field : 'On the whole, the most one could say about these experiments is that the findings provide an argument in favor of the possibility that asthma could, in some instances, be a learned response ' (p.56).

3.2.7 Personality Factors

Asthma was long regarded as being chiefly related to personality factors. Maurer (1965) noted that Hippocrates, over 2000 years ago, remarked that the asthmatic must 'guard against his own anger' if he is

to master his condition. Salter (1860), as cited by Maurer, expressed the prevailing view that 'its cause lies within the nervous system' and quoted clinical illustrations of the impact of emotional events upon the daily patterns of asthma. However, rapid development of knowledge about allergic mechanisms early this century, led to an eclipse of interest in the psychodynamics of asthma. British investigators, *especially Rogerson, Hardcastle and Duguid (1935), became* largely responsible for the rediscovery of the importance of emotions in asthma. Since the pioneer study of Rogerson and his colleagues forty years ago, numerous attempts have been made to explain the part played by personality factors in childhood asthma. Initially, the field was dominated by clinical assessments but later empirical work was undertaken in order to verify these earlier observations.

3.2.7.1 Clinical Description

To clinical observers, the child asthmatic has long appeared to be caught in a neurotic conflict. His illness is interpreted as the masochistic symbol of his struggle for independence from over-possessive parents, waged in the perpetual fear of loss of his mother's love. His personality seems therefore to differ little from that of any other neurotic *child in conflict.* He is described as overanxious and fearful (Bostock, 1956; McDermott and Cobb, 1939; Rogerson et al., 1935); aggressive (Alcock, 1963; Bacon, Backett and Johnson, 1956; Dunbar, 1938); yet unable to express his aggression openly and therefore frustrated (Bostock, 1956); guilty (Knapp and Nemetz, 1957a); over-dependent (French and Alexander, 1941; Rogerson et al., 1935; Sperling, 1949) and deeply and pervasively depressed (Alcock, 1963; Knapp and Nemetz, 1957a).

The degree of importance attributed to these characteristics seems to depend on the theoretical standpoint of the individual clinician,

Rogerson et al. (1935) whose evaluation was based on the inverviewing of twenty-three asthmatic children and their mothers, stressed the importance of the faulty mother-child relationship. They suggested that the child was expressing physically the problem of an unresolved dependency, produced or aggravated by an awareness of the mother's rejection. They believed that the fear of separation accounted for the extreme dependency and over-anxiety that they observed in these children. They noted the great anxiety that these children showed when alone in the room with the examiner, the younger ones frequently refusing to separate from their mothers. In a play group these children made repeated excursions from the room to reassure themselves that their mothers were just outside the door. They appeared quieter and more repressed than the majority of other children, and preferred to say nothing in answer to a question, rather than risk making a mistake.

Further features of the anxious personality, such as excessive cleanliness, punctuality and meticulousness, were noted by McDermott and Cobb (1939) in the twenty-nine asthmatic children whom they examined psychiatrically. Bostock (1956) suggested that the apparent over-anxiety could result from a mixture fear and frustration in the face of dominating over-possessive parents. That parental over-possessiveness produced and fostered dependency was noted by Rogerson et al. (1935) who observed a lack of maturity and self-confidence in their cases. Sperling (1949) attributed the dependency solely to an acting out of maternal wishes and noted :

> The mother ... had an unconscious need to keep the child in a helpless and dependent state to a degree which encountered only in the mothers of psychotic children. Mother and child represented a psychological unit in which the child reacted to the unconscious need of the mother with corresponding obedience; it was as though the child were given a *command to get sick, which meant in* reality, to stay dependent and helpless (p.377).

Alexander (1950) believed that the principal psychodynamic factor underlying asthma was a 'conflict centering on an excessive unresolved *dependency upon the mother*'. *The wish here was* 'to be protected' and 'everything which threatens to separate the patient from the protective mother or her substitute is apt to precipitate an asthmatic attack' (p.134). Alexander noted a history of maternal rejection in the lives of asthmatics and indicated that the child reacted to such rejection with increased anxiety and more dependency.

That dependency might mask or alternate with hostility was first noted by Dunbar (1938). She remarked on the intense aggressiveness of asthmatic patients, and on their tendency to act out aggressive impulses. *Three reasons have been put forward to account for the* prominence of aggression in the asthmatic personality. In the first case, aggression is associated with excretory fantasies. Bacon et al. (1956), basing their conclusions on the analyses of only six asthmatic patients, commented :

> Each attack of asthma was preceded by excretory defiance directed against one or other parent or parent imago, when the patient was unsuccessfully but aggressively *fighting parental domination*. By "excretory defiance" is meant anal, urethral, or sexual excretory impulses hostile to the parent (p.310).

Similarly, Bostock (1956) attributed the aggression to a reaction against parental correction. He postulated that maternal rejection leads to insecurity in the child, which leads to frustration, fear, irritability and hostility. This produced, in its turn, correction with or without punishment on the part of the mother. 'Correction and punishment engenders more aggression and *still more aggression*' *(p.56)*.

A further explanation is suggested by French and Alexander (1941) who viewed the aggressiveness as a defensive rather than a reactive mechanism. The child may actively provoke the parent by his aggressive behaviour, in an effort to see to what extent he is secure. If, despite his aggressive behaviour, he is accepted and tolerated by the parent then he feels that he is in no danger of rejection.

A final possible interpretation of the aggressive behaviour is emphasized by Coolidge (1956) and Alcock (1963). Believing that the illness itself is essentially aggressive, they see it as a means of controlling and punishing the guilty parent. Brown and Goiten (1943) and Knapp and Nemetz (1957b) recognized that the attack might also represent a masochistic attack on the self, this need for punishment being produced by guilt which the child experiences in his conflicts against domination. Knapp and Nemetz introduced, in their study of forty adult asthmatics, many of whom had developed their asthma in childhood, the concept of asthmatic depression. Noting that this pervasive depression is at variance with the child's ostensibly cheerful acceptance of his disability, Alcock (1963) suggested that it may be associated with a conflict at the pre-genital level.

Many clinicians feel that in order to understand the child asthmatic one must first understand his mother. It is suggested that it is her neurosis that primarily produces and perpetuates his illness. She is described as being unable to accept the role of motherhood, simultaneously rejecting and, in compensation, over-possessing her child. He in turn, both resents and fears the rejection, and oscillates between the attempt to escape her domination and to placate and be subservient to her so as not to lose her love.

Hostility, marked by over-solicitousness, was first noted in mothers of asthmatic children by Rogerson *et al.* (1935). Noting an almost pathological over-protection on the part of seventeen of the twenty-three mothers they observed, they attributed this not to solicitousness in the face of illness, but to an attempt to overcome guilt feelings aroused by their own deep hostility to the children. It was the child's perception of this hostility, masked as it was by over-protection, that in their view accounted for his fear of separation from his mother. Bostock (1956) detecting complete rejection on the part of twenty-two and partial rejection on the part of eight of the thirty-eight mothers of asthmatic children he observed, extended the argument :

> ... *the mother's rejection and guilt lies in the* unconscious. Guilt exists because reproduction is a basic urge, and its rejection is negation of a life force. The mothers, ignorant of the process, often exhibit patient and kindly self-control in the face of difficulties.
>
> However, in spite of skill in dealing with their problems, the conduct does not deceive the child who picks up double entendres, hidden sarcasms, and slips of tongue. More important, it senses *a lack of emotional warmth which* is impossible to disguise (p.562).

The psychoanalytic explanation for maternal rejection is best summarized by Benedek (1949) She suggested that where a mother was unable to identify satisfactorily with her own mother, that is, to love and be loved by her thus taking on something of the mother's personality, she is unable to mother her own child adequately. The child's needs remind her of her own unsatisfied needs,and her rejection of her infant *is exactly similar to that of her own mother's rejection of her.*

Jessner and his colleagues (1956) and Coolidge (1956) have all noted conflicts on the part of the mothers of asthmatic children in relation to their own mothers. Jessner et al. (1956) noted the way *in which the child becomes a symbolic self-representation* for these mothers and that through the child they act out their own still active conflicts between dependence and independence.:

> They hold on to him and push him away at the same time. The child responds in kind. He feels the wish for closeness and protection, and at the same time the drive towards independence and growth ... He feels enveloped and choked by his mother's *need* to keep him close (p.374).

Jessner et al. (1956), in direct contrast to Benedek (1956) and Bostock (1956) stressed the opportunity that pregnancy affords these immature mothers for this complete identification. Consequently, they stressed the mother's complete enjoyment of pregnancy, and noted her frequent difficulty in parting with her child in labour. Coolidge (1956) in discussing three cases of asthmatic mothers of asthmatic children also emphasized this suggestion. *During the pregnancies of the asthmatic* women he studied, he noted that in each case :

> *There was a powerful feeling of possessiveness* toward her unborn baby for whom she could breathe, and whom she could nourish, protect and develop, without her mother's intervention. Simultaneously she identified passively with the fetus. Feeling fused with it, her own regressive longing could be fulfilled. For the first time in her life the mother felt satisfied ... She was both mother and child (pp.173-174)

To maintain this complete identification so vital to the mother's own emotional health, the child of this asthmatic mother had to develop asthma. Only then could the mother feel : 'We are the same and therefore *magically unseparated' (p.174). She focused on the child's respiratory*

tract and hovered with anxious concern over maladies in this area.

> Early in life the child fell into resonance with the mother's needs and also developed a special need for a clinging possessiveness towards her. *It learned that intense feelings of sameness could* be realized via disturbances in respiration. The respiratory function for the child became libidinized and a source of fear and concern (p.174).

Coolidge noted that the mothers seemed to have less asthma themselves because of the vicarious use of the children's symbols as their own. Upon improvement of one child's asthma he noticed that the mother became depressed, developed more asthma herself, and said that she was thinking *of having another baby to 'cure' her of asthma.*

Too close an identification might stunt the child's subsequent personality growth. Sever writers agree in attributing to the child *some awareness of this danger* (Coolidge, 1956; Deutsch, 1953; French and Alexander, 1941; Monsour, 1960). A necessary concomitant of ego integration is the achievement of personal independence. That any step towards this independence might precipitate fear was recognized as early as 1941 by French and Alexander. They suggested that the child when he wanted personal freedom feared maternal opposition. He therefore felt that he had to placate his mother for his guilty wishes. By being ill, by confiding his wishes directly to his mother and seeking her forgiveness, or by provoking her anger and then seeking reparation, he continually assured himself that despite his supposed guilt, his mother still cared. When, however, such wishes persisted and the necessary absolution was not obtained, an asthmatic attack occurred. Thus, the asthmatic attack was seen as the most extreme method of protecting the individual from his own guilty desires.

It has been recognized that the symbiotic relationship established between the mother and the asthmatic child is specific to them and does not spread to other members of the family (Coolidge, 1956; Sperling, 1949). Moreover, it has been noted that asthmatics are frequently the oldest children. McDermott and Cobb (1939) noted that nineteen of the thirty-nine children they examined psychiatrically were the eldest or only children. It can be argued that having established this symbiotic relationship with one child, the mother achieves sufficient freedom from her own emotional conflicts to allow her remaining children to develop satisfactorily.

An awareness exists in the clinical literature of the non-specific nature of the neurotic conflict underlying asthma. Asthmatics frequently show evidence of other psychosomatic symptoms (Ibor, 1956; Jessner et al., 1956). Arising from the clinical formulation of the asthmatic conflict, as a conflict between the child's need for closeness and desire for separation, two explanations for the symbolism of the illness have been advanced. The first, derived from the hypothesized fear of asthmatics of losing the mother, seeks to explain the asthmatic attack as a primitive cry for maternal help. Bostock (1956) felt that the asthmatic attack closely resembled a crying pattern found in infants of under three months. He noted that some asthmatics show considerable difficulty in shedding tears. Numerous authors have given descriptions of the asthmatic's inability to cry, including French and Alexander (1941) and Knapp and Nemetz (1957b). In addition to representing a cry for help, the asthma may also symbolize this. As Bostock (1956) noted, breath-holding may occur in certain individuals during attacks. This he suggested results from an attempt to arrest the crying pattern, lest the feared mother hears and further encroaches on the individual's independence. Breath-holding

is then a symbol of the inhibition of intense emotion. That this explanation concurs with those of all allergists seeking a more physiological explanation for asthma should be noted. While most clinicians would postulate that the specific conflict underlying the intense emotion producing the attack, was a mother-separation conflict, Purcell (1965) pointed out that any intense emotion might well produce the same effect.

Rees (1956a) postulated that the asthmatic attack represents an attempt on the part of the individual to shut out noxious stimuli, either real or symbolic. Ibor (1956) suggested that it is the asthmatic's perception of the world as threatening that results in attacks. Consequently, the asthmatic patient is thought, through asthma, to be vainly trying to exclude the threatening world from entering his body. Bacon et al.(1956) after analyzing six asthmatic patients, advanced the thesis that :

> Just as the allergic asthmatic attack is a response to physiological irritation of the respiratory tract - neurotically determined asthma is a response to unconscious fears of assault upon the respiratory apparatus, and the physiological changes that accompany it are attempts to ward off that assault (p.310).

Alexander (1950) believed that either the dependency conflict or specific allergens could produce asthmatic symptoms. He was also of the opinion that the dependency conflict might correlate with allergic vulnerability. He thus stated : 'It is possible that the sensitivity to the "separation" trauma and to allergens frequently appear together in the same person and are parallel manifestations of the same basic constitutional factor ' (p.141).

In summary, the clinical literature on the personality structure of the asthmatic child has suggested that basically he is a neurotic child, with

the fear of loss of, or separation from his mother at the root of his neurosis. He has been consistently described as over-anxious, fearful, dependent, aggressive, frustrated, guilty and depressed. His personality reflects his need to cling to a rejecting and over-possessive mother, and the fear that this dependency will overwhelm him. His feeble struggles for self-assertion increase this guilt and depression, and do nothing to relieve the aggression, occasioned by this awareness of rejection. His illness both symbolizes and permits discharge of the emotional tension which he experiences.

3.2.7.2 Studies Relating to the Specificity Approach

The first empirical study of personality characteristics of asthmatic children was contained in a more general study of hostility in allergic children. It was published by Miller and Baruch in 1950, and the conclusions were based on interviews with parents, and play and interview sessions with children. The experimental group consisted of ninety allergic children, fifty-five of whom had asthma. Fifty-three children referred 'from various sources for diverse problems' formed the control group. There was no matching for personal characteristics such as age, sex or intelligence. Six different methods of expressing hostility in behaviour were described and the children were rated on the extent to which they showed any or all of the different types. Allergic children showed significantly less outward-going hostility than control children even in indirect and displaced forms. Instead they displayed significantly more hostility against themselves and exhibited a greater amount of blocking, that is, bringing out hostility only with hesitance or withholding it. The authors concluded that the asthmatic child is guilty and anxious about his hostile feelings and is frequently in conflict about expressing them. He seeks to punish himself for them and does so through

his allergic condition. However, the authors did not attempt to explain this supposed relationship between allergic manifestations and guilty hostile feelings. Nor did they try to relate either of these to the rejection which they found to be present in eighty-nine of the ninety mothers of allergic children they studied. In this respect the study, whilst interesting, is thought to be inadequate.

In later papers, Miller and Baruch (1950b, 1957) reported similar findings with larger samples; disturbances in the mother's psychosexual development were suggested and they believed that rejection antedated allergic symptoms. In a child with an allergic predisposition, symptoms were seen as expressing both anger and attempts to regain closeness through illness. The biggest single difficulty in their work is lack of explicitness about how they arrived at their findings. They did not describe their criteria for ratings of maternal rejection or hostility expression. It is difficult to know whether other workers would make similar interpretations from the data because firstly, the bases for judgements were not specified, secondly, there were no safeguards to ensure that gathering of information and performance ratings were done independently and without awareness of the subject's group membership. Using a control group of children with a variety of behaviour deviations does not solve these problems.

In the same year that Miller and Baruch published their work on hostility, Harris, Rapoport, Rynerson and Samter (1950) published the findings of an observational study on asthmatic children. They compared twenty-two asthmatic children with seventeen children suffering from allergic rhinitis and fifty-six children who had been referred because

of acting-out problems. There was no attempt to match groups on characteristics and consequently, as in the work of Miller and Baruch, the results of this study must be regarded as extremely tentative. The children were contrasted on the Rorschach, the Thematic Apperception Test (TAT) and Stanford-Binet test, were rated by their teachers and their mothers were interviewed. The findings of the psychological tests were not reported and no details were given of rating schedules. The results suggested that the asthmatic children were somewhat fearful in their attitude towards female authority, never displaying aggression towards their teachers. Two thirds of them had difficulty in crying and these children were also thought to have some further difficulty in confiding in the mother. The authors attributed the difficulty in crying and confiding in the mother to the mother's personality problem. Children who were inhibited were thought to have mothers who were intolerant of unusual behaviour and reacted angrily against provocation. Non-inhibited children had mothers who were more tolerant of behavioural deviations, and suppressed their infrequently felt anger.

The authors suggested that mothers of asthmatic children identify with their children less than mothers whose children had allergic rhinitis, and felt that this might be due to rejection on their part. However, they did not investigate the relationship between rejection and lack of identification. Their observations further suggested that mothers of asthmatic children handled sexual information and education rather unsatisfactorily, and that their husbands tended to be more passive and easy-going than those of the children referred for acting-out problems. Whilst the authors are clearly in no position to make definite conclusions as to the personality differences between asthmatic and non-asthmatic

children, their observations are clearly suggestive of possible areas of conflict.

Little and Cohen (1951) published the results of an experiment into differences in the level of aspiration behaviour of asthmatic and non-asthmatic children, and of their mothers' aspirations for them. Using a simple dart-shooting task, a group of thirty asthmatic children were compared with a control group of thirty children carefully matched for age, intelligence, school placement and socio-economic status. The mothers of each were asked to predict, without their child's knowledge, the score they expected their child to earn on each of a series of twenty trials. Each child was asked to estimate his score on these trials. The results suggested that both asthmatic children and their mothers set significantly higher goals than control children and their mothers. Noting that Sears (1940) found consistently low positive goals in her secure children, the authors suggested that the non-asthmatic children feel more secure than the asthmatic children and therefore have less occasion to over-defend themselves in high goal setting.

Little and Cohen noted that the asthmatic child's mother not only set a goal higher than his achievement level, but failed to modify it in the second half of the test, as compared with the control mothers whose goals were nearer to the level of the child's actual performance, and who lowered the goals in the second half. The authors drew from this the following conclusion : 'The mother, rejecting her child either because he is ill or for some other reason, deals with her guilt about such feelings by overprotecting her child' (p.386). In the circumstances, this conclusion would appear unwarranted. No evidence was produced to

substantiate the idea that overprotection produces high goal-setting behaviour. Moreover, no proof as to the existence of over-protection or rejection in these mothers was put forward. A further possible explanation for the observed *differences in goal-setting behaviour of* asthmatic and non-asthmatic children is that asthmatic children are frequently first children. No attempt was made by Little and Cohen to control ordinal position within the family, yet it has been suggested that the level of aspiration of first children and their mothers' expectations for them differ from those of second and other children (Schacter, 1961).

Bostock (1956) in an uncontrolled observational study added further information on the incidence of rejection in the maternal groups. Of the thirty-eight mothers of asthmatic *children interviewed*, twenty-two admitted an unwelcome baby. Eight further cases were thought to involve 'probable rejection' of the child and only eight mothers were accepting. No definition of acceptance or rejection was given but Bostock appeared to equate lack of adequate breast feeding with rejection, a concept which is undoubtedly questionable. Bostock further noted that half of the mothers showed evidence of marital conflict, a majority were dominant partners in their *marriage, and over half the mothers* said they experienced an unsatisfactory relationship with their own mothers. However, he did not relate the 'undue tension' in the maternal group to the emergence of the child's illness. Instead he explained this in terms of heredity, or mother's return from hospital with a new baby or long periods of crying alone. In addition, Bostock administered TAT pictures to the thirty-eight asthmatic children he studied and noted *fantasy hostility directed towards the mother* and also some evidence of

rebellion against parental planning. However, no details were given of the frequency of these themes in the TAT protocols.

Long and his colleagues (1958) produced a fascinating experimental study to explain why children with intractable asthma are often symptomatically relieved by admission to a hospital, even though they have the same medication in the hospital as they received at home. Because of the frequent claim by allergists that removal from housedust whilst in hospital is sufficient to explain remission of symptoms, the authors devised a test to discover whether sensitivity to house dust is the only factor necessary for the production of asthma. Eighteen asthmatic children were selected, fourteen of whom produced a skin sensitivity reaction to their house dust. Large amounts of dust collected from the child's home was circulated in its hospital room at night with no evidence of respiratory change in the children. The authors concluded that allergic sensitivity was not sufficient to precipitate asthmatic attacks in their sample. They tested an alternative hypothesis that children with asthma as compared with control children would display stronger 'claustral dependence'. By 'claustral dependence' is meant a desire in the child to re-establish a close physical union with the mother similar to that which existed prior to birth, physically protected, enclosed with complete passive dependence. To test this suggestion, the authors looked at the number of 'claustral' fantasies produced in response to TAT cards. They found that the asthmatic group produced three times as many claustral symbols and themes as the controls. The authors also noted that asthmatic children told more stories centering on dependency needs and that they possibly perceived these needs as dangerous.

Fitzelle (1959) focused his attention on the personality characteristics of the parents of asthmatic children. He compared 100 mothers of asthmatic children with a matched group of 100 mothers of non-asthmatic children by means of the MMPI, the U.S.C. Parent Attitude Survey and a personal interview. The only significant difference between asthmatic and control mothers was that asthmatic mothers *evidenced 'emotional instability or attitudes toward child rearing* found to be characteristic of parents of problem children' (p.216). In attitude to marriage and incidence of divorce, there was no apparent difference, although the age of the asthmatic mother was considerably higher than that of the controls. Mothers and fathers of asthmatics were also more inclined to feel mild dislike or only mild attachment to their own parents. When the two groups of parents were asked about *their children, Fitzelle noted that asthmatic parents ascribed to them* nearly twice as many nervous symptoms. Fifty-five per cent of the mothers reported that asthmatic attacks sometimes or frequently followed a nervous upset. Fitzelle did not specify the manner in which his control group was matched. This together with the significant difference in ages between asthmatic and control group mothers might possibly make for a real difference in personal characteristics of the two groups and hence, *render conclusions based on these results extremely* tentative.

Margolis (1961) studied the mother-child relationship in bronchial asthma. Twenty-five mothers of asthmatic children were compared with twenty-five mothers of relatively healthy children seen in surgery out-patients. No criteria for matching were given. Margolis found that asthmatic mothers exhibited more evidence of psychosexual conflict when tested with the Blacky pictures, than did controls. He thought that they had sustained disturbances in their oedipal relationships and were more orally erotic than the controls. Asthmatic mothers were thought

to be more closely identified with their own mothers as the disciplinary figure in the household, and they were thought to show greater evidence of rivalry with brothers and sisters, particularly rivalry because of fear of loss of parental affection. Margolis also tested his groups with the Parent Attitude Research Instrument (PARI), but found only one significant difference. Asthmatic mothers scored more highly on the dependency-on-the-mother scale. Margolis concluded that whilst mothers of asthmatic children appeared to be more emotionally disturbed than mothers of non-asthmatic children, the differences were slight and a replication of the study was essential.

Morris (1961), like Little and Cohen (1957), was interested in the level of aspiration in asthmatic children and their mothers. The sample consisted of twenty unselected asthmatic children and twenty unselected controls matched for age, intelligence and educational level of parents. However, as in the study of Little and Cohen, ordinal position within the family was not controlled, which could have influenced the level of aspiration (Schacter, 1961). During the first part of the experiment the child was asked to state the score he expected to make before each trial on a pinball-like board. During the second part of the experiment, the child's mother participated and was instructed to help her child in making estimates. When the mothers were present, the asthmatic children showed greater increases in goal setting levels than did the controls. This difference could indicate either the presence of excessive dependency among asthmatic children or high anxiety to please a demanding mother. However, the results could also have been attributed to the possibility that the majority of the asthmatics were the oldest children as the level of aspiration is higher for first children.

Owen (1963) designed a fascinating experiment to discover whether or not the sound of the mother's voice would evoke significant respiratory changes in a group of asthmatic children. This experiment clearly does not attempt to shed light on the personality structure of the asthmatic child but it affords considerable evidence of the crucial nature of the mother-child relationship for the child's bodily functioning. Owen matched for age and sex twenty asthmatic children with twenty children suffering from organic illness. Pneumographic tracings of each child's respiratory patterns were made during two ten minute experimental sessions in which the child listened to the tape recordings of two voices, that of his mother and that of the mother of his matched control. The asthmatic children showed much greater change and also showed more abnormal patterns of respiration as a result of hearing their mothers' voices on tape. These changes occurred irrespective of whether the story was threatening or non-threatening. Thus, Owen attributed all significant differences between groups to the greater significance of the mother's voice for asthmatic children.

Fine (1963) discussed his study of the personality of the asthmatic child in which he compared thirty asthmatic children with their nearest non-asthmatic sibling, regardless of sex or age distance. Not controlling for age and sex can influence the results and hence one must be cautious about over-generalization of the findings. Moreover, a number of the siblings, the number not being specified, had allergies of one kind or another. Since there is the possibility that personality plays a part in allergies, the findings should be viewed as tentative. Fine administered the Despart Fables, Rorschach, Make-A-Picture Story Test and the Wolff Draw-A-Picture-of-Your-Family

to the children and interviewed both the mothers and children. Statistical analyses of the data were given separately for each test and interview rather than combining all the test material. For example, the results of the Rorschach indicated that the asthmatics differed significantly from their siblings in six respects : They were more introverted, had stronger oral drives, were more dependent, more explosive and uncontrolled,more conforming and had more unpleasant father images. On the basis of all the test material, the following conclusion was drawn :

> There appears to be a personality core, found in almost all asthmatics regardless of the severity of the condition, which predisposes to asthma. This core consists of dependency, a cycloid temperament, low frustration, a dilated personality involving greater susceptibility to all types of stimuli, and, in boys only, strong oral drives. The personality core is very similar in function to the allergic constitution, and both may, in fact, have a common basis (pp.56-57) .

However, this conclusion is unwarranted as no attempt was made to test the relationship between personality and the causation of asthma. There are contradictions in the findings as in the Rorschach both boy and girl asthmatics have strong oral drives, whereas in the conclusion only boy asthmatics have strong oral drives. Many of the results from the different tests were thought to correlate although statistics were not computed. However, one consistent finding was a greater dependency among asthmatics.

One of the more carefully controlled studies in this field was carried out by Alcock (1963). She compared twenty-five asthmatic children with twenty-five emotionally disturbed, twenty-five 'normal', and

twenty-five chronically ill children, all matched in terms of age, sex, intelligence and socio-cultural environment. Unfortunately, one crucial variable, ordinal position within the family, was not controlled. Alcock gave the Rorschach to each child and the results were independently assessed. On the basis of the Rorschach responses, she concluded that the general personality characteristics of the asthmatic children were marked sensitivity in human relationships, lowered reactivity and tension without appropriate release. She noticed considerable shading shock, a characteristic found in adult cases of severe depression. She noted a further characteristic of depression, lowered reactivity, both in the Rorschach responses and also in their apparent inhibition of intellectual performance. Alcock concluded : 'Repressed anger and consequent depression are major features in the psychogenesis of the asthmatic personality which may thus be regarded as a predisposition '(p.219). As with Fine's study, this conclusion seems unjustified.

Sandler (1965), in an intensive but somewhat subjective study, investigated the child rearing practices of mothers of asthmatic children. There were three groups of mothers, namely, twenty mothers who had asthmatic children, eighteen mothers who had chronically ill children and eighteen mothers who had healthy children. The mothers were compared on interviews, certain indirect questions were asked relating to rejection and dependency and then rated. The intensity of a score was the judgemental rating based upon everything the mother said throughout the interview. A criticism is that there were no precautions to ensure gathering of information and ratings were done independently and without awareness of the subject's group membership. The children of the three groups were given the Structured Doll-Play Test (SDP), which is a doll-play projective

technique. Here, the scoring seemed to be more objective. Sandler observed that :

> An overall evaluation of the *Interview and SDP test* results indicates support for the hypothesis that current aspects of the mother-child relationship contribute to the child's fear of separation from the mother. Fear of losing the love and acceptance of the mother appears to be reinforced by techniques of training which indicate to the child that warmth and *affection are conditional on good behavior* (p.239).

Mothers of asthmatic children appeared to have a less satisfying relationship with their children as compared with the control group mothers. *They were found to be more punitive, less affectionate and* less warm towards their children. Sandler was aware of the limitations of her study and stated :

> *The extent of correspondence* of the mother's evaluation of her child's behavior tendencies as reported in interview data to reality is, of course, questionable. Although it is possible to determine some of the attitudes she holds and the characteristic training practices she employs in child rearing, the interview tells us little concerning the effects of the mother's *practice on the child's personality* (p.239).

Aaron (1967), in a well controlled study, investigated personality differences between asthmatic, allergic and normal children. These three groups of twenty children each were randomly selected and were matched for age, sex, intelligence, but not for ordinal position. The children were tested with the Rotter Incomplete Sentence Blank and the TAT. There were no differences between groups on the Rotter. Asthmatics showed significantly more hostility than the normals on the measure of hostility relating to TAT card 3. On the second measure of hostility, there was no significant difference but the trend was for greater hostility in the

asthmatic group. Asthmatics and allergic children both indicated general feelings of loneliness, desertion and rejection by parents significantly more than did normals. It was further found that asthmatic girls were significantly more depressed than normal girls and that normal boys were significantly more depressed than asthmatic boys.

In 1968, Burton published a carefully controlled study of asthmatic children. Twenty-five asthmatic children were matched individually with twenty-five non-asthmatic chronically ill children for age, sex, intelligence, school achievement, socio-economic status, religion, ordinal position, number in the family and extent of illness. To test the hypothesis that asthmatic children are more 'unsettled' than control children an estimate of the degree of unsettledness shown at school was made by means of the Bristol Social Adjustment Guides, filled in by class teachers. Then a comparison was made of the number of behaviours indicative of anxiety, for example, night fears, jealousy of siblings, excessive tantrums shown at home and reported by mothers in answer to questions concealed in a questionnaire relating to the child's development. Finally, a comparison of the conflicts and fears underlying this behaviour was made by means of an analysis of themes produced by the children in response to twelve TAT cards. Burton found that the asthmatic children displayed more 'unforthcomingness', more 'backwardness' and more nervous symptoms in school than controls. At home they were moody and depressed, more jealous of their brothers and sisters, had more night fears and temper tantrums. It was found that beneath this unsettled behaviour lay a need for self-assertion, which the asthmatics perceived as being thwarted both by their own inadequacy and by

the threatening, particularly dominant nature of the environment. 'The unsuccessful struggle for independence produces conflict and depression in their stories and a tendency to avoid positive action and to expect only modified success in their ventures ' (p.219).

To test the hypothesis that asthmatic mothers are more rejecting and display more psychologically damaging attitudes to child rearing, the mothers answered a questionnaire, and were tested with the PARI and the TAT. Nine questions were taken as indices of possible primary rejecting behaviour on the part of the mothers. These related to deviant maternal attitudes and behaviour during pregnancy and in the early months of the child's life before the onset of the illness. The results of the questionnaire suggested that the mothers of asthmatic children tended to reject their infants before the onset of the illness. On fourteen of the twenty-three scales of the PARI asthmatic mothers were found to differ significantly from the control mothers. The asthmatic mothers viewed their parental role as a dominant one. They believed themselves entitled to complete obedience and felt it necessary to suppress instinctive actions in their children, particularly sexual and aggressive ones. They wished to maintain their children in a state of complete dependency and yet at the same time wished them to develop as quickly as possible. They were fearful in their role as mothers, still dependent on their own mothers for guidance and they expressed some dissatisfaction with their marital state. The results of the TAT suggested that asthmatic mothers when compared with control mothers had a stronger need for self-assertion and a fear of rejection and domination.

In contrast to the previous clinical and empirical studies, this study emphasized the assertive rather than the affection-seeking needs of

the asthmatic child. Asthmatic children showed an exaggerated need for separation and the conflict was between this need and the fear of reprisal at its fulfilment. No evidence was found that asthmatics were excessively aggressive. Asthmatic mothers were seen to be rejecting in their initial attitude to their children and their subsequent perceived solicitousness was not viewed as a guilty reaction against rejection but as a manifestation of the mother's immaturity. The mother's need to maintain her child in a dependent state was interpreted as a reflection of the mother's uncertainty in handling her child rather than as satisfying a 'love-hunger'.

Marais (1972) published a psycho-pedagogical study of the background description and personality traits of the asthmatic child. The study was part of the Project Talent Survey launched by the Human Science Research Council (HSRC) during 1965 when 96,908 Standard Six pupils were subjected to an extensive battery of tests and questionnaires, including the High School Personality Questionnaire (HSPQ), the New South African Group Test (NSAGT) and an adjustment questionnaire. To ascertain which children were ill and which were healthy, the following question was asked : 'Which of the following ailments give you trouble, (1) defective speech, e.g. stuttering, (2) external physical disability, (3) a weak heart, (4) asthma, (5) overweight, (6) epilepsy, (7) defective hearing, (8) defective eye sight, (9) other ailments ?' There was also an item which allowed healthy children to indicate that they suffered from none of these. It was found that 1,942 pupils stated that they suffered from asthma and they were compared with 9,332 'healthy' pupils. However, this study is open to criticism since the diagnosis of illness or health was not based on a medical examination, but on the subjective self-report of the children.

According to the results, asthmatic pupils had a higher intelligence than healthy pupils, but experienced more personality and adjustment problems than healthy pupils. The asthmatics were found to be more reserved, detached, critical, affected by feelings, emotionally less stable, shy, diffident and timid, excitable, impatient, apprehensive, worrying, depressive, guilt prone, tense, driven and frustrated. They were more poorly adjusted than the healthy pupils in terms of personal worth, personal freedom,recognition, family and school relationships, emotionality, self-confidence, moral attitudes and nervous symptoms. In addition, asthmatic boys were found to experience more, as well as more serious personality and adjustment problems than girls, while these problems increased as the intelligence increased.

A previous study by the present writer was undertaken (Altman, 1973). The study was designed to investigate whether there was a specific personality in asthmatic children and a specific mother-child relationship. The experimental group was selected from a paediatric practice in Johannesburg and consisted of fifteen asthmatic children, between seven and thirteen years of age. These children formed a homogeneous group of asthmatic children as they were all found to react negatively to skin tests, hence excluding allergic conditions. The control group consisted of non-asthmatic siblings aged between seven and thirteen years. The children were tested using the Cattell Children's Personality Questionnaire (American standardization) and the Bene-Anthony Family Relations Test. No significant differences were found in the personality profiles of asthmatic and non-asthmatic siblings. This could have been either a positive finding or an artifact due to similar home environment, familial factors, or to the non-representative sample and the shortcomings of the instruments used. The study showed, however, that when the asthmatics

were compared with their non-asthmatic siblings, the mother was perceived as being significantly more overprotective towards the asthmatic, as being the main source of love, and as giving significantly more positive feelings to the asthmatic child. It could not be ascertained whether this perceived maternal attitude was a cause or an effect of the asthma. However, the mother's behaviour seemed to play an important role in family dynamics and appeared to have an effect on sibling rivalry within the family.

Carey and Kogan (1974) studied the mother-child interaction in children with bronchial asthma in five mother-child pairs. The control group consisted of eight non-asthmatic children and their mothers. The children were between the ages of two to four years. No attempt was made to control for variables which could have affected the findings such as sex and socio-economic status. Each mother-child pair was videotaped in two forty-minute play sessions which were divided into intervals of four seconds each. A scorer rated the mother and the child for status, affect, involvement and interactive function in each four-second interval. A second person spot-checked the ratings by independently rating several pages of the same material. Disagreements were resolved by discussion. The asthmatic children were found to score significantly higher on the ambivalence status variable in relation to their mothers than the control group children. However, in view of the small sample, lack of adequate controls and poor rating procedure, this finding must be seen as extremely tentative.

Williams (1975) in a well controlled sophisticated experimental design investigated aspects of dependence-independence conflict in

children with asthma. Level of aspiration was taken as a measure of dependence-independence functioning. An experimental design was employed which involved extending the work of Morris (1961) and modifying the work of Long et al.(1958) by developing more refined techniques. A random sample of ninety asthmatic children (forty-five 'mild' and forty-five 'severe') were carefully matched with forty-five control school children in Melbourne, Australia. An additional control group of children with chronic chest disease (fibrocystic disease) was included to investigate whether the dependence-independence conflict with its associated 'claustral dependence' response to threatened mother-child separation was specific to asthma. All subjects were seen 'blind', that is, without the experimenter being aware of the group identity of each subject. The techniques used were the Rotter Aspiration Board; the Semantic Differential; Williams Achievement Motive Test, a completely new test based on the technique of McClelland and his colleagues (1953) and the later findings reported by Atkinson and Feather (1966); and a Sentence Completion Test and Picture Completion Test both designed for the study. The techniques revealed the following :

(a) The Rotter Level of Aspiration Apparatus was given first with three conditions of mother involvement - mother active, mother present but passive, and the child alone - randomly presented either with or without a visual barrier. Asthmatic children were found to aspire higher than normal and fibrocystic children when the mother was close, yet aspired lower and hence regressed, when she moved away. The stress of a harder task (visual barrier) stimulated the severe asthmatics to higher aspirations. Hence, the threat of separation from mother appeared the specific stress situation which stimulated regressive behaviour in the asthmatic child.

(b) The Semantic Differential revealed no significant differences between the mothers of the four groups.

(c) The Achievement Motive Test revealed that in fantasy behaviour asthmatic children displayed a higher need for achievement than normal children and perceived their mothers as having a higher need for them to achieve.

(d) The Sentence Completion Test indicated a closer bond between the asthmatic child and his mother than in the normal mother-child situation as evidenced by the significant difference in 'semantic contiguities', that is, same word, synonymous words or synonymous expressions used.

(e) The Picture Completion Test showed that the threat of mother-child separation increased 'claustral' dependent themes dramatically in asthmatic children.

On the basis of the findings of the study, Williams proposed that :

> The asthmatic children demonstrated an excessive dependence-independence conflict with an intensive mother-child bond and core anxiety around the threat of separation. Under such a threat "claustral" themes were more prominent. It was tentatively concluded that this complex of variables were specific to asthma (p.215).

In view of the findings and the stringent control procedures utilized, the above formulation seems justified. This study is a major contribution to the field of asthma research and does much to strengthen the analytic hypotheses concerning the dynamics of the asthmatic child.

In summary, studies relating to the specificity approach seem to indicate greater psychological disturbance among asthmatic children and their mothers than among non-asthmatic children and their mothers. The studies reviewed indicate that the mother of the asthmatic child seems to have a large influence on the child. The exact nature of the influence,

rejection, overprotection, or both, seems to vary from study to study. Without maternal stimulation, asthmatic children tend to be restrictive and careful in their responses and show a desire for protective and secure situations. A finding that appears to come up consistently in these studies is that the asthmatic child is dependent, anxious, aggressive and has difficulty in handling his aggression. These conclusions seem to be consistent with Alexander's theory of separation anxiety and resulting dependency and with the clinical descriptions that dependency is associated with aggression. Before these conclusions can be accepted, however, certain crucial methodological improvements seem necessary. These have been discussed in relation to each study but will be reviewed in more detail in the section on critical appraisal of personality studies (see Section 3.2.7.4).

3.2.7.3 Studies Relating to the Non-Specificity Approach

Non-specificity theorists feel that there is no specific personality constellation, nuclear conflict or form of interpersonal relationship that is uniformly and etiologically associated with asthma. This assertion, which does not deny the observation that asthmatics and their families often manifest more behavioural disturbance than normal subjects, is based on certain lines of evidence. First, Neuhaus (1958) found that both asthmatic and cardiac children were significantly more maladjusted in terms of anxiety, insecurity and dependency than normal children, but did not differ from each other. He concluded that chronic illness may cause the maladjustments rather than some process associated specifically with asthma. Further, the hypothesis of asthma as a repressed cry has been questioned. Purcell (1965) noted that a number of patients report that crying, like laughing or coughing, could trigger attacks of asthma and further,

that these patients deliberately sought to avoid crying and laughing vigorously so as not to provoke an asthmatic attack. 'Thus, the occasionally observed inability to cry or the silent, suppressed manner of crying may reflect a learned attempt to avoid initiating the uncomfortable experience of an asthmatic attack' (Purcell and Weiss, 1970, p.603). In addition, there has been mounting evidence that asthma is a heterogeneous symptom. Researchers have noted that a wide variety of stimuli, including allergic, infective and emotional ones as well as different combinations of these stimuli are capable of triggering an attack of asthma.

Two allergists, Harris and Shure (1956), set out to refute the notion that distinct personality types were specifically predisposed to certain diseases. From a normal school population of 1,263 children aged six to twelve years, they selected twenty-five with asthma and twenty-five control children of the same age, standard at school and socio-economic status. They asked each child's teacher to report on his emotional growth, social adjustment, work habits, and special abilities and interests. On the basis of the teachers' reports, they noted as much deviation in the emotional and behavioural patterns of the asthmatic children as of the controls. In only one instance did there appear a difference between groups, asthmatic children being less in need of praise and affection than control group children. No details were given, however, of the method used by the teachers to assess the children. Hence, the apparent absence of personality differences between groups might be due in part to lack of specific rating categories.

Rees (1956a) studied 203 asthmatic children as part of a larger study of incidence and relative importance of various possible factors in the etiology of asthma. The group was unselected and controlled by a group of children admitted to hospital because of accidental injury.

Rees rated a number of personality traits on a three-point scale and compared the asthmatic and control children on these traits. He concluded that : 'Whilst no specific personality types were found to be associated with asthma, there was a significantly higher incidence in asthmatic subjects compared with controls in the following : over-anxiety, timidity, over-sensitiveness, and marked obsessional traits ' (p.111). Rees further suggested that parental influences were important in the etiology, management and treatment of asthma. Parental attitudes of overprotection, rejection and perfectionism were frequently present and were such as to foster emotional tension in children which could precipitate or aggravate attacks of asthma. However, Rees found no evidence of 'specificity of life situations associated with the development of asthma. Any situation or stimulus, if it evokes the necessary degree of emotional reaction, may precipitate asthma in the affected subjects' (p.107).

Rees (1963, 1964) undertook two further studies which substantiated his previous findings. Rees (1964) observed a high frequency of meekness, sensitivity, anxiety, meticulousness, perfectionism and obsession in 388 asthmatic children admitted to an outpatient clinic, but no evidence for specificity of personality. He concluded : 'Our findings reveal that multiple causation is the rule in asthmatic children, the majority having infective, allergic and psychological factors in various sequences and combinations ' (p.261). In 1963, Rees investigated a group of 170 asthmatic children and their parents and compared them with a control group of 160 children and parents from the accident unit of the same hospital. The groups were matched on age, sex, socio-economic status, but not ordinal position. The author interviewed the parents and relatives and visited each home. He found that the most significant

data was concerned with parental attitudes, namely, 44 per cent of the parents in the asthmatic group were considered to have satisfactory attitudes towards their children, whilst 82 per cent of parents in the control group had similarly satisfactory attitudes. Of the 56 per cent unsatisfactory attitudes among asthmatic parents, 44,5 per cent were considered to display overprotectionism, 7 per cent perfectionism and 4,5 per cent overt rejection. Rees felt that 25 per cent of maternal overprotection developed after the onset of asthma and 'of these 20 per cent was mainly a reaction to the child's asthma and usually was an exaggeration of the natural anxiety and solicitude shown by a parent to a child who is not well' (p.181). The child did not react in a consistent, specific way to this overprotection and any emotion could be elicited and this could precipitate an asthmatic attack. However, Rees felt that faulty parental attitudes were probably conducive to the development of emotional reactions which precipitated asthma.

Neuhaus (1958) compared asthmatic children with cardiac children as he felt that the psychoneurotic symptoms stressed as being peculiar to the asthmatic personality, might relate more to the fact of being chronically ill than to the specific illness. Thirty-four asthmatic children were compared with thirty-four cardiac children. These two groups of children were not matched with each other, but each sick child was matched with a normal control with respect to age, intelligence, socio-economic status, religion, number of siblings, but not for sex or ordinal position. The asthmatic and cardiac groups were further compared with their siblings. All the children in the study were given three personality tests, namely, the Brown Personality Inventory, the Despert Fables and the Rorschach. On the basis of the scores obtained the authors concluded that asthmatic children when compared with their matched normal

group were more maladjusted and exhibited marked traits of anxiety, insecurity and dependency. No difference was found between the sick children and their siblings, suggesting either similarities in personality due to constitutional or family factors, or some generalization of the sick child's personality characteristics, throughout the family. Similarly, no significant difference in personality patterns was found between the asthmatic and cardiac children, suggesting to the author 'the existence of personality traits common to both illnesses and conceivably common to protracted illness in general' (p.185). However, in view of the fact that the asthmatic and cardiac groups were not matched, this finding cannot be seen as conclusive.

Dubo and his colleagues (1961) followed seventy-one asthmatic children and their families for two years. No control group was used. They assessed the children on seventy-one variables rated from psychiatric interviews. No significant relationship between variables of the child's asthma were found. There was no correlation between severity of a child's asthma and the level of disturbance in the family situation. There were, however, frequent correlations between variables of the family situation and the child's social adjustment.

Herbert (1965) studied three groups of South African Indian children, namely, asthmatics, stammerers and normal children. The following personality tests were administered : the Picture Frustration Test, the Thematic Apperception Test, the Family Attitude Test and the Story Completion Test. In addition, each child was interviewed, case histories were taken and they were given intelligence tests. Herbert found evidence of dependency and maladjustment in the asthmatics and stammerers, but no evidence of a

unique personality type. However, this study has limitations. A criticism of the study to which the investigator conceded, is that the groups were not sufficiently representative to assume confidence in the results. Moreover, the choice of stammerers as a control group was inappropriate as psychological factors were possibly the cause of the stammering.

Beech and Nace (1965) examined the relationship between asthma and the tendency to express aggression by using a sentence completion test with choices of aggressive and non-aggressive verbs. They tested asthmatic children and compared them with three groups of child psychiatric patients differing in the degree to which aggression appeared in their behaviour. The three groups consisted of 'aggressive', 'non-aggressive' and 'intermediate-aggressive' groups. The asthmatic children differed significantly from non-aggressive children, but not from the aggressive or intermediate groups. The results did not support the view that asthmatic children are unwilling or unable to express hostility. However, the test used was hardly comparable to the life situation interacting with people.

Purcell and Clifford (1966) compared asthmatic and non-asthmatic boys in terms of their perception of parental figures. Among their procedures was a story completion test scored for parental punitiveness and nurturance. On these story completions, the mothers of asthmatic boys were seen as less punitive than mothers of non-asthmatic boys. It should be pointed out that this study was not in direct contradiction to the specificity hypothesis for it is possible to express rejecting tendencies in ways which are not, or at least do not appear to be, punitive.

Gross, Hirt and Seeman (1968) attempted to cross-validate the findings reported by Margolis (1961) on mothers of asthmatic children. Unfortunately, they tested asthmatic children instead of their mothers as Margolis did. Gross et al. hypothesized that asthmatic children will manifest conflict in select areas of psychosexual development as measured on the Blacky Picture Test. There were two control groups, namely, arthritic and normal children. The results from the Blacky Picture Test protocols did not support the formulation of greater conflict in psychosexual development among asthmatic children. The authors offered three explanations for the findings. Firstly, psychosexual conflicts were not as important in the development as often assumed. Secondly, the subjects were of a low socio-economic status which could have influenced the results. Finally, the test used might have been inadequate to test the hypothesis of the study.

As a result of the emphasis by certain researchers on maternal rejection as a cause of asthma, Fein and Kamin (1965) and M.C. Harris (1955) investigated the incidence of asthma in adopted children and in children in orphanages. Fein and Kamin (1965) compared forty-nine cases of asthma among adopted children with forty-nine cases among non-adopted children. One would have expected the adopted children to have more family related problems and therefore to present more difficulty in the management of their asthma than the non-adopted group. The authors found, however, that the adopted children presented no greater problem of management and at times less than non-adopted children. The child and the parent were *observed and interviewed separately whenever possible.* Unfortunately, no psychological testing was carried out on the two groups and hence, the results should be viewed as tentative.

According to Harris (1955) there were only five asthmatic children out of 6,986 orphans in the orphanages of San Francisco. During the first quarter of 1955 out of 1,184 children who were medically treated for asthma only two cases of asthma were found in adopted children. Harris felt that these findings indicated that an exaggerated emphasis had been put on maternal rejection as a cause of asthma. However, the specificity theory does not solely stress maternal rejection, it is rather the mother's ambivalence, her wanting and her not wanting her child, which is seen as *partly the cause of the child's asthma.* He viewed the asthmatic child's personality as a result of being ill, stating :

> There is, accordingly, every reason to expect that the asthmatic attacks themselves should induce just the sort of helpless dependence that has been found to be characteristic of the deeper emotional life of our asthmatic patients. May not the personality traits that we have been describing be merely a secondary reaction to the disease itself ? *(p.658)*

In summary, non-specificity researchers have found no specific personality *in the asthmatic child or his mother and no specific* mother-child relationship. Whilst not denying that there are behavioural disturbances in asthmatics and their families, these disturbances are often seen as the result of the child's asthma rather than the cause. However, in view of the methodological shortcomings of the studies these findings cannot be seen as conclusive. These shortcomings which pertain to the majority of personality studies in the field of childhood asthma will be discussed in the following section.

3.2.7.4 Critical Appraisal of Personality Studies

From an analysis of the previous personality studies, it is apparent that the results so far obtained appear highly conflicting. Some studies

appear to substantiate the clinical insights discussed previously, some negate them. Whilst fascinating fragments of information have been gathered relating to the personality needs of the asthmatic child and his mother, it is suggested that there exists as yet no conclusive or complete view of the relationship, and its place in the etiology of childhood asthma.

Frequently, this problem has been due to methodological shortcomings in the studies. Too many research papers contain serious deficiencies enumerated previously. To summarize, these include :

(a) Generalizing to the asthmatic population from findings with an unrepresentative sample of asthmatics in psychiatric treatment.
(b) Failure to specify whether the asthmatic subjects were allergic or not and hence, whether a heterogeneous or homogeneous group of asthmatics were studied.
(c) Drawing inferences about pre-asthmatic personality and mother-child relationship from post-onset studies and thus any characteristics observed could quite plausibly be a result and not a cause of asthma.
(d) The unsystematic selection and use of control groups.
(e) Infrequent attempts to cross-validate findings.
(f) Not reporting the specific procedures by which raters' judgements of psychological characteristics were made and the extent to which raters were able to agree about such characteristics.
(g) The wide differences in the objectivity of methods used.

In addition, the whole field of personality assessment has been questioned. Many feel that even standardized personality tests cannot yield meaningful and adequate descriptions of the personality of the asthmatic child and his mother (Freeman et al., 1964 ; Gross et al., 1968).

Often the experimental methods and instruments used to test hypotheses are inadequate measures of the original hypotheses and observations.

Psychoanalytic hypotheses about unconscious conflict derived from the data of analytic sessions cannot usually be tested adequately with paper and pencil tests. The questionnaire studies of Fitzelle (1959), Margolis (1961) and Gross et al. (1968) revealed rather meagre findings and were in contrast to the experimental findings of Little and Cohen (1951), Owen (1963), Morris (1961) and Williams (1975). It is difficult to believe that a mother could exert the great impact on her child observed in the experimental situations without having done something different in raising the child. The possibility that these mothers gave distorted answers to the questionnaire is given some credence by results reported by Thorp (1962, as cited by Robbins, 1969). Thorp sent questionnaires dealing with parent-child relations to mothers of asthmatic children. In filling out the questionnaire, some of the mothers omitted many items and some wrote letters to the investigator which were extremely hostile and defensive. Thorp made an analysis as to which mothers sent the letters or failed to complete the questionnaire. He found that mothers whose children were making little progress with their asthma were more likely to show this defensive behaviour than mothers whose children were progressing well. This study provides only suggestive evidence on the point at issue.

However, results reported by Miller and Baruch (1957) also cast doubt on the questionnaire studies. They used interviews to explore the dimension of maternal rejection. Rejection was considered to be a verbal indication that the mother consciously or unconsciously had a desire to be free from the child and considered him a burden. Interviews

were conducted with the mothers of 201 clinically allergic children, most of whom had had asthma and 110 mothers of children under treatment for behaviour problems. The authors reported that 'ninety-seven per cent of the mothers verbally expressed their rejecting attitude towards these children, whereas only thirty-seven per cent of the mothers of non-allergic children expressed such an attitude' (p.242). In this study safeguards to prevent subjectivity from biasing the results were not reported. However, it seems unlikely that a difference of this magnitude could arise from such bias.

The group of studies by Fitzelle (1959), Margolis (1961), Alcock (1963) and Burton (1968) represent important methodological improvements over many others cited, in specification of samples and selection of control groups. The experimental studies of Little and Cohen (1951), Owen (1963), Morris (1961) and Williams (1975) are notable for attempting to derive hypotheses from analytic formulations that are amenable to experimental verification. Further research efforts in this area could be very fruitful.

Thus, many years after the original clinical descriptions, a definite statement about personality factors in childhood asthma cannot be made. At the most, overlooking the methodological shortcomings of the studies, one could say that the clinical insights have been substantiated. The least one can say is that mothers of asthmatic children exert an unusually large influence on their children, but whether the child's emotional reaction is dependency or fear,is uncertain. Moreover, these characteristics observed in the mother and the child could be a reaction to the asthma rather than the cause. Freeman et al.(1964) concluded

after surveying the inconclusive findings relating to the specificity hypothesis that 'one gets the impression that lack of scepticism has been largely responsible for this state of affairs; investigators have often used their data to confirm or illustrate analytic formulations rather than to test their validity' (pp.555-556). It seems that this could also hold true for non-specificity researchers in that they have appeared to use their data to disprove analytic formulations rather than to test their validity.

3.3 Summary and Conclusion

There is little doubt that many factors influence childhood asthma. The psychosomatic approach to asthma which is basically a multi-dimensional approach is clearly stated by Rees (1956a) :

> In asthma, genetic, constitutional, autonomic, endocrine, personality, neurosis, emotional tension, allergic, infective and various environmental forces may be relevant and causal. These factors are interdependent and often show an intricate interplay in causing asthma .., it may be said that for the adequate diagnosis and treatment of asthma, it is necessary, not only to consider the patient as a psychosomatic unity, but also the individual-environment interaction as a continuum (p.111).

Unfortunately, many physicians pay lip-service to the psychological factors in the diagnosis of childhood asthma, but ignore them in the treatment.

The above review shows just how extensive is the literature on asthma. In a critical review of nearly 200 reports in the field of psychological variables and respiratory allergy published since 1950, Freeman et al. (1964), stated the following : 'In general the yield from all the effort expended to date is small indeed. The catalog of critical methodological shortcomings is lengthy and the number of well-established

findings meager ' (p.565). It seems that this comment is still applicable today, ten years after Freeman's review. A brief summary of the findings and comments in different areas of psychological research will be given.

Recent studies have explored the possibility that the asthmatic population is both psychologically and immunologically heterogeneous. These are among the most promising investigations to date. It may well be that one major source of inconsistencies between studies has to do with the confounding of allergic and non-allergic patients, all of whom suffer from similar symptoms. The findings thus far suggest that a greater degree of psychopathology is to be found among patients with a lesser degree of immunological evidence for allergy. It should be noted however, that there are conflicting reports in this area. If findings from subsequent studies concur with those that find the asthmatic population heterogeneous, then theories about the role of psychological factors in asthma can become considerably more precise.

There have been attempts by researchers to show that asthma is a learnt response as a result of conditioning. However, to summarize, it appears accurate to state that with either animals or human beings, the successful conditioning of asthma remains to be demonstrated, even in the opinion of those investigators whose original positive reports on conditioning are cited frequently. At the most one could say that asthma is a learnt response.

Many attempts have been made to evaluate the part played by personality factors in childhood asthma. Theorists and researchers fall into two camps, namely, the specificity and non-specificity theorists and researchers. The specificity investigators, influenced by psychoanalysis, propose that there is a specific personality in the asthmatic

child and in his mother and hence, a specific mother-child relationship. The non-specificity investigators claim that no specificity is to be found in personality or mother-child relationship and that behavioural disturbances seen in asthmatics and their families are the result of the chronic illness rather than the cause.

There has been a wealth of suggestive clinical literature relating to the specificity theory, but as yet no adequate test of this theory. The clinical literature on the personality structure of the asthmatic child has suggested that basically he is a neurotic child, with the fear of loss of,or separation from his mother at the root of his neurosis. He has been consistently described as over-anxious, fearful, dependent, aggressive, frustrated, guilty and depressed. His personality reflects his need to cling to a rejecting and overpossessive mother, and his fear that this dependency will overwhelm him. His feeble struggles for self-assertion increases this guilt and depression, and do nothing to relieve the aggression, occasioned by this awareness of rejection. His illness is seen as both symbolizing and permitting discharge of the emotional tension which he experiences.

The testing of these hypotheses derived from psychoanalytic interviews is no simple matter. One does not gather evidence about the occurrence of maternal rejection, for instance, by simply asking mothers whether they have rejected their children, yet such approaches have been attempted. Just criticism has been levelled at the simplistic use of personality inventories to test psychoanalytic hypotheses. A great deal of care is needed to ensure that the level of behaviour tapped in experimental tests of hypotheses be congruent with the level at which the original observations were made. One solution to this problem has been used in several studies,

namely, a prediction about overt behaviour has been derived from psychoanalytic hypotheses and tested in a laboratory setting. Thus, it has been shown experimentally that the mother exerts a great influence over her asthmatic child (Little and Cohen, 1951; Owen, 1963; Morris, 1961; Williams, 1975). An accumulation of studies of this kind which attempt to integrate clinical findings and experimental methods would help to appraise the relevance of the specificity hypothesis and contribute a great deal of basic information.

Several specificity investigators have found that asthmatic children appear more neurotic than non-asthmatic children on a variety of psychological tests, interviews and behavioural rating scales. Such findings, however, are questionable because of critical problems in methodology. One of these is the often repeated and obvious error of using asthmatic patients in psychiatric treatment as representative of asthmatic, or allergic, populations in general. Another is the failure to specify whether the patients with allergic symptoms who were being studied psychologically were in fact demonstrably allergic. Further, attempts at selection and use of control groups have been fairly unsystematic. Despite these shortcomings, findings that come up consistently are that asthmatic children show greater disturbance than non-asthmatic children and that they appear more dependent, anxious and aggressive.

Other investigators have found no specific personality factors or a few personality characteristics of asthmatic children which they feel is the result of the child's asthma. Similarly, these studies have methodological shortcomings as previously discussed. Opponents of the specificity approach have used the low incidence of asthma in orphans

and adopted children as arguments against maternal rejection as a cause of asthma. However, these investigators did not fully evaluate the specificity theory that it is not only rejection on the mother's part, but her ambivalence, her rejecting and in compensation, overpossessing her child which makes for the separation anxiety in the child. This criticism is valid for all those studies that only attempt to assess *maternal rejection*.

The survey of the literature has indicated that some findings are conflicting and that no theoretical model put forward to explain etiological factors in the onset and perpetuation of asthma has yet been fully investigated nor fully substantiated. Nevertheless, the role of personality factors in *childhood asthma is emphasized by nearly* all investigators. The problem, however, remains one of clearly delineating the personality factors in childhood asthma as there exists as yet no conclusive or complete view of the relationship and its place in the etiology of childhood asthma. It is to make a contribution to this lack that the present empirical study was undertaken. In view of this, the rationale for this study is : To define more clearly the relevant personality factors in the asthmatic child and his mother, and to examine their dynamic interaction.

4. THE INVESTIGATION

This chapter is concerned with a discussion of the present investigation. Firstly, the hypotheses are stated, a description of the experimental and control groups is given, the measuring instruments are discussed and evaluated, and finally, the testing procedure is described.

4.1 Hypotheses

The hypotheses, written in the null form, are as follows :

(1) There will be no significant difference between asthmatic children and non-asthmatic chronically ill children on certain personality variables as measured by a specified battery of psychological tests.

(2) There will be no significant difference between mothers of asthmatic children and mothers of non-asthmatic chronically ill children on certain personality variables as measured by a specified battery of psychological tests.

(3) There will be no significant difference between the mother-child relationships of asthmatic children and non-asthmatic chronically ill children as measured by a specified battery of psychological tests.

The first hypothesis was tested by means of the Children's Personality Questionnaire (CPQ), the Rorschach and the Family Relations Test (FRT); the second was tested by the Sixteen Factor Personality Questionnaire (16PF) and the Rorschach; and the third by the FRT, the Maryland Parent Attitude Survey (MPAS) and the Biographical Questionnaire.

4.2 Description of the Sample

In the present study a sample of eighty subjects was used. These consisted of twenty asthmatic children and their mothers in the experimental group and twenty non-asthmatic chronically ill children (cardiac cases) and their mothers in the control group.

4.2.1 Experimental Group Children

The children in the experimental group came from the Respiratory Clinic of the Transvaal Memorial Hospital for Children (TMH) for Europeans. The following criteria were used for selection. The child :

(a) had to be diagnosed 'asthmatic' by the Clinic's paediatrician,
(b) had to be attending the Clinic regularly,
(c) had to be between seven and thirteen years of age,
(d) had to be living with both his parents,
(e) had to be English speaking.

In the initial selection, taking into account the first three criteria, it was found that fifty-two asthmatics (thirty-one boys and twenty-one girls) qualified for the experimental group. Five of the fifty-two patients were excluded initially on socio-economic grounds as they were classified according to the hospital records as non-paying patients. The remainder all fell within the range of the middle class socio-economic group (fathers earning between R4,000 and R9,000 per annum). A further two girls were eliminated as they and their families were undergoing psychiatric treatment at the TMH at the time. When the final two criteria were taken into account (seven children were not living with

both their parents and eighteen children were Afrikaans speaking), it was found that twenty asthmatics, fourteen boys and six girls, qualified for the experimental group.

Thus, the asthmatic subjects were all English speaking and were drawn from middle to upper-middle socio-economic classes. The mean age was 9,65 years. Six of the subjects were the eldest in the family, five were middle children and nine were the youngest. No statistically significant difference was found in ordinal position using the Chi Square (χ^2) Test (χ^2= 1,24; df = 2; p > 0,05).

Of the twenty asthmatic children, fourteen were found by the paediatrician to have allergic histories. Ten of these had positive skin tests, the remaining were not tested. In the remaining six who did not have allergic histories, one only was tested and he was negative to skin testing. The asthma in these six was believed to have an infective basis. Five of the total twenty asthmatics had as their cause both allergy and infection in the records (see Table 1).

To facilitate matching the asthmatic group was divided by the paediatrician into three groups, namely, mild, moderate and severe. The severe group required corticosteroids to control their asthma. The mild group were those not having more than twelve attacks a year and the moderate had more than twelve a year. Five of the subjects were found to be severe, six moderate and nine mild (see Table 1).

TABLE 1

Classification of Asthmatic Subjects

SUBJECT	ALLERGIC HISTORY	SKIN TEST	INFECTIVE BASIS	SEVERITY OF ASTHMA
1	Yes	No test	Yes	Mild
2	Yes	+	No	Severe
3	Yes	+	No	Mild
4	Yes	+	Yes	Mild
5	Yes	+	No	Severe
6	Yes	+	Yes	Mild
7	No	No test	Yes	Mild
8	No	No test	Yes	Moderate
9	Yes	No test	No	Moderate
10	Yes	No test	No	Moderate
11	No	No test	Yes	Moderate
12	No	No test	Yes	Mild
13	Yes	+	Yes	Mild
14	No	-	Yes	Moderate
15	No	No test	Yes	Mild
16	Yes	+	No	Mild
17	Yes	+	No	Severe
18	Yes	+	No	Severe
19	Yes	+	Yes	Severe
20	Yes	No test	No	Moderate

4.2.2 Control Group Children

The non-asthmatic control group was selected from 510 regular attenders at the Cardiac Clinic at TMH. Initially, those variables that were controlled for were taken into account in the selection-procedure. The child :

(a) had to be between seven and thirteen years of age,
(b) had to be living with both his parents,
(c) had to be English speaking,
(d) had to be a paying patient, that is, fall within the range of the middle class socio-economic group (fathers earning between R4,000 and R9,000 per annum).

At this stage, there were 113 cardiac children. The physician at the Clinic divided these cardiacs into degrees of severity of illness that would match those of the asthmatic sample. All those having had cardiac surgery (fourteen children) were excluded as psychological trauma may result from the operation (Jessner, Blom and Waldfogel, 1952; Levy, 1949; Miller, 1951; J. Robertson, 1970).

The remaining ninety-nine cardiac children were then matched individually as closely as possible to the experimental group on the following variables :

(a) age,
(b) sex,
(c) ordinal position,
(d) number of siblings,
(e) extent and duration of illness.

One match for each asthmatic was found. The mean age of the cardiac group was 9,7 years.

The heart lesions in the cardiac group of children were all of an acyanotic nature. Except for three children with mitral valve incompetence following Rheumatic Fever, the remainder had congenital heart defects. These congenital hearts consisted of eleven ventricular septal defects - of these one had an associated pulmonary atresia and a patent ductus arteriosus, and another had a mitral incompetence. The remaining congenital heart defects were made up of a bicuspid aortic valve and asymmetry of the ventricular septum, an idiopathic dilatation of the main pulmonary artery, a mitral valve anomaly, a complete heart block, an aortic stenosis and an aortic incompetence.

For a summary of the group data of the experimental and control children refer to Table 2.

TABLE 2

Summary of the Group Data of the Experimental and Control Children

		ASTHMATIC	CARDIAC
Subjects	Number	20	20
Sex	Male	14	14
	Female	6	6
Age (years)	Mean	9,65	9,7
Father's earnings (per annum)	Mean	R7,633	R7,233
Position in Family	Eldest	6	6
	Middle	5	5
	Youngest	9	9
Number of siblings	Mean	3,55	3,8

4.2.3 Mothers

The mothers of the children in both groups were included in the study. Mothers in the experimental group ranged in age from 32 years to 48 years with a mean age of 38,75 years. Mothers in the control group ranged in age from 31 years to 46 years with a mean age of 37,6 years.

The mothers were considered a matched group in that they each had a chronically ill child in common who was of a similar age, ordinal position and had the same number of siblings. In addition, the child's illness was of a similar degree of severity and duration. These common factors amongst the children were thought to have influenced the mothers' personalities and hence, regarding the experimental and control mothers as a matched group, seemed appropriate. Kerlinger (1975) noted that 'When a matching variable is substantially correlated with the dependent variable, matching as a form of variance control can be profitable and desirable ' (p.311).

4.3 Tests

The Children's Personality Questionnaire (CPQ), the Sixteen Factor Personality Questionnaire (16PF), the Family Relations Test (FRT), the Maryland Parent Attitude Survey (MPAS) and the Rorschach were selected as the test battery as they enabled one to study the personality of the asthmatic child, his mother and the mother-child relationship at many different levels. These tests also have objective scoring systems which restrict bias and contamination of data. In addition, the writer devised a Biographical Questionnaire to gather background information and to assess

primary maternal rejection, that is, rejection that occurred before the onset of the child's illness.

The CPQ and the 16PF were chosen as they are the only available self-description inventories having children's and adult forms that can be compared on a standard set of factors. This allows for a comparison between the self-description of the mother and her child. Similarly, the Rorschach was selected for its use in comparing the mothers and their children as well as supplying information at an indirect, unconscious level which cannot be obtained by the direct questioning. The Rorschach's psychogram or personality profile may then be correlated with 'conscious' personality which is revealed by the questionnaires.

The FRT for children provides information at a direct and an indirect level as it is a combination of a questionnaire and a play session. Unfortunately this test does not include a suitable adult form, so the MPAS was used as the most suitable substitute to assess maternal attitudes in relation to child rearing. It will be interesting to see whether the child's perception of the mother correlates with her own perception of herself as a parent.

4.3.1 The Children's Personality Questionnaire (CPQ)

The CPQ is a standardized 'forced-choice' questionnaire designed for children from ages of eight to thirteen years and investigates the child's self-concept. It has two forms, A and B, each form divided into two equivalent parts, A_1 and A_2, and B_1 and B_2, with seventy items in each part. The results yield the personality profile of the subject which consists of fourteen source traits each rated on a ten-point scale. The extreme poles of the scales and the alphabetical symbols used

to denote the traits were stated by Cattell (1968) in the American standardization. The test was adapted and standardized for South Africa by du Toit and Madge (1972) who listed the traits as follows :

FACTOR	LOW SCORE (1,2,3)	HIGH SCORE (8,9,10)
A	Reserved	Outgoing
B	Less intelligent	More intelligent
C	Easily affected by feelings	Emotionally stable
D	Phlegmatic	Excitable
E	Submissive	Dominant
F	Sober	Happy-go-lucky
G	Expedient	Conscientious
H	Shy	Venturesome
I	Tough-minded	Tender-minded
J	Vigorous	Doubting
N	Naive	Shrewd
O	Placid	Apprehensive
Q_3	Undisciplined self-conflict	Controlled (self-controlled)
Q_4	Relaxed	Tense

In the 1972 South African standardization, reliability and validity coefficients for the CPQ are quoted. They are, however, slightly lower than one would expect in a test, but as they are similar to those reported by the American authors (Porter and Cattell, 1960), they are regarded as satisfactory. Cattell (1968) pointed out that optimal reliability can only be obtained if both Forms A and B of the questionnaire have been administered. Unfortunately Cattell's suggestion as to how to raise the reliability of the CPQ was impractical as the younger children needed at least an hour to complete Form A alone

and even found this tiring. In the 1968 revision of the CPQ, Cattell attempted to eliminate faking by having the items as neutral as possible. Despite this, the possibility of faking, a shortcoming of all questionnaires, *continues to exist.*

4.3.2 The Sixteen Factor Personality Questionnaire (16PF)

The 16PF is designed for the general public who have not had any specific post matric education. The questionnaire measures sixteen source traits and has two forms, A and B, with 187 questions in each. The 16PF forms have been standardized for South Africa but to date norms are available only for Form A and only for first year university students and women in the general public of average age thirty-five. There is no South African manual and the 1970 edition of the Handbook of the 16PF is supplied with the forms. Cattell, Eber and Tatsouka (1970) stated that the sixteen factors have been shown to be 'functionally unitary' and independent, and that the slight correlation which exists among the factors is due to the fact that they interact with one another through the environment. The authors presented the following bipolar description of the sixteen source traits :

FACTOR	LOW SCORE (1,2,3)	HIGH SCORE (8,9,10)
A	Sizothymia (Reserved, detached critical, aloof, stiff)	Affectothymia (Warmhearted, outgoing, easygoing, participating)
B	Low intelligence	High intelligence
C	Emotional instability or ego weakness	High ego strength
E	Submissive	Dominance or ascendence
F	Desurgency	Surgency
G	Low superego strength or lack of acceptance of group moral standards	Superego strength or character
H	Threctia (Shy, timid, restrained, threat-sensitive)	Parmia (Adventurous, 'thick-skinned', socially bold)
I	Harria (Tough-minded, rejects illusions)	Premsia (Tender-minded, sensitive, dependent, overprotected)
L	Zeppia (Zestful, liking group action)	Coasthenia (Circumspect individualism, reflective, internally restrained)
L	Alaxia (Trusting, accepting conditions)	Protension (Suspecting, jealous)
M	Praxernia (Practical)	Autia (Imaginative, absent-minded)
N	Naivete	Shrewdness
O	Untroubled adequacy	Guilt proneness
Q_1	Conservatism of temperament	Radicalism
Q_2	Group dependent	Self-sufficiency
Q_3	Low self-sentiment integration	High strength of self-sentiment
Q_4	Low ergic tension	High ergic tension

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Although the 16PF is based on factor analysis, Nunnally (1959) questioned the reliability of multi-factor self-description inventories. He suggested the reliability could be raised by increasing the number of items. Optimal reliability could have been obtained if both Forms A and B of the 16PF had been used,but unfortunately this was impractical as the mothers needed well over an hour to complete Form A alone, and also South African norms are only available for Form A.

The 16PF, like all questionnaires, is vulnerable to the 'response sets' of the individuals responding to the items. Frederikson and Messick (1959, as cited by Vernon, 1964) classified some of the commonly occurring response sets as follows :

(a) Acquiescence - tending to accept any personality statement as applying to oneself, or alternatively to reject all items.

(b) Evasiveness - giving many Doubtful or Indifferent responses.

(c) Extremeness - giving a preponderance of Strongly Agree or Strongly Disagree rather than intermediate responses.

(d) Inclusiveness - when the number of responses, for example, 'like', is unspecified, giving a large proportion of these.

(e) Answering in terms of social desirability.

(f) Other tendencies to fake or distort, willingly or not.

(g) Cautiousness, for example, omitting difficult items as opposed to guessing.

(h) Tendency to be consistent or inconsistent where two or more responses in the same test have practically the same meaning.

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In the 16PF, attempts were made to deal with the problem of response set by encouraging the subject to be honest and by having an equal number of

'Yes' and 'No' responses making up each scale. However, Pervin (1970) felt that despite these efforts to deal with response sets, they 'would appear to enter into some aspect of each test and to distort the psychological meaning of the items involved' (p.121).

In addition, many variables enter the test situation and may influence the resultant score. Mitchel (1971) took rather an extreme point of view, stating that personality is 'situation-specific' and that : 'A test merely yields a sample of behavior under particular eliciting conditions' (p.121). However, Vernon's (1964) point of view is more tenable and is the one to which the author ascribes. This is that 'a person's behavior in any situation depends on specific features of that situation and on his temporary feelings or state of mind; but it also depends on his enduring characteristics - abilities, habits and more general dispositions which are called traits' (p.181). As the psychological situation affects responses on the 16PF, the reliability and validity of the test have to be demonstrated. However, as yet no reliability or validity coefficients are given for the South African standardization of the 16PF.

4.3.3 The Family Relations Test (FRT)

The FRT is a standardized 'miniature life' or play situation which the authors claim to be 'a simple objective device for the exploration of the child's emotional relations with his family' (Bene and Anthony, 1957, p.3). The test permits the child to express his attitudes towards members of his family and what attitudes he believes that members of his family have towards him. Although the FRT has previously been classified in the Mental Measurement Yearbook as a projective device, it has been recently reclassified as non-projective as it is 'really an

inventory technique in disguise' (Semeonoff, 1972). This is because the questions are explicitly stated and the scoring is objective, requiring no interpretation on the part of the tester.

The test material consists of twenty cardboard figures, representing people of various ages from babyhood to old age, attached to cardboard postboxes. In the form for seven years and above there are eighty-six cards containing statements reflecting feelings of like and dislike, love and hate, and attitudes relating to maternal overprotection and parental overindulgence. After selecting figures to represent members of his family including one for himself, the child places each card in the box behind the figure for which the statement is most appropriate. In addition, there is a figure standing for 'Nobody' to whom the child allocates those feelings which he cannot acknowledge on a conscious level or those which do not apply to himself and his family. The results reveal the child's perception of the interpersonal relationships within his family and his 'psychic reality' (Bene and Anthony, 1957, p.11). He indicates which members of his family are the objects and sources of love, hositility, ambivalence and dependency. From this information one can determine whether the child experiences emotional security, whether his parents are adequate, the extent of sibling rivalry, those feelings which the child inhibits and the defence mechanisms which he employs. In addition, the following personality profiles can be worked out, namely, idealizing tendency, paranoid tendency, and egocentric states, both auto-aggressive and auto-erotic.

The FRT has been criticized on the grounds that it does not discriminate between felt and expressed attitudes (Bell, 1959), that no norms are given beyond a few illustrative cases (D.B. Harris, 1959) and that the reliability evidence is not impressive (Jensen, 1959). The

authors pointed out that the reliability and validity of the FRT is adversely affected by changes in the home environment and maturation in the child (Bene and Anthony, 1957). The test appears to reveal the family dynamics at the time of testing. Hence the usual methods of assessing reliability, the test-retest and split-half techniques, are not suitable for the FRT. Kaufman (1970) after reviewing the research on the validity of the FRT, concluded his survey by stating :

> Little research involving the instrument has been reported, and most studies have been hampered by failure to report essential information, small sample size, poor design, and inappropriate statistical procedures. Investigations reported to date have yielded equivocal evidence of the test's validity (p.186).

However, he did concede that 'The rationale and construction of the Bene-Anthony Family Relations Test suggest that it could be a valuable projective technique' (p.186).

4.3.4 The Maryland Parent Attitude Survey (MPAS)

Recently Pumroy (1966) developed a research instrument, the Maryland Parent Attitude Survey (MPAS), to measure child-rearing attitudes, the objective being the control of social desirability set. This scale was intended to overcome the criticism directed at widely employed parental attitude inventories, such as the Parent Attitude Research Instrument (PARI),which were thought to be influenced by the response set of social desirability (Becker and Krug, 1965). The MPAS consists of ninety-five items, with the first five items being buffer items, calling for a forced-choice response in each case between two paired statements. The pairing of statements was based on the type of parents they represented, according to psychologist judges, and the distribution of responses of a

group of subjects who had been instructed to answer as they thought a good parent would. The four types of parents, corresponding to the scales, are Disciplinarian, Indulgent, Protective, and Rejecting. The test is scored by adding the number of statements chosen for each of the categories. The MPAS, with instructions and scoring keys, is presented in Appendix B. As television had not been introduced in South Africa when the MPAS was administered to the sample, television items (items 11A, 28B, 30A, 32A, 44A, 76B) were felt to be inappropriate for a South African population and 'bioscope' was substituted for 'television'.

The four scales of the MPAS and the author's (Pumroy, 1966) description of them, are as follows :

(a) Disciplinarian Parents

> These parents need and expect fairly strict obedience from the child. The child knows that if he does not comply he will be punished, as the rules are explicitly ted by the parent. This punishment is carried out in r and consistent manner. This parent is constantly ng the child to achieve beyond his ability, forci to grow up early (p.75).

(b) Indulgent Parents

> These parents are child centered; the child is allowed to have his own way in all matters. The child is showered with warmth and affection. While there are attempts at discipline, the child knows the rules can be circumvented. The child is not encouraged to show any initiative, and seldom does he have any responsibilities around the house. Frequently, but for no particular reason other than an impulse on the part of the parent, the child is given gifts and treats (pp.74-75).

(c) Protective Parents

> Protective parents are primarily concerned with seeing to it that the child takes a minimum amount of risks. Consequently, the parents are overly watchful of the child and always alert to possible dangerous aspects of all situations. These parents perform tasks for the child long beyond the time the child is capable of doing the task for himself. The child is not allowed to grow up and do things for himself (e.g. feeding, bathing, going to school alone, etc.) for fear that something will happen to him (p.75).

(d) Rejecting Parents

> These parents are openly and actively hostile toward their children. This hostility is frequently reflected in discipline and punishment. This discipline and punishment seems to be based more on the general negative feelings of the parent than on the behavior of the child. Because of the hostility engendered in the child, these parents frequently feel that children are incorrigible (p.75).

As the MPAS is a relatively new instrument, there are very few reported evaluative studies. The author reported adequate reliability coefficients and norms are available for American college students. Validity of such an instrument is not easy to establish. Tolor (1967) evaluated the MPAS in terms of its susceptibility to the social desirability set, the internal relationships of its component scales, and its validity in relation to the variable of expectancy of internal versus external control. The MPAS was found to be free of the social desirability set, in general to have its four subscales demonstrate the expected internal relationships, and to exhibit no association with the subjects' internal versus external attitude.

4.3.5 The Biographical Questionnaire

The Biographical Questionnaire used in this study was designed to gather background information and in particular to assess maternal

rejection (see Appendix B). Because of the controversy that exists in the literature as to the primary or secondary nature of maternal rejection in the etiology of asthma, an attempt was made to evaluate deviant maternal attitudes and behaviour during pregnancy and in the early months of the infant's life before the onset of the illness. Burton (1968) defined the two-fold criteria of maternal rejection as follows :

> (1) Underlying maternal hostility.
> (2) Behavior likely to produce or increase infant problem behavior (p.256).

Hence, a mother may behave towards her child in a manner most likely to produce problem behaviour without showing any real underlying hostility. For example, a sick mother may find difficulty in accepting her pregnancy, may have difficulty in coping with the infant's problems and yet basically like and want to help her child. From the child's point of view, this mother is rejecting in so far as she is unable to really satisfy his needs.

Ten questions were taken as indices of rejecting behaviour on the mother's part. These items are similar to those used in Burton's (1968) study. The items are in the form of a forced-choice. The subject answers 'yes' or 'no' to the question and then elaborates. On the basis of the total answer, the writer decided whether the answer fell into one of two categories, namely, primary maternal rejection or primary maternal acceptance. No single question was thought to be sufficient to gauge maternal rejection. Rejecting mothers were thought to give consistently deviant responses. These questions and the reasons for their selection are set out below.

Question 5 : Was the pregnancy planned ?

Question 6 : How did you feel about conceiving this child ?

Answers to these two questions indicative of an unwanted pregnancy were thought to be indicators of maternal rejection. This assumption was based on the early studies of Fries (1937) and Benedek (1949) and later Burton (1968) which suggested that admission of unwantedness indicated maternal hostility. Also, it has been suggested that the rejecting attitude would result in maternal stress which would communicate itself to the developing fetus and produce deviant infant behaviour at the outset (Ferreira, 1960; Wallin and Riley, 1950). In Burton's (1968) study mothers who reported unwanted pregnancies tended to be 'pathogenic' mothers with problem infants.

Question 7 : Did you have an easy pregnancy ?

Answers indicative of distress during pregnancy, for example, excessive sickness or hypertension, were thought to indicate some degree of rejection on the mother's part. This prediction was based on the psychoanalytic study of G.G. Robertson (1946) which suggested that underlying hostility was mirrored in pregnancy stress. Brown (1964) investigated the concept in a more empirical manner and established high correlations between physical disturbance in pregnancy and anxieties over relationships with husband and baby. The most anxious mothers produced the largest number of bodily symptoms.

The work of Sontag (1950) and Stott (1957) suggested that undue stress during pregnancy would communicate itself directly to the child with consequent behaviour difficulties.

Question 8 : Were you at all emotionally upset during your pregnancy ?

Answers indicative of excessive emotional disturbance during pregnancy were thought to indicate maternal rejection. This assumption

was based on studies which suggested that emotional distress during pregnancy resulted from the mother's immaturity and consequent hostility towards the child (Benedek, 1949; Ferreira, 1960; Wallin and Riley, 1950), and studies which suggested that emotional distress could disturb the developing fetus (Sontag, 1950; Stott, 1957).

Question 9 : Were there any difficulties in giving birth ?

Answers indicative of abnormal delivery or an over long delivery (excluding obvious medical causes) are taken as indices of maternal rejection. This postulated relationship was based on the study of Fodor (1949) which suggested that such long or complicated labours were indicative of fear of having a baby. Those studies that suggested that birth difficulties would accentuate problem behaviour were also taken into account (Greenacre, 1952; Stott, 1957).

Question 11 : Were you at all nervous at the thought of having to care for the child alone, or did you like the idea ?

Answers indicative of nervousness were thought to mask maternal hostility towards the child (Ferreira, 1960).

Question 12 : How did you feed the child ?

No breast-feeding after two weeks or dislike of breast-feeding when established,were regarded as indicating rejection on the mother's part. This position was maintained because of the stress on the importance of the relationship in the development of the healthy mother-child relationship (Winnicott, 1958). Bottle feeding may be totally inadequate in satisfying the infant's needs and may predispose to abnormal interactions between mother and child at a later stage.

However, despite this, there seems to be a cultural trend away from breast-feeding. Newson (1962) suggested that 40 per cent of mothers discontinue breast-feeding before two weeks of age, and only 10 per cent of mothers continue to breast-feed till six months of age. Hence, at the present time, absence of breast-feeding cannot be thought to be a valid measure of maternal rejection, even though it may decrease the possibility of a satisfactory mother-child relationship.

Question 13 : Did you demand feed or keep to a regular schedule ?

Answers to this question suggesting rigidity of feeding schedule were thought possibly to indicate maternal rejection in that there was an unwillingness on the mother's part to deal pragmatically with the demands of her child. With the cultural trend toward permissive feeding (Newson, 1963), rigid feeding methods may reflect either maternal insecurity or hostility. In both cases the non-accepting attitude would probably be sensed by the baby and might possibly increase problem behaviour.

Question 14 : Did you have any feeding problems during the child's first year of life ?

Question 15 : Did you have any special problems in the child's first year ?

Mothers responding in the affirmative to either of these questions were thought to be rejecting mothers. This assumption was based on a number of studies, which indicated that a hostile maternal attitude, either before, or immediately following birth was inevitably accompanied by reactive problem behaviour (Ferreira, 1960; Klatskin, Jackson and Wilkin, 1956; Stewart, 1954; Wallin and Riley, 1950).

4.3.6 The Rorschach Inkblot Test

Since the previously discussed questionnaires only provide the information which the subject is willing to disclose, a more indirect projective test had to be selected. The Rorschach provides data about the dynamic aspects of personality, for example, inner resources, organization of affectional needs, presence or absence of controlling mechanisms and emotional reactivity to the environment. It is generally considered a multidimensional test of personality. The purpose of the Rorschach is to provide a relatively standardized situation in which behaviour can be observed.

The test consists of ten inkblots and the subject is asked to report on what he sees. The Rorschach hypothesis is that an individual's verbal response to a highly ambiguous and unstructured visual stimulus situation would, in microcosm, reflect his idiosyncratic ways of perceiving the world and thus provides some understanding of his basic personality structure. The person is given a minimum of instruction or direction, and within the limits and kind of material, he is free to go in his own directions and to give his own unique responses. It is hoped thus to obtain information concerning his personality by the fact that he projects himself into his responses. Thus the variability of response between persons is great.

Objective scoring systems are available and the results may also be expressed in terms of a personality profile or psychogram. In this investigation, the scoring of Klopfer, Ainsworth, Klopfer and Holt (1954) was used and the Rorschach protocols were scored 'blind' by an experienced Rorschach worker. Each response is scored under three headings, namely, the mode of apperception, the qualitative aspects of perception and the

content. Each of the main types of response is summed to give the psychogram and interpretation is based on these scores and their interrelation. The system of interpretation employed was also that of Klopfer et al. (1954). A quantitative, qualitative and content analysis will yield a very good idea of the personality of the subject, his perception of his world and coping mechanisms, the way in which he handles his emotions and impulse life as well as his ability to relate to others and the degree of maladjustment.

The Rorschach has been severely criticized for its inadequate objectivity, reliance on personal norms, limited validity, restriction to clinical use and even cultism (Buros, 1959). The primary criticism of the Rorschach technique is that its validity, as the term is used in *the conventional, statistical sense, has never been clearly demonstrated.* Experimental reports on the validity of the Rorschach are ambiguous and conflicting. A part of this confusion is a consequence of inherent, inescapable properties of the projective test. It is impossible to eliminate all subjectivity from the administration and scoring of a Rorschach record. Instruments that are highly sensitive to meaningful personality dimensions are relatively easily affected by a variety of extraneous, situational, examiner, and respondent factors that interfere with the interpretation of the record. J.G. Harris (1960) listed more than thirty potential irrelevant influences on test performance, and his list is probably not exhaustive.

The paramount explanation of the failure of the Rorschach technique to to attain experimental respectibility is the poor quality of Rorschach research. The Rorschach literature, according to one sophisticated clinical investigator, 'is extraordinarily cluttered with poorly designed or irrelevant studies' (Magargee, 1966, p.468). Suinn and Oskamp (1969)

after a comprehensive survey of recent Rorschach research, concluded that 'many studies suffer from a need for cross-validation, from a small sample size, from vague or unspecified procedures, or statistical methodological problems' (p.124). Published reports of many Rorschach investigations show no indication that experimenters have considered, let alone attempted to control, subjective and extraneous influences on test performance. *Many studies deal with the validity of various factors* considered individually. Although such efforts are not intrinsically in error, their focus is limited. As Zubin (1954) and Potkay (1971) pointed out, the Rorschach is much more successful when it is employed 'globally' rather than 'atomistically'. It is probably even more successful when it is interpreted within the framework of a battery of psychological tests and other collateral information about the respondent. *Of course, under such circumstances,* it is impossible to assess the validity of the Rorschach alone. An overview of Rorschach research especially considering the Rorschach clinical practice makes it easy to accept J.G. Harris' (1960) wry observation that although the validity of the technique is undemonstrated, so is its <u>invalidity</u>.

In spite of the criticisms, the Rorschach remains one of the most frequently used personality tests in research and in clinical practice as it provides valuable information about the dynamic aspects of personality. A recent survey in America by Lubin, Wallis and Paine (1971) showed clearly that the employment of the Rorschach has hardly been affected by a decade of questioning and criticism. It was ranked first among all tests in the total number of service agencies in which it was used in 1959,and in 1969 it ranked second. Only the Wechsler Adult Intelligence Scale was mentioned more often in the 1969 survey.

The psychologist must employ the best methods he can find, even if they are poor ones according to absolute standards. The Rorschach validity is hardly less than that of most other assessment techniques, and its flexibility and potential are much greater. Its theoretical substrate is impeccable; even its most avid critic cannot deny the accumulation of experimental evidence demonstrating that the individual displays his inner self in the ways in which he structures ambiguous stimuli (Levitt and Truumaa, 1972). Viewed in this light, the continued popularity of the Rorschach technique is understandable.

4.4 Procedure

When the subjects were selected, their mothers were telephoned and were informed of the nature of the research programme. The investigator introduced herself as a psychologist and further conversation was based on the following format :

> I am doing a psychological study on children with chest and heart problems on behalf of the Children's Hospital and in conjunction with the University of the Witwatersrand's Psychology Department. Your child has been selected as he is one of the many who fell into the seven to thirteen year age group of the study. It is hoped that both you and your child will take part in the research as this will enable us to understand and help other ill children more effectively.
>
> There will be no medical examinations or experiments. You and your child will be required to do the following psychological tests :
>
> Your child will answer questions about himself, will play games with paper dolls and tell stories to pictures. You will be required to fill in some questions about yourself and your child. I would like to assure you that all information will be kept strictly confidential.

All mothers were willing to take part in the research and undergo the testing. Appointments were made to test the subjects at their homes.

The total period of testing was approximately three hours per family. Testing was done in the afternoon or over the weekend during a six week period from the 17th February to the 1st April, 1975. As the testing dates relied on the mother's convenience, it transpired that both groups of asthmatics and cardiacs were tested randomly and this obviated experimentor bias that would have occurred if each group had been tested separately.

At their homes, the subjects were put at ease as much as possible and a friendly atmosphere was created to enable them to express any fears or biases that may have existed and to allow them to partake freely in the ensuing tests. Attempts were made to have standardized testing conditions. The subjects' dining-room was the standardized testing room. There, the investigator helped the child with the three tests, the CPQ, the Rorschach and the FRT, while the mother, in a separate room where she would not be interrupted, either her bedroom or the study, completed the Biographical Questionnaire, the 16PF and the MPAS. Before the child was tested the psychologist and the mother reviewed the test instructions of the Biographical Questionnaire, the 16PF and the MPAS together. The mother was then instructed to retire to a room where she would not be disturbed and complete as much of the tests as she was able and to leave all queries until completion of the child's testing, whereupon she would return to perform a further test with the psychologist.

The testing of the child was carried out in the following manner. First, the child underwent the CPQ and the investigator would say : 'You and I are going to fill in a form which is called "What you do and what you think". I am going to help you read all the questions. Now

remember there is no right or wrong answer as people think and do different things.' The statements of the CPQ were read to all the children in the study as some of the words were too difficult for the younger children to read. On completion of the CPQ and after a short resting period, the Rorschach was administered using the Klopfer et al. (1954) method of administration and enquiry. Klopfer and his colleagues suggested that

> The kinds of instructions that seem most productive are those to the effect that the subject should say something about what the blot reminds him of, what they might represent, or what they could be. It is sometimes important to point out that there are no right or wrong answers (Klopfer et al., 1954, p.5).

The Rorschach Test was introduced to the children in the following standard manner :

> I am going to show you cards which have inkblots on them. People see all sorts of things in these inkblot pictures. Tell me what you see, what it might be for you, what it makes you think of. There are no right or wrong answers, people see different things and I am interested in what you see. Here is the first card.

After the ten cards had been presented and the child's responses recorded in writing, the investigator enquired into each of the responses asking the following standard questions as specified by Klopfer et al. (1954, p.9) :

> (a) What part of the blot did you use for the ... (response) ?
> (b) What about the blot makes it seem like ... (response) ?
> (c) How do you see the ... (response) ?

On completion of the Rorschach a ten minute break was allowed. Now the less fatiguing FRT was administered according to the instructions in the test manual (Dene and Anthony, 1957) and the child invariably found this test enjoyable to perform.

At this point, the child was excused from the room and the mother returned for the completion of her testing. Before proceeding to the Rorschach, the queries about the preceding tests were answered and the psychologist ensured that they had been adequately performed. The mother was then tested on the Rorschach using the same administration instructions as those used for the child.

All the tests, except the Rorschach, were scored by the tester as they have objective scoring systems. They were then checked again by another psychologist. The Rorschach was scored blind by an experienced Rorschach worker. The scoring system used was that of Klopfer et al. (1954). The Rorschach scorer was informed that the study was of personality factors in asthmatic children and their mothers, and in cardiac children and their mothers. However, the only details given for each Rorschach protocol was the subject's name and age, but any information pertaining to group membership was withheld.

5. RESULTS

This chapter deals with the description of the data analyses and the results and interpretation thereof.

5.1 Analysis of Data

The test data, except for the items of the Biographical Questionnaire, were statistically analyzed at two levels. The data at both levels were processed and information received from the National Institute for Personnel Research (NIPR).

At the first level of analysis, 138 variables were selected from the test battery comprising :

(a) Thirty-seven variables from the Rorschach responses from the children. These variables consisted of the factors and ratios of accepted Rorschach interest as well as the percentage of anatomy and aggressive responses. These were seen as being relevant to asthma. Certain minor adjustments were necessary for the determinant scores and ratios for the statistical analysis. One determinant score was used which was calculated by combining the main and additional scores according to the standard Rorschach procedure, that is, main score plus half additional score. The determinant score was then converted into a percentage and to differentiate the determinant percentages from other Rorschach percentages, the percentage notation was written before the determinant letter, for example, %M. The ratios were converted into percentages by taking the first figure as a percentage of the total of the first and second numbers of the ratio. Statistical analyses were carried out on these percentages.

(b) Fourteen variables from the CPQ which comprised all the factors of this test.

(c) Thirty variables from the FRT. These variables consisted of all the categories from the FRT except for both the Positive and the Negative feelings. Each of these categories consisted of the feelings the child had towards members of his family as well as the feelings he perceived that members of his family had towards him.

(d) Thirty-seven variables from the Rorschach for the mothers which were selected on the same basis as those for the children.

(e) Sixteen variables from the 16PF comprising all the factors of this test.

(f) Four variables from the MPAS which related to all the parental attitudes of this questionnaire.

For a description of these variables refer to Table 10 in Appendix A. Except for the percentage scores of the Rorschach, raw scores were used for the first level of analysis.

At the first level of analysis of the data, the individual relevance of each of the 138 variables relating to the asthmatic children and their mothers were analyzed. The statistical technique used at this stage of the analysis involved the use of two-tailed t-tests for matched samples, to identify those variables which significantly differentiated the experimental and control groups. A p value equal to or less than 0,05 was accepted as the significance level in this study.

At the second level of analysis, the emphasis shifted from a consideration of the individual variables to the study of the common characteristics of the subjects. Two cluster analyses (Ward, 1963) were performed. A Cluster Analysis classifies the subjects of a sample into

natural clusters according to common attributes instead of clustering the variables as in a Factor Analysis. As the present study had a greater number of variables than subjects, this precluded Factor Analysis.

For the first of these Cluster Analyses, 38 variables were selected from the 81 recorded children's variables (see Section 5.3.1 and Table 11 in Appendix A). The second Cluster Analysis comprised 38 variables selected from the 57 recorded variables for the mothers (see Section 5.3.3 and Table 12 in Appendix A).

A Cluster Analysis will divide a group according to the most important differences between the subjects. If the strongest or most important differences between the children are connected with illness, clustering into the experimental and control groups will occur. Hence, from the results of the Cluster Analysis it might be possible to determine whether the experimental and control groups are distinctly different or not. If the group of asthmatic children differs from the control group, then the distinguishing variables which have been identified at stage one may be identified again in stage two of the analysis, thus distinguishing a distinct asthmatic pattern. If, on the other hand, the two groups of children are not differentiated, the results would tend to support the viewpoint that there is no distinct asthmatic profile differing from the pattern of other chronically ill children. The Cluster Analysis of mother variables will also indicate whether mothers of asthmatic children are distinctly differentiated from mothers of cardiac children.

The items of the Biographical Questionnaire were not included in the statistical analyses described above. The ten items of this questionnaire relating to primary maternal rejection were analyzed using the Chi Square (χ^2) Test.

In addition, a qualitative analysis of the Rorschach was undertaken to see if any clinical analysis would confirm the statistical results or throw any further light on the statistical investigation. For this analysis, the usual Rorschach procedure for determinant scores was used, that is, both main and additional scores. Group means and standard deviations were calculated for all the Rorschach variables. This resulted in Rorschach psychograms and ratios for four groups of subjects, that is, asthmatic children, mothers of asthmatic children, cardiac children and mothers of cardiac children (see Fig. 3; Fig. 4; Fig. 5; Fig. 6). As the mean scores of the groups are purely theoretical, two Rorschach protocols that most closely approximated each of the group means were selected. The Rorschach psychograms for the four groups plus two Rorschach protocols per group were qualitatively analyzed by the psychologist who scored the protocols, again without knowing the identity of the group in question. The groups were simply marked and presented in the following order : Mother Group S, average age 37,6 years; Mother Group T, average age 38,75 years; Children Group P, average age 9,7 years; Children Group Q, average age 9,65 years. (S = Mothers of cardiac children, T = Mothers of asthmatic children, P = Cardiac children, Q = Asthmatic children.) The psychologist was asked to analyze the Rorschach group psychograms and to compare and contrast each group psychogram with the two Rorschach protocols that most closely resembled it. The system of analysis employed by the psychologist was that of Klopfer et al. (1954). If the qualitative analysis revealed differences between the experimental and control groups this would provide valuable information about the dynamic aspects of the personality and would enlarge upon the findings of the statistical analysis.

5.2 First Level of Analysis

5.2.1 Results at the First Level of Analysis

At the first level of analysis, the 138 variables extracted from the test battery were subjected to two-tailed t-tests for matched samples (see Table 10 in Appendix A). Of these, 26 variables were found to differentiate significantly the experimental and control groups with 17 variables distinguishing the asthmatic and cardiac children and 9 variables their mothers (see *Tables 3 and 4*).

Table 3 indicates that on the Rorschach Test asthmatics when compared with cardiacs gave significantly more responses (var.[1]/ 1); rejected *significantly less cards (var.5); gave significantly more aggressive* responses (var. 15); had a significantly higher %F score (var. 22); had a significantly higher %c score (var. 23); had a significantly higher F% (var. 26); had a significantly higher $\frac{FK+F+Fc}{R}\%$ (var. 27) and had a significantly lower F : FK+Fc ratio (var. 34). On the CPQ, asthmatic children were found to score significantly higher than cardiacs on Factor B (var. 39), Factor D (var. 41), Factor E (var. 42), Factor F (var. 43), *Factor Q_4 (var. 51) and to score significantly lower* on Factor G (var. 44) and Factor Q_3 (var. 50). On the FRT, asthmatics gave significantly less negative feelings to Nobody (var. 62) and significantly more negative feelings towards Siblings (var. 66) than did the cardiacs.

1/ var. = variable

TABLE 3

Variables which distinguish significantly between the Experimental and the Control Group Children

VARIABLE	EXPERIMENTAL		CONTROL		t-test level of significance
	Mean	Standard Deviation	Mean	Standard Deviation	
1. Rorschach-Total responses	13,1	6,2	9,5	2,3	$3,2^{+}$
6. Rorschach-Rejections	0,3	0,6	1,4	1,7	$1,5^{+}$
15. Rorschach-Aggressive responses %	30	21,1	10,9	10,9	$0,4^{++}$
22. Rorschach-%F#	40	25,5	65,5	27,3	$0,4^{++}$
23. Rorschach-%c #	8,2	8,5	2,7	4,6	$1,7^{+}$
26 Rorschach-F%	45,6	25,7	70	26,8	$0,5^{++}$
27. Rorschach-$\frac{FK+F+Fc}{R}$ %	48,6	24	70,4	24,9	1^{++}
34. Rorschach-F:FK+Fc	80,4##	22	93,3##	14,9	$2,4^{+}$
39. CPQ- Factor B	6	1,4	4,2	1,6	$0,03^{++}$
41. CPQ- Factor D	5,6	1,7	4,3	1,6	$3,4^{+}$
42. CPQ- Factor E	5,8	2	3,8	1,4	$0,3^{++}$
43. CPQ- Factor F	5,6	2	4,3	1,5	$2,8^{+}$
44. CPQ- Factor G	4,6	2,1	5,8	1,8	$4,9^{+}$
50. CPQ- Factor Q_3	4,3	1,6	6	1,3	$0,4^{++}$
51. CPQ- Factor Q_4	6	2	4,5	1,9	$1,9^{+}$
62. FRT-Negative feeling towards Nobody	11,1	6,9	17,4	8,5	$2,5^{+}$
66. FRT-Negative feelings towards Siblings	18,7	13	12,1	7,9	$4,8^{+}$

\+ Significant at the 5% level ($p<0,05$)
++ Significant at the 1 % level ($p<0,01$)
\# Percentage notation before the determinant indicates ½ additional score added to main score.
Ratio converted into percentage by taking the first figure as a percentage of the total of the first and second numbers of the ratio.

TABLE 4

Variables which distinguish significantly between the Experimental and the Control Group Mothers

VARIABLE	EXPERIMENTAL Mean	EXPERIMENTAL Standard Deviation	CONTROL Mean	CONTROL Standard Deviation	t-test level of significance
82. Rorschach-Total responses	12,8	3,5	9,9	2,1	$0,6^{++}$
86. Rorschach-Rejections	0,4	0,6	1,3	1,3	2^{+}
88. Rorschach-% responses to 8,9 and 10	41	7,8	33,3	10,6	$0,5^{++}$
96 Rorschach-Aggressive responses %	15,6	8,8	7,1	8,5	$0,6^{++}$
97. Rorschach-(H+A) : (Hd+Ad)	$86,5^{\#\#}$	11,4	$94,6^{\#\#}$	8,5	$2,8^{+}$
100. Rorschach-%m$^{\#}$	6,4	4,2	2,4	3,3	$1,2^{+}$
104. Rorschach-%c$^{\#}$	14,4	6	8,5	6,8	$0,6^{++}$
120. 16PF-Factor B	6,4	1,4	5,2	1,7	$3,6^{+}$
133. 16PF-Factor Q_3	5,5	2,3	7,2	1,7	$1,1^{+}$

\+ Significant at the 5% level ($p \leq 0,05$)
++ Significant at the 1% level ($p \leq 0,01$)
\# Percentage notation before the determinant indicates ½ additional score added to main score.
\#\# Ratio converted into a percentage by taking the first figure as a percentage of the total of the first and second numbers of the ratio.

Table 4 indicates that on the Rorschach Test, the mothers of the asthmatic children when compared with the mothers of the cardiac children, gave significantly more responses (var. 82), rejected significantly less cards (var. 86), gave significantly higher percentage responses to cards

8, 9 and 10 (var. 88), gave significantly higher percentage of aggressive responses (var. 96), had a significantly lower (H+A) : (Hd+Ad) ratio (var. 97) and obtained significantly higher %m (var. 100) and %c responses (var. 104). On the 16PF, mothers of asthmatics scored significantly higher on Factor B (var. 120) and significantly lower on Factor Q_3 (var. 133) than mothers of cardiacs. No significant differences were found on the MPAS.

It is noteworthy that on six corresponding factors both the experimental children and their mothers differed significantly from the control children and their mothers. On the Rorschach, asthmatic children and their mothers when compared with cardiacs and their mothers, were found to give significantly more responses (child var. 1, mother var. 82); rejected significantly less cards (child var. 5, mother var. 86); gave a significantly higher percentage of aggressive responses (child var. 15, mother var. 96) and had a significantly higher %c score (child var. 23, mother var. 104). On the Cattell Personality Questionnaires, the CPQ and the 16PF, the asthmatic children and their mothers both scored significantly higher on Factor B (child var. 39, mother var. 120) and significantly lower on Factor Q_3 (child var. 50, mother var. 133) than did the cardiac children and their mothers.

Thus, on the Rorschach, the CPQ and the FRT some significant differences were found between the asthmatic children and the cardiac children. From the results of the Rorschach and the 16 PF significant differences were found between the mothers of the asthmatic children and the mothers of the cardiac children. The results of the FRT and MPAS did not indicate significant differences between the mother-child relationships of asthmatic and cardiac children.

Hence, at the first level of analysis of the data, the first two null hypotheses may be rejected because

(a) significant differences were found between asthmatic children and non-asthmatic chronically ill children on certain personality variables as measured by the battery of psychological tests, and

(b) significant differences were evident between mothers of asthmatic children and mothers of non-asthmatic chronically ill children on certain personality variables as measured by the battery of psychological tests.

The third null hypothesis must be retained as no significant differences were revealed between the mother-child relationships of asthmatic children and non-asthmatic chronically ill children as measured by the battery of psychological tests.

5.2.2 Interpretation of Results at the First Level of Analysis

5.2.2.1 Children

As can be seen from Table 3, the significant difference in FS as found on the Rorschach (var. 26) can be interpreted to mean that the asthmatic children are less constricted. This is in agreement with the significant difference in %F (var. 22), the percentage which includes both the main and additional F responses of the Rorschach, which also suggests that the asthmatics are less constricted. Less constriction is further substantiated by the asthmatics obtaining a significantly lower $\frac{FK+F+Fc}{R}$ % on the Rorschach (var. 27). Related to the asthmatics being less constricted than the cardiacs is the finding that they also appear less inhibited. This is seen in their giving more responses to the

Rorschach cards (var. 1) and in their rejecting less Rorschach cards (var. 5).

Thus, the Rorschach revealed that asthmatic children were less constricted and less inhibited. Corroborating evidence was found from the CPQ in the significant differences shown in Factor G (var. 44), Factor Q_3 (var. 50), Factor Q_4 (var. 51), Factor D (var. 41) and Factor F (var. 43). These factors revealed respectively that the asthmatics had less superego strength, were less self-controlled and were more tense, more excitable and more cheerful than the cardiac children.

The Rorschach further revealed that asthmatic children gave a significantly greater percentage of aggressive responses (var. 15). This seems to be related to the asthmatics' greater dominance as shown by Factor E of the CPQ (var. 42) and to their less inhibition of negative feelings and greater expression of these feelings towards siblings. This was evidenced by their placing significantly less negative feelings in Nobody in the FRT (var. 62) and their expressing significantly more negative feelings towards Siblings in the FRT (var. 66).

Despite the asthmatics' greater dominance and more frequent expression of aggressive feelings, they revealed more affectional needs as shown by the significantly higher %c score on the Rorschach (var. 23) and less control of these needs as evidenced by the significant difference found on the F:FK+Fc ratio on the Rorschach (var. 34). In addition, the asthmatic children were found to score significantly higher than the cardiac children on Factor B of the CPQ (var. 39). This factor is called the intelligence factor by Cattell (1968) and by du Toit and Madge (1972) in the South African standardization. However, it is doubtful whether the ten items of this factor measure intelligence as a whole. It seems

that these items on the CPQ investigate limited aspects of intelligence, namely, verbal skills and in this study will be considered in this way.

Although significant differences were found between asthmatic and cardiac children, the asthmatics' scores were still within the normal limits of the tests used and did not reflect pathological disturbance.

The following tentative summary can be postulated. In comparison *with the control group of cardiac children, asthmatic children appear* to be less controlled, more responsive, more verbally adept and more cheerful. They seem to be more outgoing in their personalities than cardiac children. The greater awareness and seeking of affection is indicative that affectional needs have not been met in these children. Arising from this frustration of needs are feelings of tenseness and consequent feelings of greater aggressiveness and needs to be assertive and dominant. This moving towards as in the need for affectional satisfaction and moving against as demonstrated by more aggressive feelings and in the need to be dominant shows the ambivalence of the asthmatic children. One could view the asthmatic child as being more outgoing and ambivalent as he seeks affection, while he also demonstrates dominant and aggressive traits.

This summary is seen as a tentative formulation. According to the norms of the tests employed, this basic personality picture is within the limits of normal functioning.

A corollary of these findings was that the cardiac children's constriction reached neurotic proportions according to Ledwith's Rorschach norms for children (Ledwith, 1958). In addition, the mean score of the

cardiac children on Factor E of the CPQ (var. 42) when compared with the test norms was so low as to be almost pathologically submissive.

5.2.2.2 Mothers

Table 4 shows that mothers of asthmatic children were found to be less inhibited than mothers of cardiac children as they gave significantly more responses to the Rorschach (var. 82) and rejected significantly less Rorschach cards (var. 86). Related to this lesser inhibition is the significantly greater percentage of responses to cards 8, 9, and 10 on the Rorschach (var. 88). This suggests more potential responsiveness to the environment. The significant difference obtained on Factor Q_3 of the 16PF (var. 133) indicates that experimental mothers have less 'self-sentiment integration' or self-control (Cattell et al., 1970). These mothers were also found to score significantly higher on Factor B of the 16PF (var. 120) which Cattell et al. (1970) called the intelligence factor but which is interpreted in this study as measuring verbal skills. In addition, there was a greater awareness of detail as revealed by the significant difference in the (H+A) : (Hd+Ad) ratio of the Rorschach (var. 97). These latter three variables (var. 133; var. 120; var. 97) are consistent with the general description of being less inhibited (var. 82; var. 86).

The significant difference found between experimental and control mothers on %c of the Rorschach (var. 104) suggests that mothers of asthmatics reveal greater affectional needs. They also show greater intrapsychic tension as revealed by their significantly higher %m on the Rorschach (var. 100). Possibly related to these latter two features in the experimental mothers' personality is the more frequent expression

of aggressive feelings as found by their giving more aggressive responses to the Rorschach (var. 96).

According to the norms of the test used the deviation of both the experimental and control group mothers is within normal limits and does not indicate pathological disturbance.

In view of the above, the following tentative summary is postulated. In comparison with mothers of cardiac children, mothers of asthmatic children appear to be less inhibited, more responsive to the environment, less self-controlled, more verbally adept and more aware of detail. It may be that these mothers of asthmatic children are people who are more outgoing and responsive to the world and people. The greater awareness of affectional needs may indicate that these needs have not been met. This frustration of needs could lead to feelings of intrapsychic tension and consequent feelings of greater aggressiveness. This moving towards as in the need for affectional satisfaction and moving against as demonstrated by more aggressive feelings shows these mothers' ambivalence. One could view the mother of an asthmatic child as being more outgoing and ambivalent as she seeks affection, while she also demonstrates aggressive traits.

5.2.2.3 Children and Mothers

On six comparable factors both the experimental children and their mothers differed significantly from the control children and their mothers (see Tables 3 and 4). The experimental dyad was found to be less inhibited (child var. 1, mother var. 82; child var. 5, mother var. 86), to have less self-control (child var. 50, mother var. 133)[1/] and to be more verbally

1/ Factor Q_3 in the CPQ (var. 50) and Factor Q_3 in the 16PF (var. 133) are related and are concerned with concepts such as will power, self-discipline and self-control. For the purpose of this study the common concept is here designated as 'self-control'.

adept (child var. 39, mother var. 120). Asthmatic children and their mothers seem to be more outgoing than the cardiac children and their mothers. The findings that the asthmatic child and his mother both reveal greater affectional needs (child var. 23, mother var. 104) and more frequently expressed aggressive feelings (child var. 15, mother var. 96) suggest that they may both be responding in an ambivalent way to people.

5.3 Second Level of Analysis

At the second level of analysis of the data, two separate cluster analyses were carried out :

1. with variables pertaining to children
2. with variables pertaining to mothers.

5.3.1 Cluster Analysis on Child Variables

For the children 38 variables were selected from the 81 recorded child variables for the Ward Cluster Analysis (Ward, 1963). These 38 variables comprised :

(a) Those variables that were found to be significant on t-tests.

(b) Those variables that were found to have a large standard deviation on t-tests as these were felt to be most relevant in group differentiation.

(c) All the factors of the CPQ. As the majority of variables of the CPQ were found to have either a large standard deviation or to be significant, it was decided to include the whole test.

(d) Four non-significant factors from the FRT in order to see if mother-child relationships influenced the groups. These four variables comprised all those variables on the FRT that related specifically to the mother-child relationship.

(e) Two non-significant child variables corresponding to mother variables which significantly differentiated the experimental and control group mothers.

For a description of these variables refer to Table 11 in Appendix A.

Before the Cluster Analysis was performed all scores were standardized.

The results of the Cluster Analysis on the child variables revealed two distinct groups of children who were grouped mainly according to their illness, namely, asthmatic and cardiac (see Fig. 1). In the first group, there were 21 subjects consisting of 17 asthmatics and four cardiacs. In the second group, there were 19 subjects consisting of 16 cardiacs and three asthmatics (see Table 5). This was found to be a highly significant difference (χ^2=17,94; p<0,001).

TABLE 5

Segregated Groups on the Cluster Analysis on Child Variables

SUBJECTS	GROUP 1	GROUP 2
Experimental children	17	3
Control children	4	16

To ascertain which variables were more important than others for differentiating the groups two-tailed t-tests for unrelated samples were carried out for the 38 variables from the Child Cluster Analysis. Of the 38 variables, 24 were found to be significant (see Table 6).

As can be seen from Table 6, asthmatic children compared with cardiac children were found on the Rorschach to give significantly more

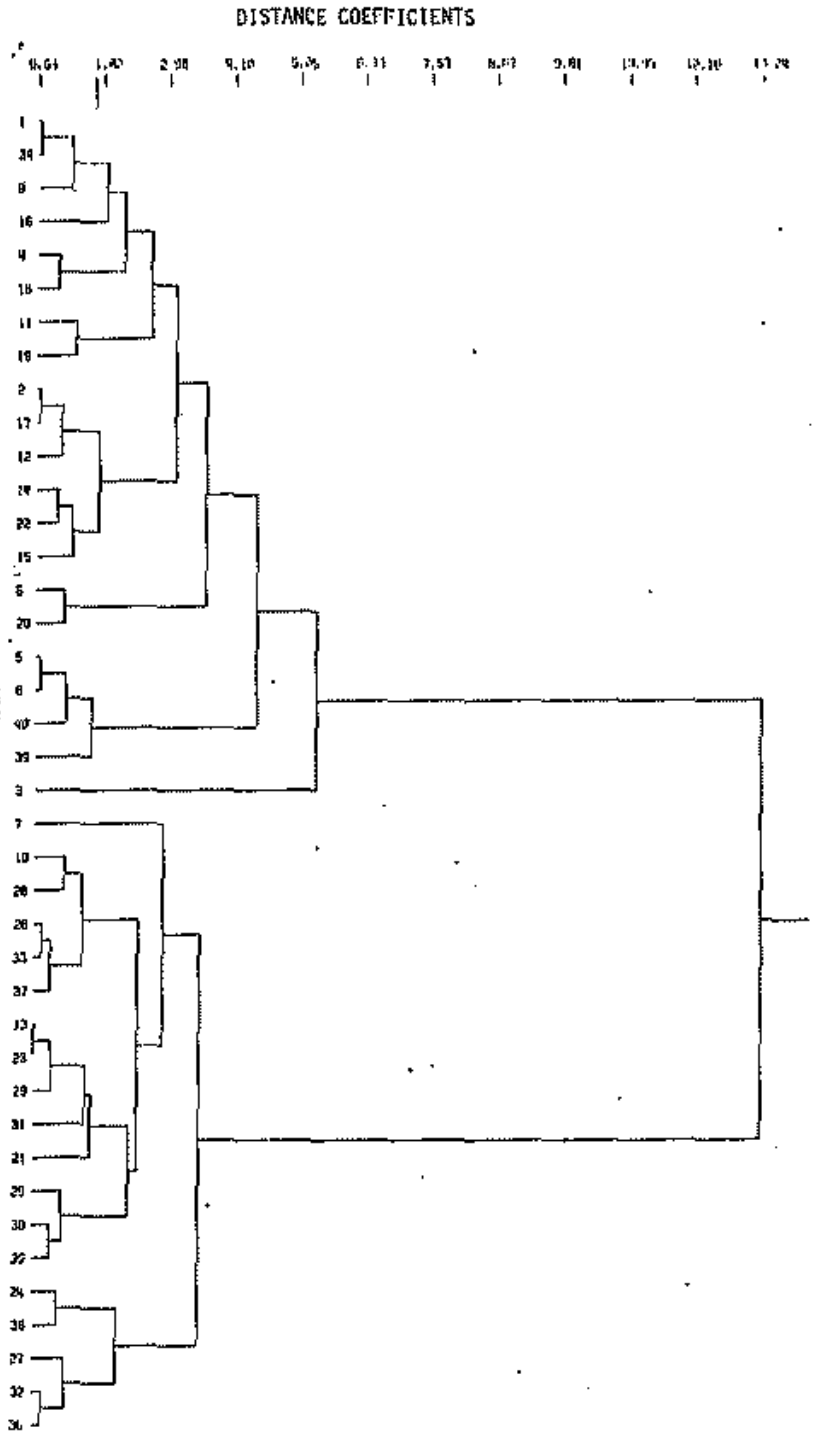


Fig. 1 Dendogram of the Grouping of the Children on the Ward Cluster Analysis

TABLE 6

The means, standard deviations and t-test values calculated for the 38 Child Variables in the two groups indicated by the Ward Cluster Analysis

VARIABLE	MEAN		STANDARD DEVIATION		t-test Value
	Experimental	Control	Experimental	Control	
Rorschach					
1. Total responses	13,1	9,2	6	2	$2,67^{+}$
5. Rejections	0,3	1,4	0,6	1,7	$3,44^{++}$
7. % responses to cards 8, 9 and 10	34	31,2	5,9	7,7	1,26
12. $\frac{H+Hd}{R}\%$	14,9	9,5	9,9	13	1,44
14. Anatomy responses %	5,9	9,6	8,2	20,6	$2,44^{+}$
15. Aggressive responses %	28,1	11,9	19,3	15,4	$2,86^{++}$
16. (H+A) : (Hd+Ad)	81,1	83,1	20	25,9	0,27
17. %M $^{\neq}$	8,9	2,6	6,2	4,8	$3,5^{++}$
18. %FM $^{\neq}$	28,3	8,1	14,4	12,6	$4,6^{++}$
19. %m $^{\neq}$	7,7	1,1	6,6	3,2	$3,93^{++}$
22. %F $^{\neq}$	29,7	78,2	16,3	16,8	$9,03^{++}$
23. %c $^{\neq}$	9,2	1,2	8,1	2,6	$4,01^{++}$
24. %C' $^{\neq}$	5,3	3,8	4,5	7,2	0,77
25. % C $^{\neq}$	9,9	4,9	8,3	6,3	$2,09^{+}$
26. F%	35,7	82,2	19,9	14	$8,33^{++}$
27. $\frac{FK+F+Fc}{R}\%$	39,5	81,6	18,8	13,9	7,85
28. Sum C	1,1	0,5	1,4	0,8	$1,62^{++}$
34. F : FK+Fc	78,4	96,2	22	11,2	$3,14^{++}$

CPQ					
38. Factor A	5,5	5,8	1,8	1,6	0,55
39. Factor B	5,8	4,3	1,3	1,8	2,94++
40. Factor C	4,7	5,7	1,6	1,6	1,96
41. Factor D	5,8	3,9	1,4	1,6	3,8++
42. Factor E	5,7	3,8	2	1,4	4,13++
43. Factor F	5,6	4,2	1,9	1,6	2,46+
44. Factor G	4,8	5,6	2,3	1,6	1,25
45. Factor H	4,6	5,5	2	2,1	1,36
46. Factor I	5	5,9	2,3	1,7	1,36
47. Factor J	5,5	5,2	1,9	1,6	0,53
48. Factor N	6,1	5,5	1,8	1,8	1,03
49. Factor O	6	4,8	1,9	2	1,9
50. Factor Q_3	4,5	5,8	1,7	1,3	2,65+
51. Factor Q_4	6	4,3	1,9	1,9	2,74+
FRT					
55. Involvement with Mother	16	10,9	7,5	5,4	2,41+
60. Positive feelings towards Mother	13,6	9,4	6,7	4,8	2,2+
62. Negative feelings towards Nobody	11	17,7	6,4	8,7	2,7++
65. Negative feelings towards Mother	2,5	1,5	3,8	1,7	1,05
66. Negative feelings towards Siblings	19	11,3	12,5	8	2,26+
68. Maternal overprotection towards Self	3,9	2,2	2,4	1,8	2,5+

\+ Significant at the 5% level ($p<0,05$)
++ Significant at the 1% level ($p<0,01$)
≠ Percentage notation before the determinant indicates ½ additional score added to main score.

responses (var. 1); to give significantly less rejections (var. 5); to give a significantly lower percentage of anatomy responses (var. 14); to give significantly more aggressive responses (var. 15); to give significantly more %M responses (var. 17); to give significantly more %FM responses (var. 18); to give significantly more %m responses (var. 19); to give significantly less %F responses (var. 22); to give significantly more %c responses (var. 23); to give significantly more %C responses (var. 25); to have a significantly lower F% (var. 26); to have a significantly lower $\frac{FK+F+Fc}{R}$ % (var. 27) and to have a significantly lower F:FK+Fc ratio (var. 34). On the CPQ, the asthmatic children were found to score significantly higher than the cardiac children on Factor B (var. 39), Factor D (var. 41), Factor E (var. 42), Factor F (var. 43), Factor Q_3 (var. 50), and Factor Q_4 (var. 51). On the FRT, the asthmatics compared with the cardiacs gave significantly less negative feelings to Nobody (var. 62), gave significantly more negative feelings to Siblings (var. 66), gave significantly more Maternal Overprotection items to themselves (var. 68), gave significantly more positive feelings to Mother (var. 60) and significantly more total responses (both positive and negative feelings) to Mother (var. 58). In the total responses the positive responses contributed by far the greater number.

Thus, on the Rorschach, the CPQ and the FRT some significant differences in personality variables were found between the asthmatic children and the cardiac children. Hence, at the second level of analysis of the children's data, the first and third null hypotheses may be rejected as

(a) significant differences were found between asthmatic children and non-asthmatic chronically ill children on certain personality

variables as measured by the battery of psychological tests, and

(b) significant differences were evident between the mother-child relationships of asthmatic children and non-asthmatic chronically ill children as measured by the battery of psychological tests.

(The second null hypothesis relates to mother variables and will be discussed later.)

5.3.2 Interpretation of Cluster Analysis on Child Variables

As Table 6 indicates asthmatic children when compared with cardiac children are less constricted as revealed by the significant differences on the Rorschach of the F% (var. 26), the %F (var. 22) and the $\frac{FK+F+Fc}{R}$ % (var. 27). Related to this lesser constriction is the lesser inhibition of the asthmatics as found by their giving significantly more responses on the Rorschach (var. 1) and their rejecting significantly less Rorschach cards (var. 5). Asthmatic children further appear to have more intrapsychic life as can be deduced from their giving to the Rorschach a significantly greater percentage of M responses (var. 17), FM responses (var.18) and m responses (var.19). The significant difference found in the percentage of C responses (var.25) indicates that asthmatics are more emotionally responsive as well.

The Rorschach indicates that child asthmatics when compared with cardiac children are less constricted, less inhibited, have more intrapsychic life, are more emotionally responsive,and corroborating evidence was found from the CPQ in Factor Q_3 (var. 50), Factor Q_4 (var. 51), Factor D (var. 41) and Factor F (var. 43). The significant differences in these factors revealed that the asthmatics had less self control and were more tense, more

excitable and more cheerful than the cardiacs.

The Rorschach also revealed that asthmatics gave significantly more aggressive responses (var. 15). This greater expression of aggressive feelings seems to be related to the greater dominance of the asthmatic children as shown by Factor E of the CPQ (var. 42) and to their lesser inhibition of negative feelings and greater expression of these feelings towards siblings. This was evidenced by their placing significantly less feelings in Nobody on the FRT (var. 62) and their expressing significantly more negative feelings towards Siblings on the FRT (var. 66).

In contrast to the greater dominance and greater expression of aggressive feelings by the asthmatic children, they also revealed more affectional needs and less control of these needs as revealed by the significant differences found on the Rorschach in the percentage of c responses (var. 23) and the F:FK+Fc ratio (var. 34). Related to this greater expression of affectional needs are the significant differences found on the FRT. Asthmatic children gave significantly more responses (both positive and negative feelings) to their mothers (var. 55), had significantly more positive feelings to their mothers (var. 66) and gave more maternal overprotection items to the self (var. 68) than did the cardiac patients. This indicates that asthmatics are more involved with their mothers, have more positive feelings towards their mothers and perceive more maternal overprotection to themselves than do cardiac children. It is noteworthy that asthmatics appear more involved with their mothers indicating concern with relationships, whereas the cardiacs gave significantly more Anatomy responses on the Rorschach (var. 14), possibly indicating their greater concern with their bodies. In addition, asthmatics

were found to be more verbally adept than cardiacs as revealed by the significant difference on Factor B of the CPQ (var. 39).

Twenty-four variables were found to distinguish asthmatic and cardiac children to a significant degree at the second level of analysis. At the first level of analysis, 17 variables were found to distinguish the experimental and control group children. Of these 17 variables, 16 are common to both analyses (see Table 7). The only variable of the first analysis which did not appear again as a significant variable at the second level of analysis was Factor G of the CPQ (var. 44).

Hence, the previous findings (see Section 5.2.2.1) that asthmatic children when compared with cardiacs are more outgoing and ambivalent in that they seek affection yet demonstrate dominant and aggressive traits was again confirmed. Those new variables of significance were found to further strengthen and elaborate the conclusions that were previously made. Further confirmation that asthmatics are less constricted and more outgoing is that they have greater intrapsychic life and greater capacity for emotional responsiveness. Previously there was a greater expression of affectional needs and it became clear that the asthmatics turn to the mother figure for satisfaction of these previously identified needs.

TABLE 7

Child variables which significantly differentiated the Experimental and Control Group Children at the First and Second Levels of Analyses

VARIABLE	FIRST LEVEL OF ANALYSIS	SECOND LEVEL OF ANALYSIS
1	S#	S
5	S	S
14	NS ##	S
15	S	S
17	NS	S
18	NS	S
19	NS	S
22	S	S
23	S	S
25	NS	S
26	S	S
27	S	S
34	S	S
39	S	S
41	S	S
42	S	S
43	S	S
44	S	NS
50	S	S
51	S	S
55	NS	S
60	NS	S
62	S	S
66	S	S
68	NS	S

S = significant

NS= not significant

5.3.3 Cluster Analysis on Mother Variables

For the mothers, 38 variables from the 57 recorded mother variables were selected for the Ward Cluster Analysis (Ward, 1963). The mother variables were chosen in a similar manner to those of the children for the Cluster Analysis of child variables (refer to Table 12 in Appendix A). The 38 variables comprised :

(a) Those variables that were found to be significant on t-tests at the first level of analysis.

(b) Those variables that were found to have a large standard deviation on t-tests as these were felt to be most relevant in group differentiation.

(c) All the factors of the 16PF. As the majority of variables of the 16PF were found to have either a large standard deviation or to be significant, it was decided to include the whole test.

(d) Four non-significant factors from the MPAS in order to see if mother-child relationships influenced the groups. These four variables comprised all the variables of the MPAS.

(e) Four non-significant mother variables corresponding to child variables which significantly differentiated the experimental and control group children at the first level of analysis of the data.

Before the Cluster Analysis was performed, all scores were standardized.

Unlike the children, the mothers did not fall into two groups differentiated significantly according to illness. The mothers seemed to fall more clearly into five groups (see Fig. 2). The membership of the experimental and control mothers in each of the five segregated groups is tabulated below (see Table 8).

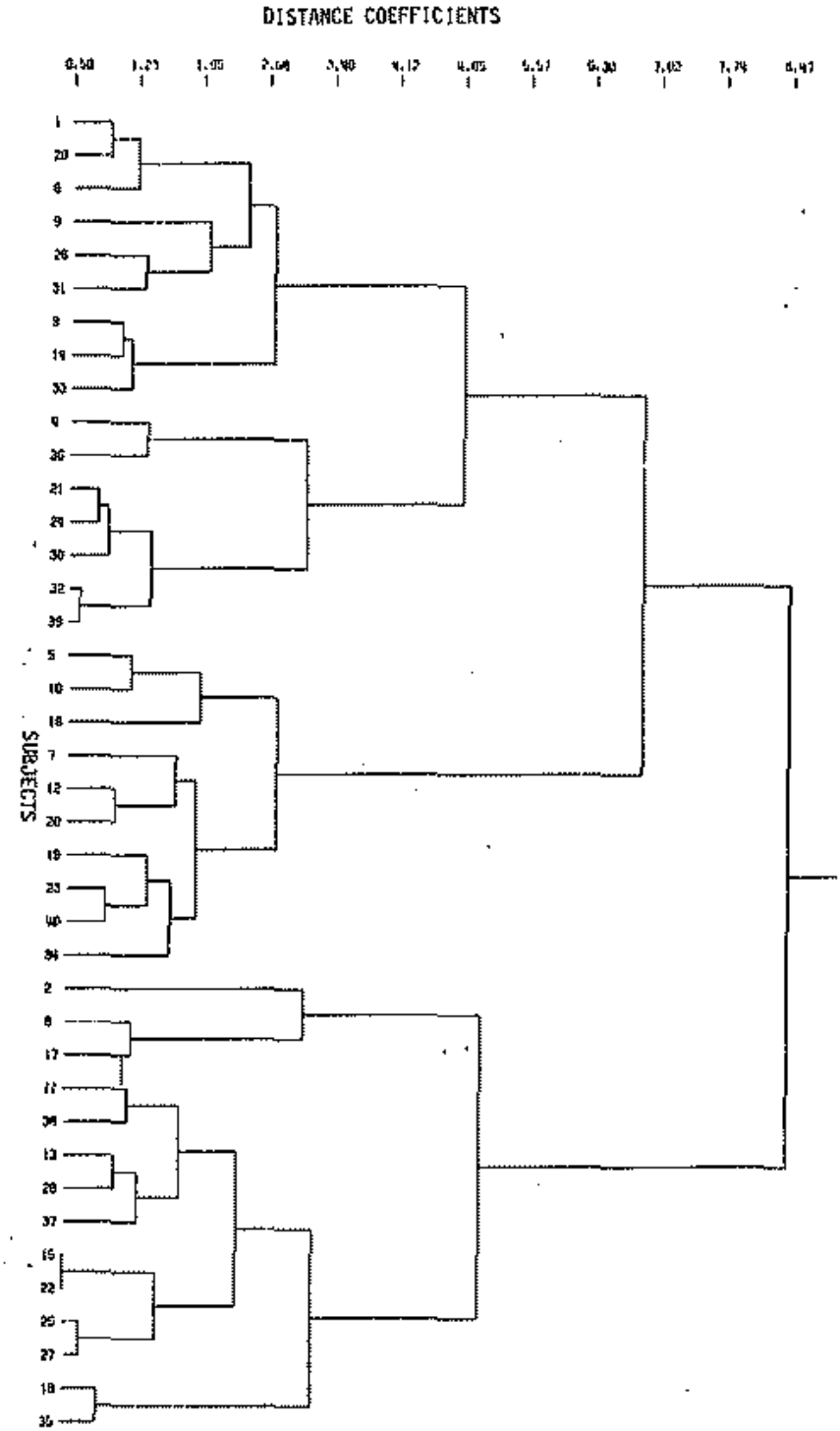


Fig. 2 Dendogram of the Grouping of the Mothers on the Ward Cluster Analysis

TABLE 8

Segregated Groups on the Cluster Analysis of Mother Variables

SUBJECTS	GROUP 1	GROUP 2	GROUP 3	GROUP 4	GROUP 5
Experimental mothers	5	3	1	7	4
Control mothers	4	0	6	3	7

A feature of the Cluster Analysis of the mother variables is the great overlap between the experimental and control subjects within three of the five segregated groups. If mothers of asthmatic children and mothers of cardiac children were distinctly different, then the mothers of the asthmatic children would have been restricted to Group 1 and only mothers of the cardiac children would belong to Group 2, whilst Groups 3, 4 and 5 would hypothetically be non-existent.

As there is this overlap between the test performance of mothers of asthmatic children and mothers of cardiac children, the data of the mothers' Cluster Analysis can form no part in the rejection of the second and third null hypotheses as these data lend no weight to what has been found previously.

5.4 Biographical Questionnaire

The ten items of the Biographical Questionnaire relating to primary maternal rejection (see Section 4.3.5) were subjected to the Chi Square (χ^2) Test. Two of these ten items significantly differentiated the experimental and control group mothers (see Table 9). The significant questions were the first two relating to maternal rejection :

(a) Question 5 - Was the pregnancy planned ? and

(b) Question 6 - How did you feel about conceiving this child ?

Negative answers were taken as indicating primary maternal rejection.

TABLE 9

Primary Maternal Rejection Items on the Biographical Questionnaire

ITEM	GROUP		X^2	p
	Experimental	Control		
5	11	4	3,84	= 0,05+
6	8	1	5,16	< 0,02+
7	6	3	0,6	> 0,05
8	8	3	2,04	> 0,05
9	9	5	0,9	> 0,05
11	3	2	0,22	> 0,05
12	9	12	0,15	> 0,05
13	10	11	0,0003	> 0,05
14	5	4	0,0004	> 0,05
15	9	6	0,42	> 0,05

+ Significant at the 5% level

Thus mothers of asthmatic children reveal some primary rejecting attitudes towards their asthmatic children in that the pregnancy was not planned and they felt negatively about conceiving. As the other eight items of the primary maternal rejection scale did not indicate significant differences between the experimental and control group mothers, there is little evidence of a consistent primary rejecting maternal attitude.

On the basis of the Biographical Questionnaire, the third null hypothesis remains unchallenged.

5.5 Qualitative Analysis of the Rorschach

Four group Rorschach records for experimental children, control children, experimental mothers and control mothers were qualitatively analyzed 'blind' by an experienced Rorschach worker (see Section 5.1). Two Rorschach protocols that most closely approximated each group mean were selected and sent with their respective group Rorschach records. The psychologist's comments are to be found in Appendix B. Refer to Figs. 3, 4, 5 and 6 in the text for the Rorschach psychograms of the four groups.

The psychologist's comments pertaining to the asthmatic children and their mothers will be fully quoted here.

5.5.1 Asthmatic Children (Group Q)

'The children in this group appear to be less rigidly controlled and seem to experience more conflict and tension between impulse life and ego values than the previous group of subjects. There is greater awareness of impulses (more specifically the aggressive impulses) and emotions although these do not appear to be overtly expressed and the possibility of psychosomatic symptom formation suggests itself.

Although these subjects have obvious difficulties in establishing warm and intimate object relations, there appears to be less withdrawal from and aversion to interpersonal relationships, an awareness of affectional needs and a tentative reaching out for closer contact with others. The implication here is that these subjects have not experienced

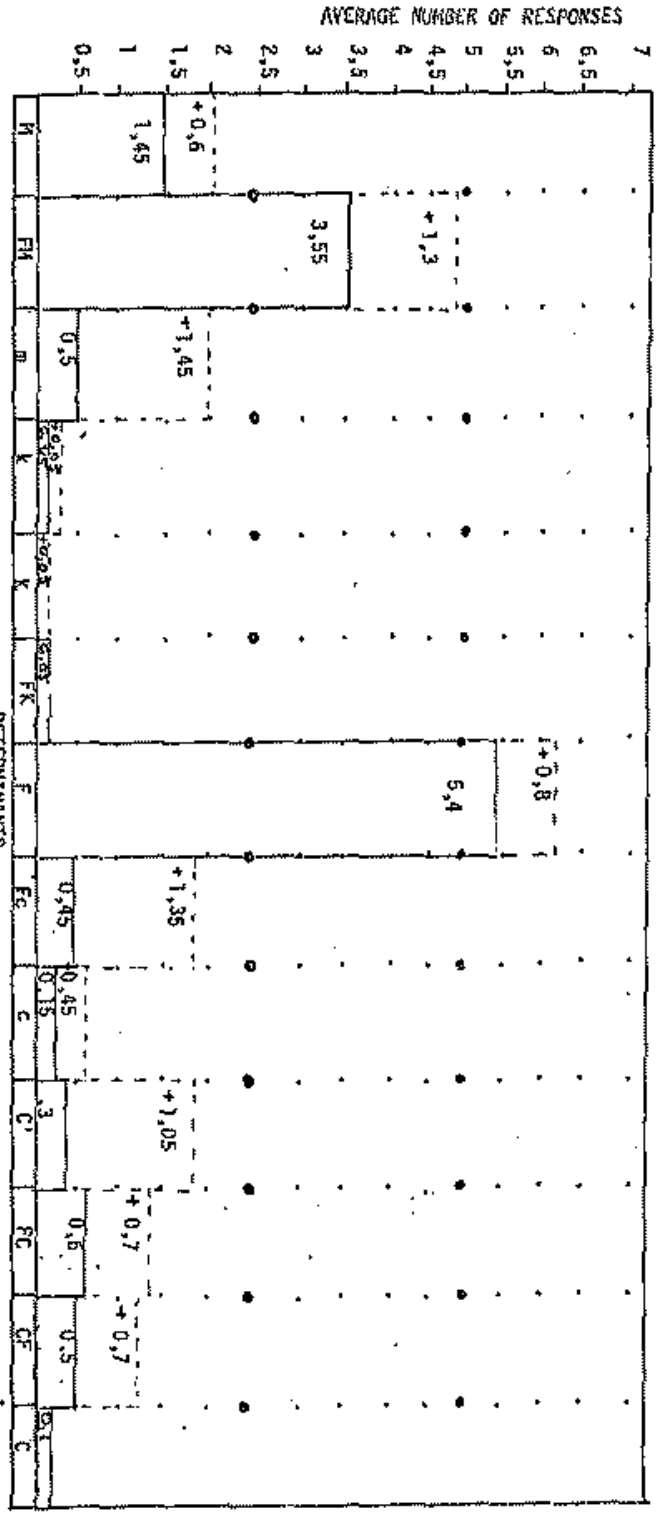


Fig. 3 Rorschach Psychogram of the Asthmatic Children

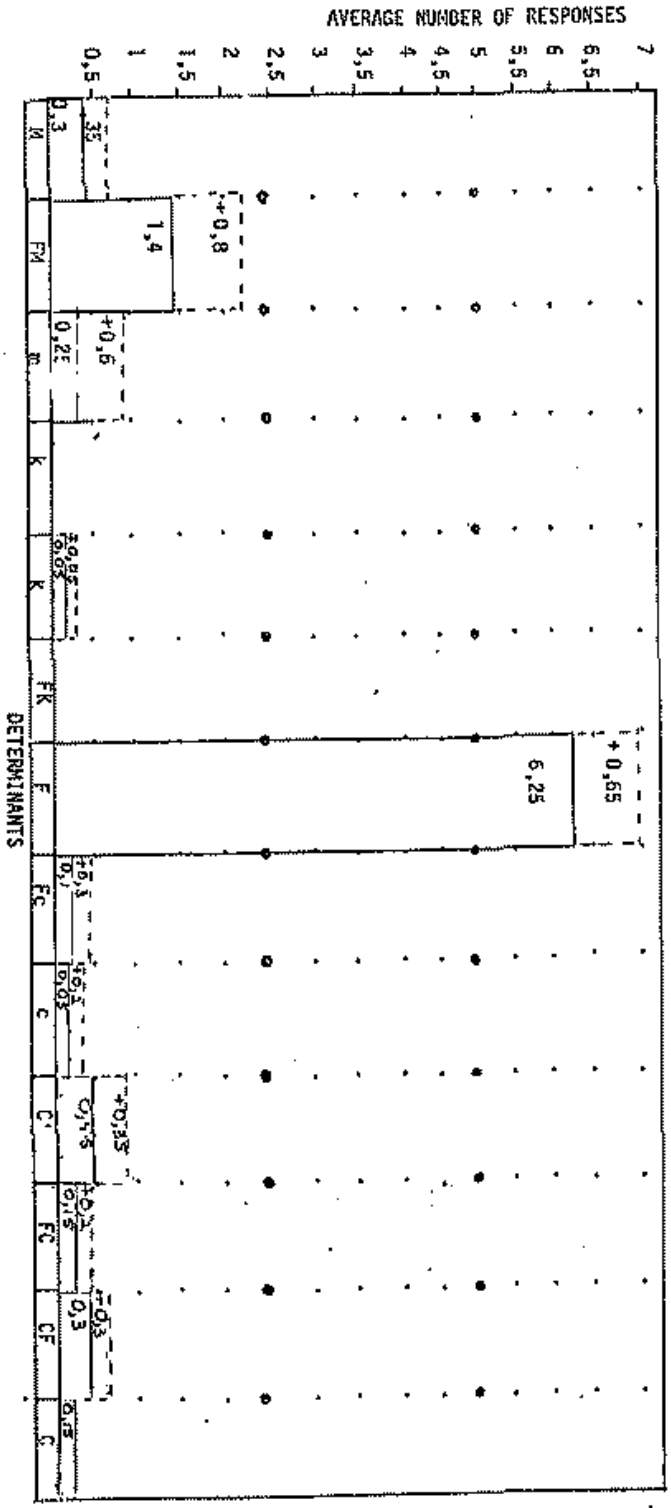


Fig. 4 Rorschach Psychogram of the Cardiac Children

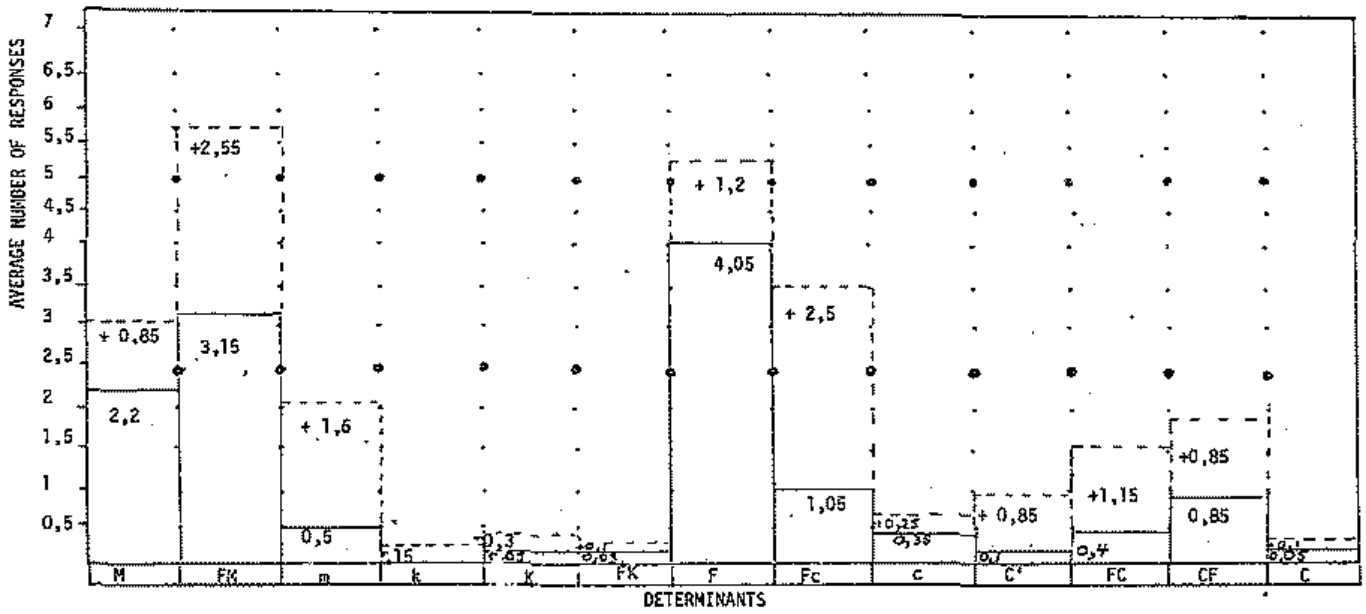


Fig. 5 Rorschach Psychogram of the Mothers of the Asthmatic Children

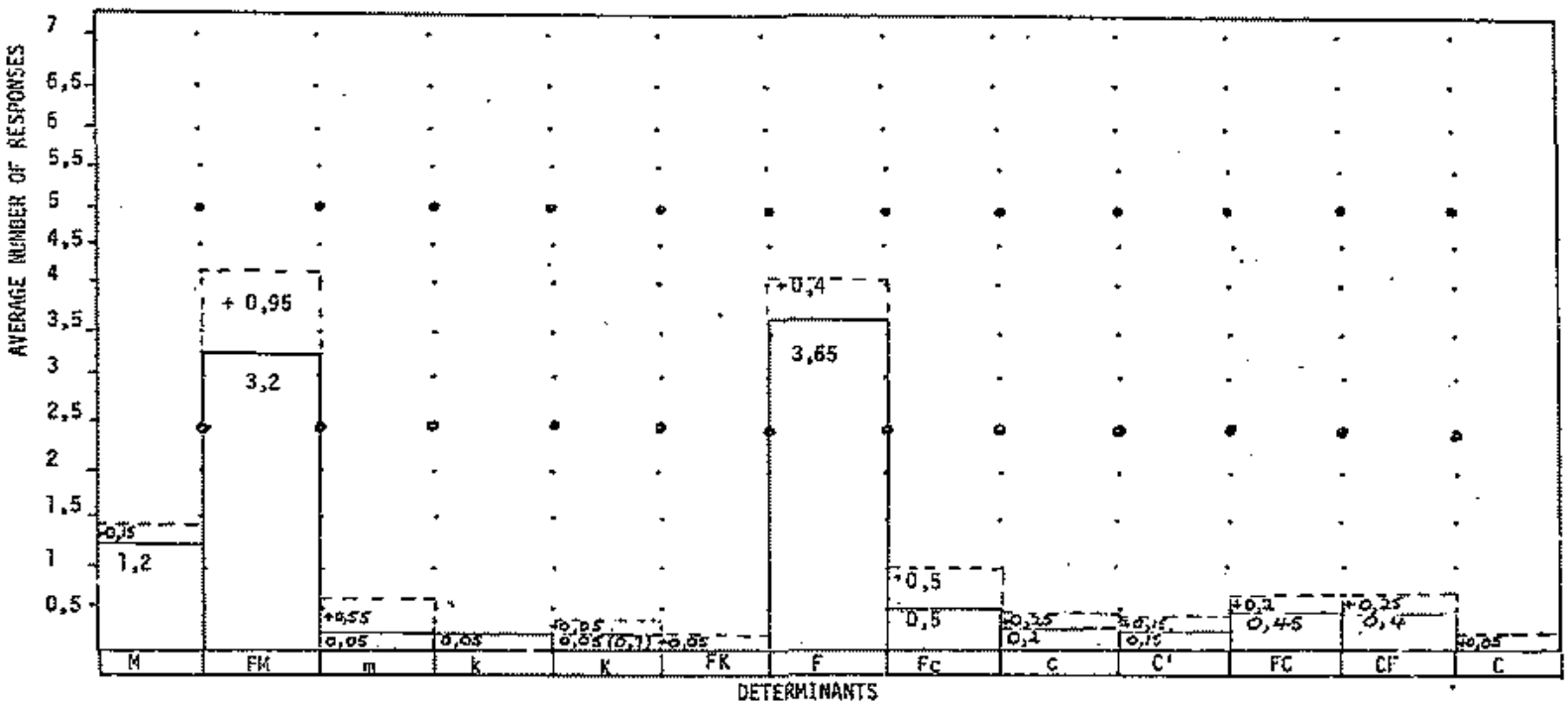


Fig. 6 Rorschach Psychogram of the Mothers of the Cardiac Children

deprivation either early enough or severely enough so as to warp personality development and they are at least motivated to such contact with the outside world. Thus in spite of the conflict and ambivalence which they seem to be experiencing in terms of archaic impulses and dependency needs, these children do not manifest the same degree of ego weakness or apathy as the previous group of subjects.'

5.5.2 Mothers of Asthmatic Children (Group T)

'The psychogram of this group of mothers reveals greater productivity and a much more even balance between introversive and extraversive trends implying a rather rich and varied inner life together with some responsivity to the emotional impact from the environment.

These mothers appear to be potentially more spontaneous, warm and emotionally responsive to the environment even though there are obvious difficulties in adjustment and problems in handling reality demands of situations. As there seems to be potential responsiveness only as indicated by little use of colour (Sum C = 1,3), the hypothesis is that there is a conflict between natural responsiveness and conscious attitudes, a repression or rather control of strong emotional reaction. Similarly, the discrepancy in the direction of the ratios relating to the introversive-extraversive balance (i.e. M : Sum C = 65,7 : 34,3; FM+m : Fc+c+C' = 72,2: 27,8; and responses to cards 8, 9 and 10 = 41%) reflects a conflict in tendencies within the personality. In other words, responsiveness to and involvement with the outer world may at times be reduced although there is an orientation towards the social environment in terms of feeling if not overt response. If the feeling is present, potentially there is a response. There is some awareness of affectional needs and indications of a tentative

reaching out for closer interpersonal contact which seems to suggest that the introversive trends and withdrawal tendencies are not wholly acceptable or 'natural' to these mothers. (Ambivalence relating to emotional involvement with others and some conflict between dependency needs and independence.)

There appears to be denial of the more primitive impulses possibly because these are threatening to the subjects, and a failure to integrate impulse life with long range goals or ego values. The impulses which seem to constitute a serious problem for these subjects appear to be the aggressive impulses but there is at least an awareness of inner conflict and anxiety and an attempt is made to control these unacceptable emotions.'

5.6 Summary of Results

5.6.1 Children

In summary, the following findings for the children were revealed :

(a) First Level of Analysis

At the first level of analysis of the data (t-tests), 17 of the 81 recorded child variables were found to differentiate significantly the experimental and control group children.

The asthmatic children when compared with the cardiac children, were found to be less constricted, less inhibited, to have less superego strength, less self-control and were more excitable, more cheerful and more verbally adept. They were further found to be more tense, more dominant and to express aggressive feelings more frequently, particularly towards their siblings, yet revealed more affectional needs and less control of these needs.

The scores of the asthmatic children were within normal limits of the tests used and hence it was tentatively formulated that asthmatics are more outgoing in their personalities yet ambivalent in that they seek affection but demonstrate dominant and aggressive traits.

Corollaries of these findings were that the cardiac children were found to be neurotically constricted and almost pathologically submissive.

(b) Second Level of Analysis

At the second level of analysis of the data, 38 variables were selected from the 81 recorded child variables for the Cluster Analysis. The Cluster Analysis revealed two groups of children differentiated significantly according to illness, namely asthmatic and cardiac. Twenty-four variables were found to differentiate significantly the two groups of children.

As 16 of the 24 significant variables were common to both the first and second level of analyses, this confirmed the previous findings that asthmatic children when compared with cardiacs are more outgoing and ambivalent in that they seek affection yet demonstrate dominant and aggressive traits. The new variables of significance were found to to further strengthen and elaborate the conclusions that were previously made. Confirmation that asthmatics are less constricted and more outgoing is that they have greater intrapsychic life and greater capacity for emotional responsiveness. A greater expression of affectional needs was found and it appears that the asthmatics turn to the mother figure for satisfaction of these needs as evidenced by their being more involved with their mothers and less concerned with their bodies than are cardiacs.

(c) Qualitative Analysis of the Rorschach

The qualitative analysis of the Rorschach revealed that asthmatic children were less rigidly controlled, less emotionally deprived and less apathetic than cardiac children. Asthmatics had difficulty establishing warm intimate relationships but there was a reaching out for closer contact with others. Conflict and ambivalence in terms of primitive impulses, particularly aggressive impulses, and dependency needs was also evident. The asthmatic group, although analyzed 'blind', was thought to be the psychosomatic group as the psychologist noted a greater awareness of emotions and impulses, particularly aggressive impulses, which did not appear to be overtly expressed.

5.6.2 Mothers

In summary, the following findings were revealed for the mothers :

(a) First Level of Analysis

At the first level of analysis of the data (t-tests), nine of the 57 recorded mother variables were found to differentiate significantly the experimental and control group mothers.

Mothers of asthmatic children when compared with mothers of cardiac children were found to be less inhibited, less self-controlled, potentially more responsive to the environment, more verbally adept and more aware of detail. They were further found to have greater intrapsychic tension, to reveal more affectional needs and to express aggressive feelings more frequently than control mothers.

The deviation of both the experimental and control mothers was within normal limits and hence it was tentatively postulated that mothers

of asthmatic children are more outgoing and ambivalent in that they seek affection, while also demonstrating aggressive traits.

(b) Second Level of Analysis

At the second level of analysis of the data, 38 variables were selected from the 57 recorded mother variables for the Cluster Analysis.

The mothers fell into five groups and within three of these groups there was great overlap between experimental and control mothers.

(c) Biographical Questionnaire

Two of the ten items of the Biographical Questionnaire significantly differentiated the experimental and control group mothers.

Mothers of asthmatics revealed some primary rejecting maternal attitudes towards their asthmatic children in that the pregnancy was unplanned and they felt negatively about conceiving, but there was little evidence of a consistent primary rejecting maternal attitude.

(d) Qualitative Analysis of the Rorschach

The qualitative analysis of the Rorschach revealed that mothers of asthmatics are potentially more spontaneous, warm and emotionally responsive to the environment than mothers of cardiacs. There appears to be ambivalence relating to emotional involvement with others and some conflict between dependency needs and independence.

5.6.3 Children and Mothers

At the first level of analysis (t-tests), on six comparable factors both experimental children as well as their mothers differed significantly from control children and their mothers.

Asthmatic children and their mothers seem to be more outgoing than the cardiac children and their mothers. As the asthmatic child and his mother revealed greater affectional needs and more frequently expressed aggressive feelings suggests that they may both be responding in an ambivalent way to people.

5.7 Conclusion

From this data the following conclusions can be drawn :

(a) There is consistent evidence pointing to the rejection of Hypothesis 1 as significant differences were consistently found between asthmatic children and cardiac children on certain personality variables as measured by the battery of psychological tests.

(b) Hypothesis 2 cannot be rejected with any certainty as the results of the analysis of the data contributed by the mothers are equivocal.

(c) The data relating to Hypothesis 3 show inconsistent results and hence any conclusions relating to mother-child relationships should be seen as highly tentative.

(d) The results of the qualitative analysis are congruent and compare with the results of the statistical analysis.

6. DISCUSSION

In this chapter the results of the study concerning the children, their mothers and the mother-child relationship will be discussed and related to the relevant literature. The present study will be critically evaluated and suggestions for further research will be proferred.

6.1 Children

The findings concerning the children lead to the rejection of Hypothesis 1 as significant differences were consistently found between asthmatic children and cardiac children on certain personality variables as measured by the battery of psychological tests.

The asthmatic children when compared with the cardiac children were found to have more outgoing personalities. In contrast, the cardiacs were found to be neurotically constricted and almost pathologically submissive. As the asthmatics' scores fell within the normal limits of the tests used, they are not outgoing or extraverted when compared with normal children, but are less introverted than the cardiac children. Such a statement would have been more meaningful had a group of normal controls also been used in the study.

The literature referring to cardiac children reveals that they are different intellectually, emotionally and socially from other children and hence appear to have been hampered by their illness (Chazan et al., 1951; Cooper, 1959; Green and Levitt, 1962; Linde et al., 1966; Linde et al., 1967; Marais, 1974; Neuhaus, 1958).

The present study lends partial support to those studies that found a significantly lower intelligence quotient (IQ) in cardiac children than in normal children (Chazan et al., 1951; Linde et al., 1966; Linde et al., 1967). The cardiac children when compared with the asthmatic children, were found to score significantly lower on Factor B, the 'intelligence factor' of the CPQ, but the deviation of their score was within the normal limits of the test. Confirmation of the findings that cardiacs are 'neurotic' (Neuhaus, 1958), are less well adjusted (Linde et al., 1966), have a 'constricted self body image' (Green and Levitt, 1962) and are 'withdrawn' and 'introverted' (Cooper, 1959) is evident in the results of the present investigation. Here, it was shown that the cardiac children are neurotically constricted and almost pathologically submissive and it is worth noting that they had a greater concern with their bodies than did the asthmatic children. However, no evidence was found for their being similar to asthmatic children (Neuhaus, 1958) nor being overly dependent (Cooper, 1959; Green and Levitt, 1962; Neuhaus, 1958).

It is queried whether the cardiac children are passive, inhibited and constricted,not only because they have intense concern with their bodies and are chronically ill, but also because their illness affects such an important and vital organ of the body. Grinker and Robbins (1954) noted that 'The heart is the organ consciously recognized by man as most essential to life' (p.143). Bellak (1952) took the matter further and related heart disease to fear of death :

> The heart is usually looked upon as the source of life; it has to beat permanently; its function cannot be controlled; ... Every cardiac affliction is,therefore, directly experienced as a severe threat to life (p.34).

In children with heart disease, not only is there the fear of physical death, but fear of death of the internal world as well. Winnicott (1939) *pointed out that:*

> The child does not necessarily understand the life and death of his body as we understand it, but he *understands something deeper, which is the life and* death of what he believes in and values most in himself ... it is a matter of inner reality, and of a right to live (p.38).

In thinking of the internal constriction of the cardiac children, it is questioned whether the fear of death coupled with the parental overprotectiveness and excessive limitations placed on them (Linde et al., 1966; Rozansky and Linde, 1971) has not led to a certain degree of *inhibition of movement both physically* and in terms of emotional growth. In fact, it could be argued that they are 'holding on for dear life' and are terrified to let go and move. This then would partially explain the extent of their internal constriction and helps one to understand why this psychopathological pattern does not appear so strongly in asthmatics where the affected organ is the lung and not the heart.

Other personality differences were found between the asthmatic and the cardiac children. In so far as differences were found between the two groups who were matched for extent and duration of illness, the *differences found in the asthmatic child* cannot be attributed to the frustrations of being chronically ill. Hence, the present investigation does not support those authors (H.C. Harris, 1955; Neuhaus, 1958) who view characteristics of the asthmatic child as a result only of being chronically ill. More specifically, Neuhaus (1958) found that asthmatic and cardiac children did not differ from each other but were more *maladjusted than* normal children with regard to anxiety, insecurity and dependency.

Harris (1955) suggested that the asthmatic attacks could induce the helpless dependence observed in asthmatic children.

From the psychoanalytic literature the personality profile that emerges of the asthmatic child is that he is a neurotic child in conflict with the fear of separation from his mother at the root of his neurosis. He has been found to be anxious, tense and fearful (Bc tock, 1956; Burton, 1968; McDermott and Cobb, 1939; Rogerson et al.,1935); aggressive (Aaron, 1967; Bacon et al., 1956; Dunbar, 1938; Miller and Baruch, 1950a); yet unable to express his aggression openly and therefore frustrated (Bostock, 1956); guilty (Knapp and Nemetz, 1957a); over-dependent (French and Alexander, 1941; Fine, 1963; Rogerson et al., 1935; Morris, 1961; Williams, 1975) and deeply and pervasively depressed (Alcock, 1963; Knapp and Nemetz, 1957a). The present study cannot support this profile in its entirety. Personality characteristics which emerged most prominently, with the exception of those which pointed to outgoing features, were tension, affection-seeking tendencies and dominant and aggressive traits. The asthmatic child was not found to be neurotic. There was however, some suggestion of conflict. Even though the asthmatic child seeks affection, he still manifests dominant and aggressive traits which lead one to believe that there is an ambivalence in his affection-seeking tendencies.

The findings from the present study do not entirely support the point of view of a disturbed relationship between the asthmatic child and his mother. Although the asthmatics' affection-seeking tendencies coupled with their dominant and aggressive traits are indicative of ambivalence in their interpersonal relationships, they were not found to be ambivalent towards their mothers. However, other evidence must

be considered before this finding is accepted with any certainty. The instrument used in this study to assess the child's perception of the mother-child relationship was the FRT. In the FRT predominantly positive feelings were shown towards the mother. The asthmatic children were found to be more involved with their mothers, to have more positive feelings towards them and to perceive more maternal overprotection to themselves than did the cardiac children. This suggests the possibility of a greater dependency on the mother in the asthmatic than in the cardiac children. On the other hand, the need for independence which could have been revealed by significantly more negative feelings towards the mother on the FRT, was not found. It is important to note that the construction of the FRT easily allows for a displacement of hostile feelings to siblings or a denial of these feelings into Nobody. It was in fact found that the asthmatic children expressed more hostility towards their siblings than did the cardiac children. This finding cannot however be regarded as pointing unequivocally to a good relationship with mother. These asthmatics possibly cannot express their negative feelings towards their mothers for fear of losing their protection and love. Moreover, the presence of siblings may threaten their status as the loved and protected one in the family and hence the asthmatic children feel hostile towards these siblings. There lurks a suggestion of difficulty in the mother-child relationship and this will be discussed further in Section 6.3.

6.2 Mothers

The findings concerned with the mothers' test responses were inconsistent as significant differences were found between the experimental and the control mothers at the first level of analysis of the data, but not at the second level of analysis. Hence, Hypothesis 2 cannot be rejected with any certainty as significant differences were not consistently

found between mothers of asthmatic children and mothers of cardiac children on certain personality variables as measured by the battery of psychological tests.

At the first level of analysis of the data, the mothers of the asthmatic children when compared with the mothers of the cardiac children were found to be outgoing and ambivalent in that they seek affection while also manifesting aggressive feelings. Thus, the data lends little support to the personality pattern of mothers of asthmatic children as revealed in the psychoanalytic literature. These mothers are described as neurotic and immature and therefore are extremely insecure and ambivalent in the role of motherhood, simultaneously rejecting and in compensation, overpossessing and overprotecting their children (Alexander, 1950; Alexander et al., 1968; Benedek, 1956; Burton, 1968; French and Alexander, 1941; Rogerson et al., 1935). No evidence was found in the present investigation that the mothers of the asthmatic children were neurotic and immature. They were found to be possibly ambivalent in their relationships with others. However, this ambivalence was not revealed towards their asthmatic children. From the mothers' data no evidence of maternal rejection nor maternal overprotectiveness was found and hence the significantly greater maternal protectiveness perceived by the asthmatic child was not confirmed by his mother. Before this is accepted as a conclusive finding, other factors need to be taken into account. Most prominently, these relate to the *methods used to assess maternal rejection and protectiveness.* The MPAS and the Biographical Questionnaire both rely on attitudes which the mother voluntarily gives and thus are possibly unsuitable to measure

dimensions such as less conscious areas of rejection for which the mother is attempting to compensate.

Pumroy (1966) who devised the MPAS did not define his four subscales very clearly. He did not clearly distinguish between indulgence and protection. Two examples are cited below :

63B Parents should cater to their children's appetites.

65A Parents should keep a night light on for their children.

Item 63B is said to convey indulgence and 65A, protectiveness. Both issues, however, seem to involve active caring for the child. According to Levy's (1943) theory, protection involves active concern whereas indulgence is a more passive kind of caring. As cited previously, authors in the field describe the mother of an asthmatic child as actively controlling. The MPAS does not seem to make such a distinction possible.

Furthermore, rejection is difficult to measure by means of objective questionnaires. Rejection can involve actions which, while intrinsically rejecting may appear as over-concern. Rejection is not a socially prized attribute and rejecting mothers are not likely to openly admit rejection. It is noteworthy that those two of the ten items of the Biographical Questionnaire, which differentiated significantly the experimental and control mothers, were the first two items of the Questionnaire. The mothers of the asthmatic children began by giving rejecting responses, that is, the asthmatic children were unplanned and they felt negatively about conceiving. There appeared to be initial rejection of the child and it is queried whether these mothers answered the remaining questions in such a way as to avoid suggesting rejection.

Moreover, the Biographical Questionnaire relies on retrospective attitudes. It is possible that the answers to the questions do not reflect the true situation, but rather the situation as the mother recalls it or how she currently feels about it. As with all scales which attempt to assess past behaviour there is difficulty in knowing what is true and what is untrue. L.C. Robbins (1966) compared retrospective accounts of child-rearing obtained from parents of three year-olds, with reports they previously gave in the course of a longitudinal study. Inaccuracies in memory detail were found and these corresponded to the kind of recommendations which would be given by an expert in the field of child-rearing.

The TAT would have been a far more sophisticated manner of measuring attitudes like maternal rejection. The Rorschach while suggesting mothers are ambivalent in their interpersonal relationships, is unable to give information on the actual mother-child relationship. Interviews and observations of the mother-child interaction would given much rich and diversified information, but then the problem is one of making it objectively meaningful.

6.3 Mother-Child Relationship

The data relating to the mother-child relationship shows equivocal results as significant differences were only found at the second level of analysis of the children's data between the asthmatic and the cardiac children in their perception of the mother-child relationship. Hence, Hypothesis 3 cannot be rejected with any certainty as significant differences were not consistently found between the mother-child relationships of asthmatic and non-asthmatic chronically ill children.

As stated above, the asthmatic children when compared with the cardiac children were significantly more positively involved with their mothers, perceived significantly more maternal overprotection towards themselves and were thus seen as more dependent on their mothers. The data contributed by the mothers did not confirm this. A previous unpublished study by the present writer (Altman, 1973) also found that on the FRT asthmatics when compared with their non-asthmatic siblings perceived the mother as being significantly more overprotective towards themselves. There was a high degree of agreement between the asthmatic child and his sibling as to whom mother worries about. The asthmatic children were also here found to express more hostile feelings towards their siblings. The mothers were not assessed in this previous study.

Hence, when asthmatic children are compared with other chronically ill children and their non-asthmatic siblings, the mother is perceived as being more overprotective towards the asthmatic child and there is a greater expression of aggressive feelings towards the asthmatics' siblings. It is possible that the asthmatic child perceives himself almost as a highly prized child, a 'special child' who receives an extra amount of mother love. This feeling is confirmed for him by his siblings who also perceive him as receiving an extra amount of maternal protection. It is also highly possible that these latency children who are trying to establish their independence from mother may well resent this perceived overprotection. The test results show clearly that the child does not express negative feelings towards his mother. It could be that the hostility is displaced onto siblings as has been discussed earlier, or, it can be suggested that the asthmatic attack itself serves as a form of protest acceptable to mother. As the mother is so all important in the asthmatic child's existence he could not protest without excessive

fear and guilt. This guilt is lessened by his illness ('for if you are ill, you cannot be naughty') and the fear is allayed, for the protest will never be recognized as a protest ('for you cannot make yourself ill'). Any other form of anti-social acting out would immediately be recognized for what it is and punished. The qualitative analysis of the Rorschach confirms the absence of overt aggression and the suggestion was made that this group of children would tend towards psychosomatic symptom formation.

Further evidence that the asthmatic attack is used as a means of communicating with mother is that asthma has been explained as a learnt response. This results from maternal overprotection and rejection, that is, the mother only responds and pays attention to the child when he has asthma and does not respond to him or even punishes him when he tries to communicate to her by other means, for example, crying (Alexander, 1950; Alexander et al., 1968; French and Alexander, 1941; Turnbull, 1962). Whereas Alexander (1950), Alexander et al.(1968) and French and Alexander (1941) explained this process in psychoanalytic terminology, viewing asthma as a 'repressed cry', Turnbull (1962) gave an operational explanation in terms of learning theory. Turnbull (1962) noted that crying is essentially asthma-like in character. He suggested that an infant's crying is a particularly severe source of conflict to certain mothers so that the mother responds in some kind of rejecting non-rewarding way, for example, by punishing or by ignoring it for a prolonged period. He postulated that this situation is one in which sighing, gasping, coughing and wheezing, being the respiratory accompaniments of prolonged or disturbed crying would readily replace the crying response if sufficiently rewarded by the mother's perceived care and attention. In certain cases, the crying

response could be extinguished and a response resembling asthma could be shaped by maternal reinforcement until an asthma response is present to function in the place of the crying response. A number of studies have attempted to give support to this theory by showing that asthma can be learnt as a result of conditioning in both animals (Ottenberg et al., 1958) and in humans (Dekker and Groen, 1956; Dekker et al., 1957; Herxheimer, 1951; Knapp, 1963). As was previously discussed (see Section 3.2.6) the successful conditioning of asthma still remains to be demonstrated, but the findings seem to indicate that asthma could be a learnt response.

The present study gives little support to the theories which assume a faulty mother-child relationship in childhood asthma. The mother was perceived as overprotective by her asthmatic child but this was not confirmed by the mother. No evidence of maternal rejection was found. However, there is some possibility of an ambivalent relationship between the asthmatic child and his mother. On six comparable factors at the first level of analysis of the data, both the experimental children as well as their mothers were found to be significantly different from the control children and their mothers. It appears that although more outgoing, they are responding in an ambivalent way to people in that there is a moving towards others as in the need for affectional satisfaction and a moving against as demonstrated by aggressive feelings. There seems to be a possibility that asthmatic children and their mothers have an ambivalent relationship with each other. This was not supported by the results of the tests used to assess mother-child relationship, but as has been discussed previously (see Sections 6.1 and 6.2) this may be because the tests used were not sufficiently sensitive to detect this possible ambivalent relationship.

If this suggested ambivalent relationship between the asthmatic child and his mother had come up more significantly in this study, then it would have done much to strengthen the psychoanalytic hypotheses concerning childhood asthma. At the most, this study shows trends in the direction of these hypotheses.

6.4 Cause and Effect Relationships

Any disturbances observed in the asthmatic child, his mother or his family may be a reaction to and not a cause of the disease. The fact that chronic illness was controlled for in the present study, rules out the possibility of these being responses to the stresses of chronic illness in general.

When one confronts the complex issue of cause and effect in the personality of the chronically ill child one comes up against methodological problems. Studies on asthmatic children have usually been carried out after the onset of the disease. In fact, prospective studies would yield important information regarding cause and effect. Physiological tests which measure enduring characteristics unlikely to be modified by asthma can also yield pertinent information. The former approach was partly attempted by Rees (1956a) who examined asthmatics shortly after the initial onset of their disease and found that personality traits such as anxiety, sensitivity and obsession antedated the onset of asthma. However, in view of the fact that the asthmatic symptoms had already started, his conclusions cannot be totally accepted. The latter approach was undertaken by Franks and Leigh (1959, who used the physiological measure of eyelid conditioning together with the Maudsley Personality Inventory (MPI). They worked within an Eysenckian framework, that is,

asthmatics are introverts and condition quickly (Eysenck, 1957). However, they found no specific personality, except for a common core of neuroticism.

As far as the present study is concerned it was not possible to differentiate clearly between those factors which were causative and those factors which resulted from the illness. This study does not enable one to gain clarity in this area. Although maternal attitudes prior to the onset of asthma were assessed by the Biographical Questionnaire, no consistent attitude towards the child was found.

From a dynamic psychotherapeutic point of view, the cause-effect issue is not of any real relevance and it would not influence the therapeutic process per se. In a behaviour therapy regime the cause-effect sequence assumes greater importance. Medically trained personnel, although they are aware of psychosomatic approaches to disease, tend to overlook the importance of psychotherapy in the treatment of the chronically ill child. Often they feel that the emotional disturbances which prevail are a direct effect of disturbed organic function. Thus, they continue to supply medication for the physical symptom. They then 'note' an alleviation of emotional difficulties and deny the psychotherapist the right to be part of the therapeutic team and to assist in the resolution of less manifest conflict.

In a study such as the present one, which is a psychological investigation of a psychosomatic illness, it must be emphasized that the therapeutic team should at all times have a psychotherapist as one of its members.

6.5 Criticism of the Study

The research design of the present study has limitations with regard to sample selection, testing procedure, measuring instruments and statistical analysis of the data. It is necessary to assess the results of the study in the light of these limitations and the consequent effects on the findings.

6.5.1 Sample Selection

A major deficiency of this investigation was that the sample was too small. Further, the sample was not representative of the general population. The subjects were patients at a provincial hospital and were all of the middle socio-economic group . Sample selection should preferably have included children who were patients of private doctors as well as members of other socio-economic groups.

The experimental group consisted of a heterogeneous group of asthmatics in that some were found to be allergic and others not. However, it would have been preferable to have subgroups differing in physiological and psychological factors so as to facilitate within-group and between-group comparisons.

By incorporating the cardiac control group, the variable of chronic illness was controlled. The variable of chronic chest infection was, however, not controlled and it may be that a control group of children with chronic chest illness, such as bronchiectasis or fibrocystic disease, would have been a more suitable chronically ill control group. As was previously discussed, some of the findings may have been the result of

using a cardiac control group, in that the illness affects such a vital organ of the body and therefore one may not have obtained a valid comparison.

Ideally, a study of this nature should have additional control groups - children with another psychosomatic illness, neurotic children, normal children and non-asthmatic siblings. Except for the sibling group, the following factors should be controlled in all the above groups : age, sex, socio-economic status and ordinal position in the family. In the case of the psychosomatic group, extent and duration of illness should also be controlled. The siblings should be of the same sex and similar age range as the asthmatics. The psychosomatic group would have made possible a comparison with the asthmatic group as support or lack of support for the theory of psychological specificity in asthmatic disorders. The neurotic group would have made possible the isolation of any neurotic tendencies in the asthmatic group. A normal control group should be included to eliminate any psychological disturbance that is related to illness. The use of a group of non-asthmatic siblings would scrutinize the relationship of the mothers to their non-asthmatic children and make possible a comparison of this with their relationship to their asthmatic children. Findings in this area would then have yielded further information regarding the 'specific mother-asthmatic child relationship'.

Thus, the limitations of sample selection mentioned above make it difficult to compare the findings of the present study with those of other investigations.

6.5.2 Testing Procedure

Attempts were made to avoid experimenter bias in the present investigation by having the groups tested randomly. A serious flaw, however, was the investigator's prior knowledge of the diagnostic category to which the subjects belonged. This knowledge might have influenced the relationship which was established with the subjects and might thus have influenced the results of the study.

The fact that the investigator told the subjects that she was engaged in a project for the Children's Hospital and the Psychology Department of the University of the Witwatersrand might have motivated the patients to present themselves in the most socially desirable manner. This then could at times have elicited defensive answers rather than authentic responses.

The testing of a single mother-child pair was completed within a three-hour period. This appeared to be a satisfactory period of time for the investigator as well as for the subjects. It is however possible that some subjects might have become fatigued due to the effort, and the possible influence of fatigue on the test results should be noted.

6.5.3 Measuring Instruments

In considering the measuring instruments, it should be noted that not only did they have inherent psychometric limitations but also, they could not measure with full satisfaction the dimensions under consideration in the present investigation.

The CPQ, the 16PF, the FRT, the MPAS and the Biographical Questionnaire are all self-report inventories and are susceptible to the dangers inherent in these instruments. These have been dealt with in Chapter 4, but to summarize, these include the following : that people often do not know themselves, are unconsciously defensive, consciously fake responses to questionnaires and respond to the qualities of the items rather than to the content of the items. While the personality questionnaires have been standardized for a South African population, the questionnaires which assess parent-child attitudes have not been standardized for South Africa. Thus, their reliability and validity are doubtful when used locally.

The CPQ and the 16PF do not seem to be able to give an adequate and meaningful description of the complexity of personality and they are clearly inadequate to test the psychoanalytic specificity theory. The FRT, the MPAS and the Biographical Questionnaire do not directly assess the mother-child relationship but rely on the subject's perception of this relationship. In the FRT, one may not get a true picture of the family interactions as the construction of the test allows for denial and displacement of hostile feelings. The MPAS fails, for the purpose of this study, to distinguish adequately between the four subscales. The difference between parental protection and parental indulgence does not seem clear. Items cited as rejecting appear to be disciplinarian. The Biographical Questionnaire, to assess primary maternal rejection, relies on retrospective attitudes and may not reflect the true situation, but the situation as the mother recalls it or how she currently feels about it.

The investigator was perhaps incorrect in assuming that objective questionnaires could tap dimensions such as conflict and ambivalence in

the individual personality as well as hostility and rejection in the mother-child relationship. However, in spite of the disadvantages mentioned above, self-report inventories have the advantage of being explicit,easy to administer, easy to score in a straightforward way, and are suitable for quantitative analysis.

The Rorschach Inkblot Test was selected as it is a more covert, dynamic test of personality. As discussed in Chapter 4, the Rorschach is subject to the pitfalls of all projective tests. Some of the pitfalls are more general ones such as reliability and validity, others are more specific and relate to the experimental design such as quality of the tester and the conditions under which the test is administered. In assessing Rorschach findings it is difficult to apply the usual criteria for test reliability and validity. While the material provided by the Rorschach is rich in content and many interpretations can be made, these interpretations can be subject to error. The reliability of the test is best checked by having a number of trained investigators scoring and interpreting the findings. The Rorschach protocols were scored and interpreted 'blind' by a clinician using the Klopfer et al.(1954) system. The use of only a single rater could perhaps be regarded as a limitation of the study.

In regard to the validation of the Rorschach, the usual methods of correspondence with other criteria and internal consistency have to be modified. In the present investigation only one projective test was utilized and so it was not possible to check this against another projective test. These findings on the Rorschach were compared with the results on the CPQ, 16PF, FRT, MPAS and the criticism centers around whether one

can compare the findings of differently constructed tests, designed to measure different aspects of personality. The asthmatic children's greater expression of aggressive feelings as revealed by the Rorschach may not be comparable with the greater expression of these feelings on the FRT.

Other difficulties arise as a result of using psychological tests. Are the personality characteristics revealed on these tests, behaviourally expressed ? Are the personality traits of the asthmatic child revealed in this study comparable to those found in other studies using different tests and different techniques ? Asthmatics are,for example, often described as 'dependent' personalities, but what does this mean ? Dependency may not be a unitary trait but a condition which varies from individual to individual in its intensity, its etiology, behavioural manifestations and implications - according to the particular context in which it appears.

Perhaps psychological tests are not the most appropriate methods for assessing the complexity of personality or to test the psychoanalytic hypotheses concerning childhood asthma. Clearly the tests utilized in the present investigation were inadequate to assess the suggested core conflict of separation anxiety in asthmatic children. It appears that laboratory orientated studies, such as that carried out by Williams (1975), are far better tests of psychoanalytic hypotheses. The present investigation has similar shortcomings and similar relatively limited findings as other studies in the field that used personality tests (Aaron, 1967; Fitzelle, 1959; Margolis, 1961) when compared with those studies that used a method which included laboratory studies (Little and Cohen, 1951; Morris, 1961; Owen, 1963; Williams, 1975).

6.5.4 Statistical Analysis

A study such as the present one which uses a battery of psychological tests and reveals a great deal of information about different aspects of personality, poses the problem of making this material meaningful. The problem is compounded when the object is one of making it statistically meaningful. One hundred and thirty-eight variables were initially selected from the test battery. At the first level of analysis of the data, these variables were subjected to two-tailed t-tests for matched samples in order to see which variables were the most significant for this differentiating the groups. The level of significance accepted in this study was 0,05, therefore, in a hundred and thirty-eight t-tests, there could be 6,9 significant factors due to chance. Thus, of the twenty-six factors which were found to be significant, approximately seven variables could have been due to chance. However, in view of the finding that the significant variables were psychologically meaningful and all but one of the children's variables were also found to be significant as the second level of analysis, reduces the possibility that seven of these variables were in fact due to chance. These findings argue for the validity of the statistical results.

6.6 Suggestions for Further Research

To a certain degree, the present study answers the questions that were originally posed, in that the personality of the asthmatic children did indeed differ significantly from that of other chronically ill children (cardiac cases). However, the data pertaining to the mothers' personality and mother-child relationship yielded inconsistent results. Perhaps the psychoanalytic specificity theory could not be evaluated

satisfactorily because of the methodological limitations inherent in this study. Hence, it is obvious that future research would have to make use of more refined methods of study. These would include a study that is prospective in design, that would utilize psychological measures, which would tap as many areas of personality as possible, that would use a carefully selected sample which is representative of the population and finally, that it would be so designed that data could be collected and analyzed 'blind'. These suggestions for improvement in methodology will be discussed in more detail below.

The value of the prospective method of research in the investigation of personality factors in childhood asthma is very clear when one considers that personality disturbance may precede an illness as well as result from it. Furthermore, it would be useful to follow over a period of time, the various stages of the illness in the asthmatic child. A prospective study of children with infantile eczema would capture a number of potentially asthmatic children, and studying the nature of the mother-child relationship, around the time of and following onset, could be most rewarding.

With regard to the measuring instruments used for the assessment of asthmatic children and their mothers, it appears that the psychological tests used were not sufficiently refined. Ideally, research of this nature requires information from a variety of sources. The study should include a comprehensive battery of highly refined psychological tests, interviews and observations. Predictions relating to overt behaviour should also be tested experimentally.

A carefully selected sample representative of the general population is essential for research of this nature. The sample should preferably include children attending hospital as well as patients of private doctors. In addition, all socio-economic groups should be represented. The asthmatics should be a heterogeneous group with subgroups differing in physiological as well as psychological factors so as to facilitate within-group and between-group comparisons. Research of this nature should also include the following control groups - children suffering from chronic chest illness, children with a different psychosomatic illness, neurotic children, normal children and non-asthmatic siblings. Except for the sibling group, the following factors should be controlled in all the above groups : age, sex, socio-economic status and ordinal position in the family. In the case of the ill children, extent and duration of illness should also be controlled. The siblings should be of the same sex and similar age range as the asthmatics.

Finally, with regard to the research procedure the groups should not be known to the investigator, since such knowledge may influence the testing procedure and the analysis of the data. This would necessitate the involvement of a research team.

Findings regarding the mothers' personality and the mother-child relationship were not consistent. In this study the child's relationship to mother was especially emphasized and relationships with other family members somewhat neglected. From the FRT findings there was some suggestion of difficulty in family relationships, particularly between the asthmatic child and his siblings. The role of the father and siblings in the asthmatic child's life is not clear and it appears that the the family unit as a whole should be the subject of future study.

It appears therefore that any future enquiry into the psychological world of the asthmatic child should include more careful scrutiny of significant family members other than the mother alone.

In view of the problematic elements that were noted in the interpersonal relationship of the asthmatic child with members of his family, future investigation should also look more carefully at the interpersonal relationships outside of the family. Information could be gathered concerning the peer-group relationships as well as his mode of interaction in the school setting. These areas could possibly yield some interesting information to future researchers.

The present study confirmed the presence of certain personality problems in the asthmatic child that had been stated in the literature. Findings from the personality tests of asthmatic children and their mothers did not however correspond with the high level of disturbance reported in the literature. This discrepancy merits further investigation.

The present investigation attempted to control the factor of chronic illness by using a control group of chronically ill cardiac children. This group emerged as a 'special' group in its own right in that when compared with the asthmatic children they were found to be neurotically constricted, almost pathologically submissive and had a greater concern with their bodies. These findings relating to the cardiacs could be further elaborated. Since the present study is primarily concerned with asthmatic children, intensive investigation of the cardiac group is beyond its scope. However, it is clearly evident that cardiac children and their families merit particular psychological investigation in the future.

6.7 Conclusion

From the findings of the study and the above discussion, the following tentative conclusions can be drawn when asthmatic children are compared with cardiac children. Some conclusions regarding the mothers as well as the mother-child relationship can also be drawn.

(1) The asthmatic child's personality is characterized by tension, affection-seeking tendencies, and dominant and aggressive traits.

(2) Asthmatic children are less introverted and more concerned with relationships, particularly with mother, than are cardiac children, who are neurotically constricted and have a greater concern with their bodies.

(3) The asthmatic child is ambivalent in his relationships. He seeks affection while manifesting dominant and aggressive feelings.

(4) The asthmatic children perceive a closer positive bond between themselves and their mothers than do chronically ill children with heart disease.

(5) The asthmatic child appears to be dependent on his mother. A need for independence does not manifest itself.

(6) Asthmatic children have a great deal of aggressive feelings towards their siblings.

(7) The personality of the mother of an asthmatic child tends to be characterized by outgoing and affection-seeking propensities, tension and aggressive feelings.

(8) The mothers of asthmatic children show a tendency towards ambivalence in their interpersonal relationships.

(9) There is some suggestion of inherent problems in the mother-child

relationship of asthmatic children, but the exact nature of these problems is not clear.

(10) The characteristics found in the asthmatic child and his mother cannot be attributed to the presence of chronic illness. These factors may have a role in the illness but it has not been possible to ascertain the nature of their role.

(11) The present investigation gives partial support to the psychoanalytic specificity hypotheses concerning childhood asthma.

The research design of the present study has limitations with regard to sample selection, testing procedure, measuring instruments and statistical analysis of data. These limitations may have affected the findings and hence these may only be viewed in a tentative manner. It is proposed that further researchers should attempt to avoid certain methodological shortcomings as well as to take greater cognisance of family dynamics and the child's interactions outside of the home.

Finally, it is suggested that, in the treatment of childhood asthma, a psychotherapist be an active member of the therapeutic team.

APPENDICES

APPENDIX A

TABLE 10

The means, standard deviations and t-test values calculated for the 138 variables extracted from the test battery

VARIABLE	MEAN		STANDARD DEVIATION		t -test level of
	Experimental	Control	Experimental	Control	Significance
Children's Rorschach					
1. Total responses	13,1	9,5	6,2	2,3	3,2+
2. Average time per response	10,4	12,7	6,7	7,6	35
3. Average time per achromatic card	10,3	10,9	6,6	7,8	80,1
4. Average time per chromatic card	10,6	14,9	7,9	9,6	18,2
5. Rejections	0,3	1,4	0,6	1,7	1,5+
6. Popular responses	3,1	2,7	1,9	1,1	50,4
7. % responses to cards 8, 9 and 10	33,5	31,8	5,9	7,8	45
8. W%	58,1	61	23,2	21,6	66
9. D%	34,9	36,6	19,8	21,6	77,8
10. d%	4,7	0,8	11,5	2,3	16,8
11. Dd+S%	2,4	1,7	5,2	5,7	73,3
12. $\frac{H+Hd}{R}$ %	14	10,6	11	12,3	34,8
13. $\frac{A+Ad}{R}$ %	54,6	59,8	19,4	21,2	37,6
14. Anatomy responses %	10,2	5,2	39,8	8,6	17
15. Aggressive responses %	30	10,9	21,1	10,9	0,4++
16. (H+A):(Hd+Ad)	76,5 ##	87,7##	26,7	16,8	10
17. % M ≠	8,1	3,7	6,9	5	6,1
18. % FM ≠	23,8	13,7	15,1	17,1	6,6
19. % m ≠	5,7	3,5	5,7	6,5	33,7
20. % k ≠	0,4	0	1,7	0	33
21. % K ≠	0,4	0,3	1,2	1,3	81,8
22. % F ≠	40	65,5	25,5	27,3	0,4++
23. % c ≠	8,2	2,7	8,5	4,6	1,7+
24. % C' ≠	4,7	4,5	4,8	7	90,8
25. % C ≠	8,9	6,2	8,5	6,8	27,1
26. F%	45,6	70	25,7	26,8	0,5++
27. $\frac{FK+F+Fc}{R}$ %	48,6	70,4	24	24,9	1 ++
28. Sum C	1	0,7	1,3	1	34,3
29. M : Sum C	53,5##	43,1##	31,6	35,3	22,9
30. FM+m:Fc+c+C'	78,2##	60,4##	28,1	37,4	13,2
31. W:M	86,8##	94,5##	14	9,5	6,9
32. M:FM	31 ##	39,5##	22,9	36,1	39,8
33. M:FM+m	25 ##	33,6##	16,2	34,6	35,6
34. F:FK+Fc	80,4##	93,3##	22	14,9	2,4+
35. Fc+cF+c+C'+C'F+C': FC+CF+C	50,1##	46,7##	33,2	32,3	74,8
36. FK+Fc+Fk: K+KF+k+kF+c+cF	60,1##	56,4##	28,8	24,6	67,4
37. FC:CF+C	35,6##	32,7##	33	31,8	77,5

CPQ					
38. Factor A	5,3	6,1	1,6	1,7	14,1
39. Factor B	6	4,2	1,4	1,6	0,03++
40. Factor C	4,9	5,5	1,9	1,3	34,2
41. Factor D	5,6	4,3	1,7	1,6	3,4+
42. Factor E	5,8	3,8	2	1,4	0,3++
43. Factor F	5,6	4,3	2	1,5	2,8+
44. Factor G	4,6	5,8	2,1	1,8	4,9+
45. Factor H	4,6	5,5	2	2	20,9
46. Factor I	5	5,9	2,2	1,9	11,9
47. Factor J	5,4	5,3	2	1,5	93,6
48. Factor N	5,8	5,9	1,6	2,1	94,1
49. Factor O	5,7	5,2	2	2	52,4
50. Factor Q_3	4,3	6	1,6	1,3	0,4++
51. Factor Q_4	6	4,5	2	1,9	1,9+
FRT					
52. Involvement with Nobody	16,6	22,4	7,8	10,8	7,5
53. Involvement with Self	3	2,3	2,6	2,5	45,9
54. Involvement with Father	12,6	11,6	6,6	4,8	60,5
55. Involvement with Mother	15,4	11,9	7,1	6,7	20,2
56. Involvement with Siblings	30,4	27,5	13,3	12,7	42,2
57. Positive feelings toward Nobody	5,5	5,1	4,1	3,5	71,8
58. Positive feelings toward Self	1,5	1,5	1,6	2,2	50
59. Positive feelings toward Father	7,8	8,9	5,5	4,8	56
60. Positive feelings toward Mother	12,9	10,4	5,8	6,3	33,1
61. Positive feelings toward Siblings	12,3	15,4	4,9	8,5	17,1
62. Negative feelings toward Nobody	11,1	17,4	6,9	8,5	2,5+
63. Negative feelings toward Self	1,5	0,9	1,7	1	19,9
64. Negative feelings toward Father	4,8	2,7	4,8	3	15,7
65. Negative feelings toward Mother	2,5	1,5	4	1,6	34,4
66. Negative feelings toward Siblings	18,7	12,1	13	7,9	4,8+
67. Maternal overprotection toward Nobody	1,8	1,9	2,4	2,2	84,8
68. Maternal overprotection toward Self	3,7	2,4	2,4	2	12,1
69. Maternal overprotection toward Father	0,7	0,4	1,1	1	49,8
70. Maternal overprotection toward Mother	0,3	0	0,7	0	13,5
71. Maternal overprotection toward Siblings	4,9	4,1	4,2	2,2	46,5
72. Paternal overindulgence toward Nobody	1,7	1,8	1,6	1,8	85,6

73. Paternal overindulgence toward Self	1,3	1,4	1,4	1,7	76,1
74. Paternal overindulgence toward Father	0,2	0,1	0,4	0,3	57,7
75. Pate[illegible] overindulgence toward [illegible]	0,3	0,4	0,6	0,8	83,4
76. Pater[illegible] adulgence tow[illegible] ings	2,2	1,4	1,9	1,5	10,7
77. Mate[illegible] overindulgence toward Nobody	1,4	1,9	1,4	1,7	39,8
78. Maternal overindulgence toward Self	1,4	1,1	1,6	1,4	35,8
79. Maternal overindulgence toward Father	0,5	0,3	0,7	0,5	29,7
80. Maternal overindulgence toward Mother	0	0	0	0	50
81. Maternal overindulgence toward Siblings	3,1	2	2,5	1,7	17,7
Mothers' Rorschach					
82. Total responses	12,8	9,9	3,5	2,1	$0,6^{++}$
83. Average time per response	11,3	11,9	5,4	5,5	76,4
84. Average time per achromatic card	10,2	13,4	5,8	8,1	24,5
85. Average time per chromatic card	12,4	10,4	6,4	4,1	34,7
86. Rejections	0,4	1,3	0,6	1,3	2^{+}
87. Popular responses	4,2	4	1,3	1,4	69,1
88. % responses to cards 8, 9 and 10	41	33,3	7,8	10,6	$0,5^{++}$
89. W %	58,5	64,4	16,9	16,4	29,6
90. D%	37,4	35,1	15,6	16,3	64,8
91. d%	3,1	0,6	7,5	2,4	18,5
92. Dd+S%	1,1	0	2,7	0	9,2
93. $\frac{H+Hd}{R}$%	18,2	14,3	13,7	8,1	27,7
94. $\frac{A+Ad}{R}$%	50,9	60	15,4	15,6	12,9
95. Anatomy responses %	8,4	6,5	8,1	10,5	52,9
96. Aggressive responses %	15,6	7,1	8,8	8,5	$0,6^{++}$
97. (H+A) : (Hd+Ad)	86,5 ##	94,6 ##	11,4	8,5	$2,8^{+}$
98. %N ≠	13,7	11,5	7,9	6,8	31,7
99. %FM ≠	24,3	32,1	10,1	17,4	9,4
100. %m ≠	6,4	2,4	4,2	3,3	$1,2^{+}$
101. %k ≠	0,3	0,6	0,8	2,4	61,7
102. %K ≠	1,3	0,8	2	2	48,4
103. %F ≠	25,4	34	14,6	22,8	19,3
104. %c ≠	14,4	8,5	6	6,8	$0,6^{++}$
105. %C' ≠	2,4	1,7	3,3	3,3	54,4
106. %C ≠	12	8,6	8,4	10,2	28,2
107. F%	31	36,3	17,5	23,1	42,7
108. $\frac{FK+F+Fc}{R}$%	40,5	40,9	19,1	22,5	95,7
109. Sum C	1,3	0,6	1,1	0,9	$5,6^{+}$
110. M:Sum C	65,7 ##	72,9 ##	34,1	34,9	53,7

111. FM+m:Fc+c+C'	72,2 ##	81,8 ##	25,8	18,7	15,9
112. W:M	78 ##	83,7 ##	11,5	10,8	9,1
113. M:FM	34,8 ##	26,1 ##	18,2	14,5	11,8
114. M:FM+m	30,2 ##	26,8 ##	17	13,9	50,8
115. F:FK+Fc	64 ##	80,5 ##	22,4	21,6	6,2
116. Fc+cF+c+C'+C'F+C': FC+CF+C	62,8 ##	59,2 ##	21,4	29,3	63,9
117. FK+Fc+Fk: K+KF+k+kF+c+cF	83,1 ##	68,8 ##	25,5	35,9	18,9
118. FC:CF+C	43,8 ##	53,3 ##	27,8	37,1	33,5
16PF					
119. Factor A	5,2	5,2	2,4	2	93,5
120. Factor B	6,4	5,2	1,4	1,7	3,6+
121. Factor C	5,5	5,3	2,1	1,8	89,4
122. Factor E	6,5	6,3	2	2	84,2
123. Factor F	6,5	6,2	2,9	2,1	78
124. Factor G	5,7	6,1	2,4	2	53
125. Factor H	6,3	5,6	2,5	2	34
126. Factor I	5,4	5,1	2,2	2,3	68
127. Factor L	3,5	4,7	1,6	1,9	8,2
128. Factor M	4,5	3,9	2,3	2	40
129. Factor N	5,4	6,7	2,6	2	7,1
130. Factor O	4,4	4,7	2	2,2	69,4
131. Factor Q_1	4,1	3,8	2,1	1,8	67,5
132. Factor Q_2	6,1	5,9	2,1	1,5	78,9
133. Factor Q_3	5,5	7,2	2,3	1,7	1,1+
134. Factor Q_4	5,9	5,1	2,2	2	25,6
MPAS					
135. D	27,5	31,9	8,1	5,4	5,3
136. I	23,8	22,4	7,3	3,9	40,3
137. P	29,6	29,1	6,6	4,6	78,6
138. R	19,2	16,7	7,5	3,6	20,2

\+ *Significant* at the 5% level ($p \leq 0,05$)
++ Significant at the 1% level ($p \leq 0,01$)
/ Percentage notation before the determinant indicates ½ additional score added to main score.
// Ratio converted into a percentage b[illegible] the first figure as a percentage of the total of the fi[illegible] ond numbers of the ratio.

TABLE 11

Child Variables selected for the Ward Cluster Analysis

VARIABLE	REASON FOR SELECTION
1. Rorschach - Total responses	Significant for the children
5. Rorschach - Rejections	Significant for the children
7. Rorschach - % responses to cards 8, 9 and 10	Significant for the mothers
12. Rorschach - $\frac{H+Hd}{R}$ %	Large standard deviation
14. Rorschach - % Anatomy responses	Large standard deviation
15. Rorschach - % Aggressive responses	Significant for the children
17. Rorschach - %N	Large standard deviation
18. Rorschach - %H+I	Large standard deviation
19. Rorschach - %m	Significant for the mothers
22. Rorschach - %F	Significant for the children
23. Rorschach - %c	Significant for the children
24. Rorschach - %C'	Large standard deviation
25. Rorschach - %C	Large standard deviation
26. Rorschach - F%	Significant for the children
27. Rorschach - $\frac{FK+F+Fc}{R}$ %	Significant for the children
28. Rorschach - Sum C	Large standard deviation
16. Rorschach - (H+A) : (Hd+Ad)	Significant for the mothers
34. Rorschach - F:FK+Fc	Significant for the children
38. CPQ - Factor A	Included for completeness of CPQ
39. CPQ - Factor B	Significant for the children
40. CPQ - Factor C	Included for completeness of CPQ
41. CPQ - Factor D	Significant for the children
42. CPQ - Factor E	Significant for the children
43. CPQ - Factor F	Significant for the children
44. CPQ - Factor G	Significant for the children
45. CPQ - Factor H	Large standard deviation ≠
46. CPQ - Factor I	Large standard deviation ≠
47. CPQ - Factor J	Large standard deviation ≠
48. CPQ - Factor N	Large standard deviation ≠
49. CPQ - Factor O	Large standard deviation ≠
50. CPQ - Factor Q_3	Significant for the children
51. CPQ - Factor Q_4	Significant for the children
62. FRT - Negative feelings toward Nobody	Significant for the children
66. FRT - Negative feelings toward Siblings	Significant for the children
55. FRT - Involvement with Mother	To assess whether mother-child relationships influenced the groups
60. FRT - Positive feelings toward Mother	
65. FRT - Negative feelings toward Mother	
68. FRT - Maternal overprotection toward Self	

≠ Large standard deviation for CPQ was taken as two or greater.

TABLE 12

Mother Variables selected for the Ward Cluster Analysis

VARIABLE	REASON FOR SELECTION
82. Rorschach - Total responses	Significant for the mothers
86. Rorschach - Rejections	Significant for the mothers
88. Rorschach - % responses to cards 8, 9 and 10	Significant for the mothers
93. Rorschach - $\frac{H+'}{R}$. %	Large standard deviation
95. Rorschach - % Anatomy responses	Large standard deviation
96. Rorschach - % Aggressive responses	Significant for the mothers
98. Rorschach - % M	Large standard deviation
99. Rorschach - % FM	Large standard deviation
100. Rorschach - % m	Significant for the mothers
103. Rorschach - % F	Significant for the children
104. Rorschach - % c	Significant for the mothers
105. Rorschach - % C'	Large standard deviation
106. Rorschach - % C	Large standard deviation
107. Rorschach - F%	Significant for the children
108. Rorschach - $\frac{FK+F+Fc}{R}$ %	Significant for the children
109. Rorschach - Sum C	Large standard deviation
97. Rorschach - (H+A) : (Hd+Ad)	Significant for the mothers
115. Rorschach - F:FK+Fc	Significant for the children
119. 16PF - Factor A	Large standard deviation ≠
120. 16PF - Factor B	Significant for the mothers
121. 16PF - Factor C	Large standard deviation ≠
122. 16PF - Factor E	Large standard deviation ≠
123. 16PF - Factor F	Large standard deviation ≠
124. 16PF - Factor G	Large standard deviation ≠
125. 16PF - Factor H	Large standard deviation ≠
126. 16PF - Factor I	Large standard deviation ≠
127. 16PF - Factor L	Included for completeness of 16PF
128. 16PF - Factor M	Large standard deviation ≠
129. 16PF - Factor N	Large standard deviation ≠
130. 16PF - Factor O	Large standard deviation ≠
131. 16PF - Factor Q_1	Large standard deviation ≠
132. 16PF - Factor Q_2	Large standard deviation ≠
133. 16PF - Factor Q_3	Significant for the mothers
134. 16PF - Factor Q_4	Large standard deviation
135. MPAS - Disciplinarian	To assess whether mother-child relationships influenced the groups
136. MPAS - Indulgent	
137. MPAS - Protective	
138. MPAS - Rejecting	

≠ Large standard deviation for the 16PF was taken as two or greater.

APPENDIX B

Maryland Parent Attitude Survey

by

Donald K. Pumroy

Directions : This survey is concerned with parents' attitudes toward child-rearing. At first, you will probably find it difficult; but as you proceed, it will go more rapidly.

Below are presented 95 pairs of statements on attitudes towards child rearing. Your task is to choose ONE of the pair (A or B) that most represents your attitude, and place a circle around the letter (A or B) that precedes that statement. Thus : (A) Parents should like their children
B Parents frequently find children a burden.

Note that in some cases it will seem that both represent the way you feel : while, on other occasions, neither represents your point of view. In both cases, however, you are to choose the one that MOST represents your point of view. As this is sometimes difficult to do, the best way to proceed is to put down your first reaction. Please pick one from each of the pairs.

1. A. Parents know what is good for their children.
   B. A good leather strap makes children respect parents.

2. A. Parents should give some explanations for rules and restrictions.
   B. Children should never be allowed to break a rule without being punished.

3. A. Parents do much for their children with no thanks in return.
   B. Children should have tasks that they do without being reminded.

4. A. Parents should sacrifice everything for their children.
   B. Children should obey their parents.

5. A. Children should follow the rules their parents put down.
   B. Children should not interfere with their parents' night out.

6. A. Parents should watch their children all the time to keep them from getting hurt.
   B. Children who always obey grow up to be the best adults.

7. A. Children should never be allowed to talk back to their parents.
   B. Parents should accompany their children to the places they want to go.

8. A. Children should learn to keep their place.
   B. Children should be required to consult their parents before making any important decisions.

9. A. Quiet, well behaved children will develop into the best type of grown-up.
   B. Parents should pick up their child's toys if he doesn't want to do it himself.

10. A. Parents should do things for their children.
    B. A child's life should be as pleasant as possible.

11. A. Watching bioscope* keeps children out of the way.
    B. Children should never be allowed to talk back to their parents.

12. A. Personal untidiness is a revolt against authority so parents should take the matter in hand.
    B. A good child always asks permission before he does anything so he doesn't get into trouble.

13. A. Sometimes children make a parent so mad they see red.
    B. Parents should do things for their children.

14. A. Children should be taught to follow the rules of the game.
    B. A child's life should be as pleasant as possible.

15. A. Parents should cater to their children's appetites.
    B. Many parents wonder if parenthood is worthwhile.

16. A. A child's life should be as pleasant as possible.
    B. Sometimes children make their parents so mad they see red.

17. A. Children should not tell anyone their problems except their parents.
    B. Children should play whenever they feel like in the house.

18. A. A good form of discipline is to deprive a child of the things that he really wants.
    B. Children should do what they are told without arguing.

19. A. Children should be taken to and from school to make sure there are no accidents.
    B. Children who always obey grow up to be the best adults.

20. A. Many parents wonder if parenthood is worthwhile.
    B. Children should be required to consult their parents before making any decisions.

21. A. If a child doesn't like a particular food, he should be made to eat it.
    B. Children should have lots of gifts and toys.

22. A. Children should play whenever they feel like in the house.
    B. Good children are generally those who keep out of their parents way.

23. A. Children never volunteer to do anything around the house.
    B. Parents should pick up their child's toys if he doesn't want to do it himself.

24. A. Good children are generally those who keep out of their parents' way.
    B. Children should not be allowed to play in the living room.

25. A. Modern children talk back to their parents too much.
B. Children should be required to consult their parents before making any decisions.

26. A. Parents should make it their business to know everything their children are thinking.
B. Children never volunteer to do any work around the house.

27. A. Children should come immediately when their parents call.
B. Parents should give surprise parties for their children.

28. A. Good parents overlook their children's shortcomings.
B. Watching bioscope * keeps children out of the way.

29. A. Parents should watch their children all the time to keep them from getting hurt.
B. A child should never be forced to do anything he doesn't want to do.

30. A. Bioscope* keeps children out of the way.
B. The most important thing to teach children is discipline.

31. A. Children should do what they are told without arguing.
B. Parents know how much a child needs to eat to stay healthy.

32. A. Bioscope keeps children out of the way.
B. A child needs someone to make judgments for him.

33. A Modern children talk back to their parents too much.
B. Parents should amuse their children if no playmates are around to amuse them.

34. A. Good children are generally those who keep out of their parents' way.
B. Parents should pick up their child's toys if he doesn't want to do it himself.

35. A. Parents should see to it that their children do not learn bad habits from others.
B. Good parents lavish their children with warmth and affection.

36. A. Parents shouldn't let their children tie them down.
B. Modern children talk back to their parents too much.

37. A. Children who destroy any property should be severely punished.
B. Children cannot make judgments very well for themselves.

38. A. Most parents are relieved when their children finally go to sleep.
B. Parents should hide dangerous objects from their children.

39. A. Children should not be allowed to play in the living room.
B. Children should play whenever they feel like in the house.

40. A. Parents should give surprise parties for their children.
B. Most parents are relieved when their children finally go to sleep.

41. A. Children should be taken to and from school to make sure there are no accidents.
    B. Parents should clean up after their children.

42. A. Children are best when they are asleep.
    B. Personal untidiness is a revolt against authority so parents *should take the matter in hand.*

43. A. The earlier the child is toilet trained the better.
    B. A child needs someone to make judgements for him.

44. A. Watching ,scope / keeps children out of the way.
    B. Parents . ld accompany their children to the places they go.

45. A. The earlier the child is toilet trained the better.
    B. Good parents overlook their children's shortcomings.

46. A. Parents should clean up after their children.
    B. Children need their natural meanness taken out of them.

47. A. Parents should give surprise parties for their children.
    B. Parents should hide dangerous objects from their children.

48. A. Most parents are relieved when their children finally go to sleep.
    B. Children should come immediately when their parents call.

49. A. Children who lie should always be spanked.
    B. *Children should be required to consult their parents before* making any decisions.

50. A. Sometimes children just seem mean.
    B. Parents should see to it that their children do not learn bad habits from others.

51. A. Punishment should be fair and fit the crime.
    B. Parents should feel great love for their children.

52. A. Parents should buy the best things for their children.
    B. *Children are best when they are asleep.*

53. A. Children should be required to consult their parents before making any decisions.
    B. Parents should cater to their children's appetites.

54. A. Parents should have time for outside activities.
    B. Punishment should be fair and fit the crime.

55. A. Children should not be allowed to play in the living room.
    B. Children should not tell anyone their problems except their parents.

56. A. It seems that children get great pleasure out of disobeying their elders.
    B. Parents should watch their children all the time to keep them from getting hurt.

57. A. Personal untidiness is a revolt against authority so parents should take the matter in hand.
    B. Parents should buy the best things for their children.

58. A. Children should learn to keep their place.
B. Good parents overlook their children's shortcomings.

59. A. Parents should accompany their children to the places that they want to go.
B. Good parents overlook their children's shortcomings.

60. A. Children do many things just to torment their parents.
B. Parents should insist that everyone of their commands be obeyed.

61. A. Children should come immediately when their parents call.
B. Parents should hide dangerous objects from their children.

62. A. Children do many things just to torment a parent.
B. Children should be protected from upsetting experiences.

63. A. Children who lie should always be spanked.
B. Parents should cater to their children's appetites.

64. A. A child should never be forced to do anything he does not want to do.
B. It seems that children get great pleasure out of disobeying their elders.

65. A. Parents should keep a night light on for their children.
B. Parents live again in their children.

66. A. Sometimes children make parents so mad they see red.
B. Children should be taught to follow the rules of the game.

67. A. Parents should insist that everyone of their commands be obeyed.
B. Children should be protected from upsetting experiences.

68. A. Good children are generally those who keep out of their parents way.
B. Children should not tell anyone their problems except their parents.

69. A. Children who destroy property should be severely punished.
B. Children's meals should always be ready for them when they come home from play or school.

70. A. Parents should frequently surprise their children with gifts.
B. A good form of discipline is to deprive children of things that they really want.

71. A. Children should depend on their parents.
B. Parents should amuse their children if no playmates are around to amuse them.

72. A. Many parents wonder if parenthood is worthwhile.
B. Children who lie should always be spanked.

73. A. Quiet, well behaved children will develop into the best type of grownup.
B. Children never volunteer to do anything around the house.

74. A. Children need their natural meanness taken out of them.
B. Children should be taken to and from school to be sure that there are no accidents.

75. A. Children should never be allowed to talk back to their parents.
B. Good parents overlook their children's shortcomings.

76. A. Parents should give their children all that they can afford.
B. Bioscope *f* keeps children out of the way.

77. A. Children cannot make judgments very well for themselves.
B. Children's meals should always be ready for them when they come home from play or school.

78. A. *Sometimes children are inconvenient.*
B. Children should be reprimanded for breaking things.

79. A. If children misbehave they should be punished.
B. Parents should see to it that their children do not learn bad habits from others.

80. A. Children are often in one's way around the house.
B. Children seven years old are too young to spend summers away from home.

81. A. Children should do what they are told without arguing.
B. Parents should frequently surprise their children with gifts.

82. A. Parents should feel great love for their children.
B. Parents should have time for outside activities.

83. A. A child needs someone to make judgments for him.
B. Good parents overlook their children's shortcomings.

84. A. Parents should make it their business to know everything their *children are thinking.*
B. Quiet, well behaved children will develop into the best type of grownup.

85. A. Children who destroy any property should be severely punished.
B. A good child always asks permission before he does anything so that he does not get into trouble.

86. A. A good form of discipline is to deprive a child of things that he really wants.
B. Parents know how much a child needs to eat to stay healthy.

87. A. The most important thing to teach a child is discipline.
B. Parents should give their children all that they can afford.

88. A. Parents should amuse their children if no playmates are around *to amuse them.*
B. Parents shouldn't let children tie them down.

89. A. Parents know how much a child needs to eat to stay healthy.
B. Parents should frequently surprise their children with gifts.

90. A. Sometimes children just seem mean.
B. If children misbehave they should be punished.

91. A. Children should be taught to follow the rules of the game.
B. Parents should do things for their children.

92. A. Parents shouldn't let their children tie them down.
B. Children should depend on their parents.

93. A. Children who always obey grow up to be the best adults.
B. Parents should clean up after their children.

94. A. Children's meals should always be ready for them when they come home from play or school.
B. *Children do many things just to torment a parent.*

95. A. A good child always asks permission before he does anything, so that he doesn't get into trouble.
B. Parents should buy the best things for their children.

≠ 'Bioscope' substituted for 'television' for South African population, 1975.

Scoring Keys for the Maryland Parent Attitude Survey

The first choice for an item is 'A' and the second is 'B' (see MPAS Booklet). The numbers represent the item numbers. The scoring of the items for the different types of parents is as follows :

Disciplinarian: 6B, 7A, 9A, 11B, 12A, 14A, 18B, 19B, 21A, 24B, 25A, 27A, 30B, 31A, 33A, 36B, 37A, 39A, 42B, 43A, 45A, 48B, 49A, 51A, 54B, 55A, 57A, 60B, 61A, 63A, 66B, 67A, 69A, 72B, 73A, 75A, 78B, 79A, 81A, 84B, 85A, 87A, 90B, 91A, 93A.

Indulgent : 9B, 10B, 14B, 15A, 16A, 17B, 21B, 22A, 23B, 27B, 28A, 29B, 33B, 34B, 35B, 39B, 40A, 41B, 45B, 46A, 47A, 51B, 52A, 53B, 57B, 58B, 59B, 63B, 64A, 65B, 69B, 70A, 71B, 75B, 76A, 77B, 81B, 82A, 83B, 87B, 88A, 89B, 93B, 94A, 95B.

Protective : 6A, 7B, 8B, 10A, 12B, 13B, 17A, 19A, 20B, 25B, 26A, 29A, 31B, 32B, 35A, 37B, 38B, 41B, 43B, 44B, 47B, 49B, 50B, 53A, 55B, 56B, 59A, 61B, 62B, 65A, 67B, 68B, 71A, 74B, 77A, 79B, 80B, 83A, 84A, 85B, 86B, 89A, 91B, 92B, 95A.

Rejecting : 8A, 11A, 13A, 15B, 16B, 18A, 20A, 22B, 23A, 24A, 26B, 28B, 30A, 32A, 34A, 36A, 38A, 40B, 42A, 44A, 46B, 48A, 50A, 52B, 54A, 56A, 58A, 60A, 62A, 64B, 66A, 68A, 70B, 72A, 73B, 74A, 76B, 78A, 80A, 82B, 86A, 88B, 90A, 92A, 94B.

BIOGRAPHICAL QUESTIONNAIRE

1. Name of child :

   Sex :

   Date of birth :

   Age :

   Home Address :

   Phone Number :

2. Father's Name :

   Occupation :

   Business Telephone :

   Age :

3. Mother's name :

   Occupation :

   Business Telephone :

   Age :

4. Name and ages of children :

   1.

   2.

   3.

   4.

   5.

5. Was the pregnancy planned?

6. How did you feel about conceiving this child ?

7. Did you have an easy pregnancy ?

8. Were you at all emotionally upset during your pregnancy ?

9. Were there any difficulties in giving birth ?

10. What was the child's birthweight ?

11. Were you at all nervous at the thought of having to care for the child alone, or did you like the idea ?

12. How did you feed the child ?

13. Did you demand feed or keep to a regular schedule ?

14. Did you have any feeding problems during the child's first year of life ?

15. Did you have any special problems in the child's first years ?

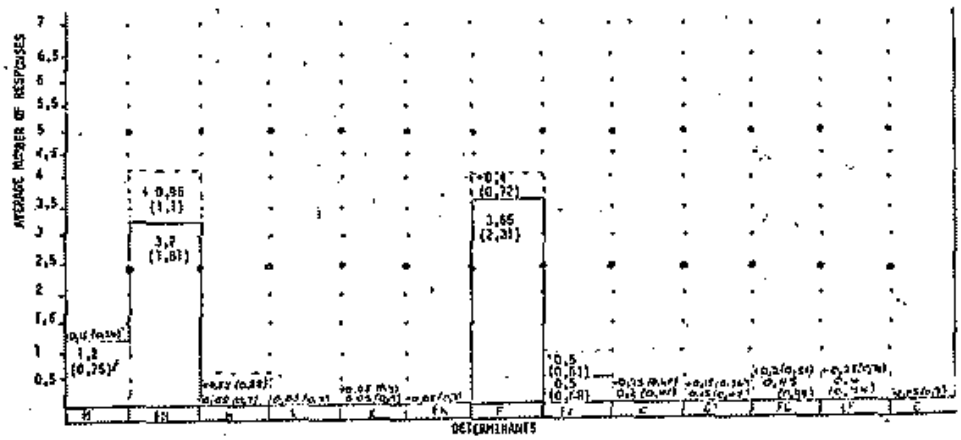
16. At what age did your child start talking ?

17. At what age did your child start walking ?

18. Did your child go to a nursery school or creche ?

19. At what age did your child go to primary school ?

MINERS - GROUP 8 Average Age 37,6 years



1. Basic Relationships : Main Responses Only		
Total Responses	R	9,9
Rejections		1,3
Average Time per Response	T/R	11,9 sec
Average Reaction Time:		
Achromatic Cards (I,IV,V,VI,VII)		13,4 sec
Chromatic Cards (II,III,VIII,IX,X)		10,2 sec
F/R		36,3 F%
(FK+F+C)/R		40,9 %
(H+Hd)/R		18,3 H%
(A+Ad)/R		60 A%
(H+A):(Hd+Ad) %		64,6 : 6,4
Popular Responses	P	4
Original Responses	O	-
(FC+2CF+3C)/T	sum C	0,6
M : sum C %		72,8 : 27,2
(FM+m):(Fc+c+C') %		81,8 : 18,2
Responses to Cards VIII+IX+X/R		33,3 %
W:M %		65,7 : 46,3
Anatomy responses %		6,5 %
Aggressive responses %		7,1 %

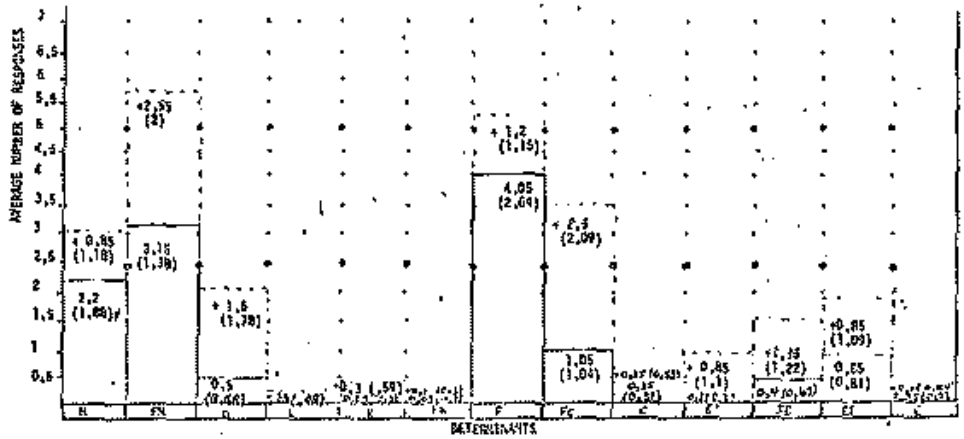
II. Supplementary Relationships : Main + ½ Add.	
M : FM%	26,1 : 75,9
M : (FM + m)%	26,8 : 73,2
F : FK + Fc %	80,5 : 19,5
(Fc+cF+cC'+iC'F+FC') : (FC+CF+C)%	59,2 : 40,8
(FK+Fc+Fk):(3xFk+kF+c+cF)%	68,8 : 31,2
FC:(CF+C)%	53,3 : 46,7

III. Manner of Approach

	Main Responses	
	Actual %	Expected %
W	64,4	20-30
D	35,1	45-55
d	0,5	5-15
Dd+S	0	< 10

/ Figures in parentheses are the Standard Deviations

MOTHERS - GROUP I Average Age 38,75 years



1. Basic Relationships : Main Responses Only

Total Responses	R	12,8
Rejections		0,4
Average Time per Response	T/R	11,3 sec
Average Reaction Times:		
Achromatic Cards (I,IV,V,VI,VII)		10,2 sec
Chromatic Cards (II,III,VIII,IX,X)		12,4 sec
$\frac{F}{R}$		31 %
$\frac{FK+F+Fc}{R}$		40,5 %
$\frac{H+Hd}{R}$		38,2 H%
$\frac{A+Ad}{R}$		60,9 A%
(H+A):(Hd+Ad) %		86,5 : 13,5
Popular Responses	P	4,2
Original Responses	O	-
$\frac{Fc+2Cf+3C}{R}$	sum C	1,3
R : sum C %		85,7 : 14,3
(FM+m):(Fc+c'+C') %		72,2 : 27,8
$\frac{Responses\ to\ Cards\ VIII+IX+X}{R}$		41 %
H:H %		78 : 22
Anatomy responses %		8,6 %
Aggressive responses %		16,6 %

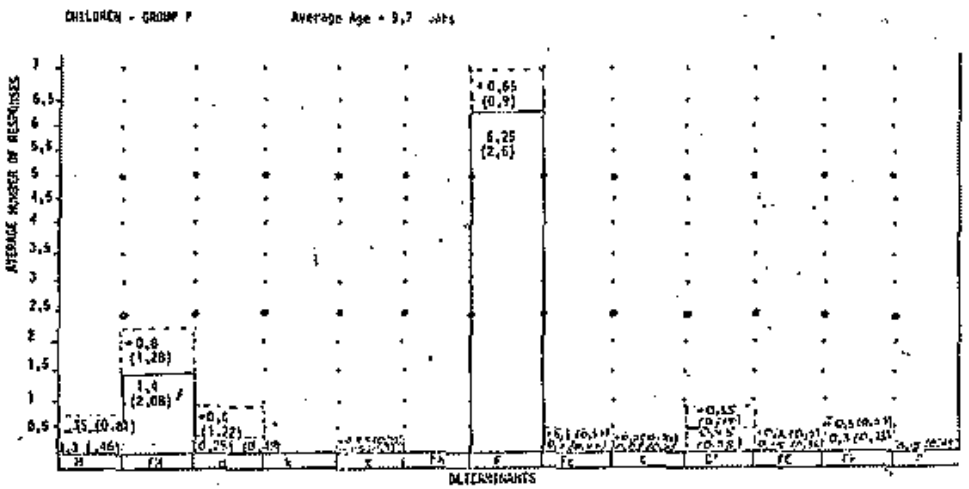
11. Supplementary Relationships : Main + $\frac{1}{2}$ Add.

M : FM%	34,8:65,2
M : (FM + m)%	30,2:69,8
F : FK + Fc %	64:36
(Fc+cF+c'+C'F+FC') : (FC+CF+C)%	62,8:37,2
(FK+Fc+Fk):(KkF+k+kF+c+cF)%	83,1:16,9
FC:(CF+C)%	43,8:56,2

111. Manner of Approach

	Main Responses	
	Actual %	Expected %
W	58,5	20-30
D	37,3	45-55
d	3,1	5-15
Dd+S	1,1	< 10

F Figures in parentheses are the Standard Deviations



I. Basic Relationships : Main Responses Only

Total Responses	R	9,5
Rejections		1,3
Average Time per Response	T/R	12,7 sec
Average Reaction Time:		
Achromatic Cards (I,IV,V,VI,VII)		10,9 sec
Chromatic Cards (II,III,VIII,IX,X)		14,8 sec
$\frac{F}{R}$		69,95%
$\frac{FK+F+Fc}{R}$		70,4 %
$\frac{H+Hd}{R}$		30,6 %
$\frac{A+Ad}{R}$		59,8 %
(H+A):(Hd+Ad) %		87,8:12,4
Popular Responses	P	2,7
Original Responses	O	-
$\frac{FC+2CF+3C}{T}$	sum C	0,7
M : sum C %		43,1:50,9
(FM+m):(Fc+c+C')%		60,4:39,6
Responses to Cards VIII+IX+X / R		31,8 %
W:M %		94,5:5,5
Anatomy responses %		5,6 %
Aggressive responses %		10,9 %

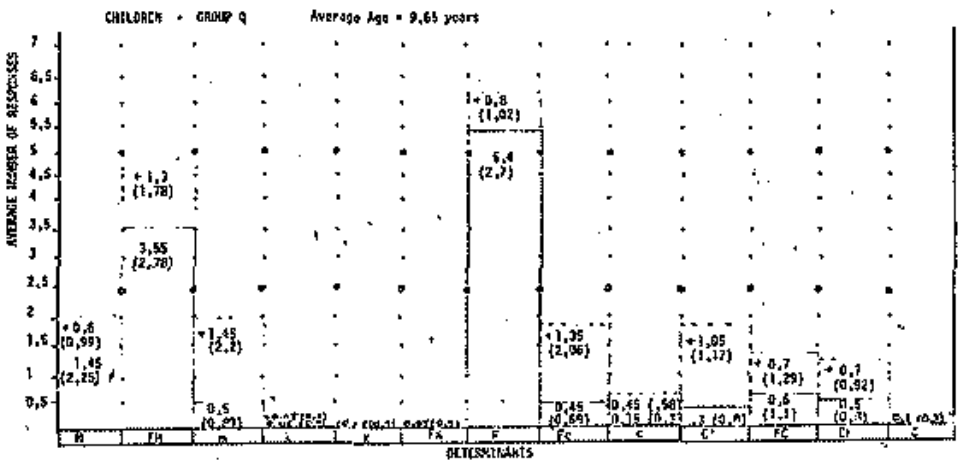
II. Supplementary Relationships : $\Sigma(a)n + \frac{1}{2}$ Add.

M : FM%	39,5:60,6
M : (FM + m)%	33,8:66,4
F : Fk + Fc %	93,3: 6,7
(Fc+cF+c'+C'+FC') : (FC+CF+C)%	16,9:53,1
[FK+Fc+Fk]:(K+KF+k+Fc+cF)%	56,8:43,6
FC:(CF+C)%	32,7:67,3

III. Manner of Approach

	Main Responses	
	Actual %	Expected %
W	61	20-30
D	35,6	45-55
d	0,8	5-15
Dd+S	1,7	< 10

Figures in Parenthoses are the Standard Deviations



I. Basic Relationships : Main Responses Only

Total Responses	R	31,1
Rejections		0,3
Average Time per Response	T/R	10,4 sec
Average Reaction Time:		
Achromatic Cards (I,IV,V,VI,VIII)		10,3 sec
Chromatic Cards (II,III,VII,IX,X)		10,6 sec
F / R		45,6 %
(FK+Fc) / R		46,6 %
H+Hd / R		34 HS
A+Ad / R		64,6 A%
(H+A):(Hd+Ad) %		76,6:33,6
Popular Responses	P	3,1
Original Responses	O	-
(FC+2CF+3C) / T	sum C	1
M : sum C M		53,5:46,5
(FM+m):(Fc+c+C')%		78,1:21,9
Responses to Cards VIII+IX+X / R		33,5 %
W:M %		86,8:13,2
Anatomy responses %		10,2 %
Aggressive responses %		30 %

II. Supplementary Relationships : Main + 1/2 Add.

M : FM%	31 : 69
K : (FM + m)%	25 : 75
F : Fk + Fc %	80,4:19,6
(Fc+cF+c'+2C'F+FC') : (FC+CF+C)%	50,1:49,9
(FK+Fc+Fk):(K+KF+k+1/2c+cF)%	60,1:39,9
FC:(CF+C)%	35,6:64,4

III. Manner of Approach

	Main Responses	
	Actual %	Expected %
W	58,1	20-30
D	34,9	45-55
d	6,7	5-15
Dd+S	2,4	< 10

/ Figures in parentheses are the Standard Deviations

Psychologist's Interpretation of the Rorschach Psychograms of the Four Groups plus the Two Rorschach Protocols per Group

Mother Group S

The extremely impoverished Rorschach protocols of this group of mothers suggests considerable restriction of inner life and needs, and an inability to express emotions and impulses in a spontaneous manner. Interpersonal and affective responsivity is unduly low and the subjects manifest a limited, rigid and stereotyped perception of the world. It would seem that they can cope with life problems only in the most rigid, conventional way, that is by stripping experiences of the more personal and emotional implications.

These mothers appear to be extremely withdrawn (markedly introversive balance) and locked up in themselves with a relative insensitivity to the emotional impact of the outer world. There seems to be denial of their own affectional needs and consequently an inability to recognise recipient affectional needs of others. The limitation of their responsiveness to environmental stimulation and lack of sensitivity to the emotional impact of the outer world suggests that they would experience difficulty in establishing warm, close, unrestrained affectional contacts.

There appears to be some problems in dealing with more primitive impulses. The fact that there is awareness of these impulses without any indication of intrapsychic conflict or anxiety and no apparent outlet for, or overt expression of, these feelings implies a rather high frustration index. Nevertheless, these mothers appear to have a long-standing mode of adjustment constituting little emotional involvement, withdrawal, an overemphasis upon conventiality and a tendency to approach experience in an intellectual sense (W%). This may be seen as a defense mechanism which seems to be operating effectively at present in alleviating anxiety and protecting them against too painful an awareness of inner conflict.

Case Studies :

The pattern which emerges from the Rorschach psychograms of these two subjects is remarkably consistent with the Group psychogram. There are some differences, particularly on the qualitative level, which can be ascribed to the fact that the Rorschach is a test of unique, individual functioning hence it would be impossible to obtain two Rorschachs that are exactly the same. A brief summary of the two protocols will now be presented.

Mrs. L - 44 years

Mrs. L's impoverished and unproductive Rorschach protocol (R= 9) together with the strong emphasis on seeing the world in the most obvious, agreed-upon way (P = 6) indicates a rather limited and rigid personality who is not perceptually responsive or receptive to the world about her. She is markedly withdrawn from reactivity to the emotional impact from the environment and this appears to be her "natural" mode of coping with her own feelings and impulse life. Although a degree of frustration is implied by the fact that there is some awareness of impulses which are

not being overtly expressed, Mrs. L's defense mechanisms (mainly repression and avoidance) seem to be operating effectively in protecting her against an awareness of inner conflict. Furthermore, her ability to perceive human figures on the Rorschach, implies empathetic identification with others (i.e. an ability to establish close and warm relationships with others) even though this is limited by her inhibited responsiveness and lack of spontaneity. On the surface, therefore Mrs. L. appears to be coping successfully with problematic situations, that is by stripping experiences of personal implications and by not allowing emotional factors to interfere with her functioning. This is achieved at the expense of other more important satisfactions, e.g. denial or repression of affectional needs, absence of satisfying adult heterosexual relationships, etc.

Mrs. M - 35 years

Mrs. M. reveals a similar inhibition of productivity and an unwillingness to allow herself a strong emotional reaction even when the situation demands a deep emotional response. There are indications of affective disturbances and a tendency to withdraw from close contact with others.

Mother Group T

The psychogram of this group of mothers reveals greater productivity and a much more even balance between introversive and extratensive trends implying a rather rich and varied inner life together with some responsivity to the emotional impact from the environment.

These mothers appear to be potentially more spontaneous, warm and emotionally responsive to their environment even though there are obvious difficulties in adjustment and problems in handling reality demands of situations As there seems to be potential responsiveness only as indicated by little use of colour (Sum C = 1,3), the hypothesis is that there is a conflict between natural responsiveness and conscious attitudes, a repression or rather control of strong emotional reaction. Similarly, the discrepancy in the direction of the ratios relating to the introversive - extratensive balances (i.e. M : sum C = 65,7: 34,3; FM+m : Fc+c+C' = 72,2 : 27,8; and responses to Cards 8, 9 and 10 = 41%) reflects a conflict in tendencies within the personality. In other words, responsiveness to and involvement with the outer world may at times be reduced although there is an orientation towards the social environment in terms of feeling if not overt responses. If the feeling is present, potentially there is response. There is some awareness of affectional needs and indications of a tentative reaching out for closer interpersonal contact which seems to suggest that the introversive trends and withdrawal tendencies are not wholly acceptable or 'natural' to these mothers. (Ambivalence relating to emotional involvement with others and some conflict between dependency needs and independence).

There appears to be denial of the more primitive impulses possibly because these are threatening to the subjects and a failure to integrate impulse life with long range goals or ego values. The impulses which seem to constitute a serious problem for these subjects appear to be the aggressive impulses but there is at least an awareness of inner conflict and anxiety and an attempt is made to control these unacceptable emotions.

Case Studies :

Mrs. B. - 38 years

The picture which emerges from this subject's Rorschach psychogram reveals an emotionally immature, rather labile and conflict-ridden individual with a strong need to receive affection from others. Although there is an awareness of affectional needs these do not appear to be wholly acceptable to the subject, possibly because there has been partial deprivation of affection in early primary relationships and some anxiety and depression is experienced in this area. She tries to defend herself against the anxiety stemming from her dependent, recipient needs by the mechanisms of denial and fantasy solution to problems.

Mrs B. appears to have a capacity for interpersonal relationships, being sensitive to the needs and feelings of others and capable of some degree of empathetic identification with others, but she is at present too recipient and too preoccupied with her own problems to be able to realize fully mature, contributing interaction with others. Her preoccupation on the Rorschach with the toy-like objects and fairy-tale figures suggests a limitation in her ability to indulge in mature, adult, interdependent relationships. The implication here is that affect can be expressed only towards 'lesser' objects or beings which is indicative of an immature level of social development.

Thus, although she is extremely responsive and receptive to the outer world, and manifests considerable sensitivity to the feelings of others, there appears to be too much ambivalence and conflict in terms of her own needs and impulses (a fear of being overwhelmed by her feelings and losing complete control) which is interfering with or hampering affectional interchange and not allowing her to fully utilize her creative potential.

Mrs. W - 48 years

Mrs. W appears to experience similar problems in her social and personal adjustment. She too is a highly dependent and recipient individual (more so than Mrs. M.) with strong needs for the affection, approval and emotional support of other people together with a longing for an infantile sort of dependence on others or contact need which is unacceptable to Mrs. W. Both subjects appear to be rather ambivalent in respect of their dependency needs and to defend against the resulting anxiety by means of denial and an attempt at control of overt expression of these needs.

In both cases, the exaggerated need for affectional response from others suggests that there has been some deprivation of affection in primary familial relationships (probably in mother-child relationships), but that this deprivation was neither early enough nor complete enough to lead to a serious defect in capacity for affectional relationships. The same limitations relating to capacity for mature, interdependent relationships would seem to apply to Mrs. W. as to the previous subject.

Children Group P

The Rorschach psychogram of this group of children is extremely impoverished, flat and constricted. There is neither simple acknowledgement of impulse life nor are imaginal resources available in the sense of providing long range goals or escapist fantasy activity. There is rigid control and extreme repression of emotions and impulses (possibly because they constitute

a threat to the ego) and the hypothesis of 'neurotic constriction' would seem to apply to these children. The excessive and rigid control implied by the high F column (i.e. F% = 69,95) suggests that these subjects have an extremely limited view of their world, that is, they are not responding freely either to external reality or to their own inner needs and experiences. This may be due to any one of a variety of reasons, but generally speaking, it would appear that emotions and impulses constitute such a threat to these children that spontaneity has been markedly inhibited by the rigid repression of feelings and rigid control of needs.

Case Studies:

Boy - 8 years 8 months

This subject's Rorschach psychogram is remarkably consistent with the group psychogram and reveals an extremely constricted and defensive individual who is restricted in the expression of his needs and impulses. This need for excessive control appears to stem from a possible fear of rejection as there has been so little ego development that the subject may act irresponsibly without ego participation or socialized restraint.

The perseveration of the 'b terfly' concept confirms the hypothesis of a limited perception of his world and a degree of frustration and depression is suggested by the low level of interpersonal and affective responsivity. There appear to be problems in relating to others and some anxiety is experienced in mother-child relationships. Identity problems are also apparent in that the subject is unable to identify himself empathically with a strong, adult masculine figure. Although there is little overt sexual interest or anxiety, the subject appears to experience himself as physically (or bodily) inadequate in his masculine sex role (Card 4 - 'a little man'; Card 6 - 'It is spine here at your back'; etc.)

Boy 7 years

This boy appears to be even more constricted and impoverished than the previous subject. Control of hostile-aggressive impulses appear to constitute a serious problem in adjustment and there is clearly a repression of affectional needs as well as a tendency to inhibit spontaneous or overt expression of emotions. There does not appear to be the same preoccupation with the body and its functions but it seems that this subject is more confused and threatened by archaic impulses and attempts to defend himself against the resulting anxiety by the mechanisms of denial and repression. Drive appears to be markedly reduced as so much of his psychic energy appears to be tied up in controlling emotions and impulse life rather than in the solution of his problems. As in the previous case, this would seem to imply the presence of considerable frustration and depression which is nevertheless not acknowledged.

Children Group Q

The children in this group appear to be less rigidly controlled and seem to experience more conflict and tension between impulse life and ego values than the previous group of subjects. There is greater awareness of impulses (more specifically the aggressive impulses) and emotions although these do not appear to be overtly expressed and the possibility of psychosomatic symptom formation suggests itself.

Although these subjects have obvious difficulties in establishing warm and intimate object relations, there appears to be less withdrawal from and aversion to interpersonal relationships, an awareness of affectional needs and a tentative reaching out for closer contact with others. The implication here is that these subjects have not experienced deprivation either early enough or severely enough so as to warp personality development and they are at least motivated to such contact with the outside world. Thus in spite of the conflict and ambivalence which they seem to be experiencing in terms of archaic impulses and dependency needs, these children do not manifest the same degree of ego weakness or apathy as the previous group of subjects.

Case Studies :

Girl -11 years 8 months

This girl appears to be a rather withdrawn introverted individual who is nevertheless responsive to the emotional impact from the environment (even though this is not expressed in overt reactivity). The fact that she does not give overt expression to her emotional reactions suggests that feelings and impulses are possibly being expressed in an indirect way (perhaps in the form of psychosomatic symptoms).

This subject reveals strong needs for approval (P=6; R =11) and belongingness although she tends to deny her affectional dependency needs possibly for fear of being overwhelmed by them. There appear to be some problems in parent-child relationships (rejection of Card 7 i.e. the so-called 'Mother-card' and the 'angry' man on Card 4, i.e. the 'Father -card')with feelings of rejection and deprivation, which suggest that there has been partial deprivation of affection but this does not seem to be complete enough to interfere with the development of capacity for object-relationships. The fact that she is able to perceive real life human figures on the Rorschach cards suggests that she is capable of empathic identification with others and the additional response to Card 7 - i.e. 'little paw of a little dog ... just being put out' - suggests a longing for a closer more affectionate relationship with the mother although there seems to be a barrier hampering affectional interchange. There is some aggression felt towards the mother which is not expressed in overt action possibly because of her dependency on mother's approval. This tends to make the whole mother-child area one that is ambivalent and highly charged.

She tries to defend herself against the anxiety stemming from mother-child relationships by denial and suppression of her hostile aggressive feelings as well as of her dependency longings.

Boy - 10 years 10 months

This subject also presents as an extremely withdrawn and introverted individual who is experiencing problems in dealing with powerful instinctual urges. The production of numerous explosively aggressive responses, e.g. volcano', 'explosions', 'war' and 'bombing' would seem to indicate a feeling of helplessness and lack of voluntary control in dealing with strong hostile feelings (2+2m). Although the subject appears to be aware of these impulses he does not give overt expression to them, so that here again the possibility of psychosomatic symptom formation suggests itself.

The real rejection of Card 7 (i.e. the 'Mother-card'), together with the tendency to deny affectional needs suggests some problems in mother-child relationship(compare with previous case).

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