A COMPARATIVE STUDY OF THE MOTHER-CHILD RELATIONSHIP IN SCHIZOPHRENIA

By

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PERSONAL INTRODUCTION

The experiences which lead any research worker to select his particular area of research must affect, in some measure, his approach to the problems involved. On this assumption I have chosen to preface the present report with a brief outline of the circumstances which directed my attention to the maternal role in schizophrenia.

My own interest in the subject was originally stimulated during my involvement in a two year research project devoted to the study of chronic schizophrenic patients. The results of this study have been reported elsewhere (Freeman, Cameron, McGhie, 1958) and will be referred to in a later discussion on the present investigation. In the course of the earlier study of chronic schizophrenics I was brought into contact with a number of the patients' relatives and was forcibly impressed by the unusual attitudes and opinions expressed by the mothers in particular. This first impression was considerably heightened during a later phase of the project when a small group of these mothers was formed to meet regularly with myself and my two colleagues. Working constantly and over a long period with very deteriorated chronic schizophrenic patients imposed a considerable strain which was felt by each of

us. We readily agreed, however, that this strain was slight in comparison with the effect produced by our group of mothers. Although this group had been formed in the hope of gaining the co-operation of the family in aiding us to understand and treat the patients, the meetings quickly fell into the pattern of psychotherapeutic sessions as the mothers used them as a platform for airing their own problems and fears. At that time we were most impressed by the degree of irrationality which appeared to dominate the thinking and behaviour of our rather small group. The capacity for denial of anything in the environment which did not correspond to their own interpretation of the world was so pronounced as to prevent any real communications between us. As one of my colleagues remarked, "It's like shadow boxing - you never really make contact". Indeed, we felt at times more able to communicate with the schizophrenic patients than with their mothers. This early experience led me to the literature on the 'schizophrenogenic mother' and thus stimulated the present study.

As in all research, this study could not have been completed without the co-operation and assistance of many people. I should like to take the opportunity to acknowledge the help given by Dr. Angus MacNiven, Physician Superintendent of Glasgow Royal Mental Hospital, and Dr. T. Freeman, Director of the

Lansdowne Clinic in granting me access to patients and relatives. I am also indebted to Dr. Gibson Graham for his assistance in contacting patients and their relatives at Paisley Royal Infirmary. Mr. T.M. Banks, Assistant Director of Education for Glasgow and Mr. H.J. Trump, Director of Extra-Mural Studies, University of Glasgow, were also most considerate in allowing me to contact a proportion of the subjects who made up the normal comparative group. I should also like to acknowledge the helpful comments and criticisms offered by my supervisor, Professor T. Ferguson Rodger, by Dr. Angus MacNiven, Dr. T. Freeman and many of my colleagues.

GENERAL INTRODUCTION

The pathological condition of schizophrenia represents today perhaps the greatest unsolved problem facing modern psychological medicine. Investigations into the aetiology of the illness are made doubly difficult by the absence of a satisfactory scheme by which the symptoms may be classified and systematically studied. These fundamental difficulties are reflected in the lack of a generally accepted definition of schizophrenia and the wide variations in diagnostic procedure. It would appear that most authorities now agree that schizophrenia is likely to prove to be a generic term covering a number of illnesses with a common denominator and that a specific aetiology is therefore unlikely to apply. The following definition is representative of this outlook and suggests both the non-specifity of the syndrome and the wide scope of the aetiological factors which have to be considered - "....the group of schizophrenics are regarded as representing genetically determined, although sometimes environmentally provoked, biochemical disturbances of cerebral function." (A. Tait, 1958.)

A great deal of modern research is being devoted to the genetic, biochemical and neurological factors which appear

to be related to schizophrenia, in the hope of isolating the organic changes which underly the illness. Other workers have sought to isolate the environmental conditions of schizophrenia, seeing in the patient's earlier personal experiences, factors which appear to be causally connected with the emergence of the psychotic state. As if in response to the tacit assumption of a wholly organic explanation of schizophrenia, there has been a tendency on the part of 'dynamic' psychiatrists, particularly in the United States, to regard these environmental factors as being the prime determinants in the development of the illness: many of these workers have come to the conclusion that schizophrenia can best be understood as the outcome of a severe disturbance in interpersonal relations. In line with modern thinking, it is perhaps unrealistic to view any illness as being either exclusively organic or 'functional' in origin. The high concordance rate of schizophrenia in uniovular twins reported by Kallman (1946) and Slater (1953) strongly argues for a basic genetic origin. Such findings, however, do not preclude the influence of environmental factors and in fact both Kallman and Slater have acknowledged the role played by the schizophrenic's social environment. It seems reasonable to suggest that certain

psychogenic factors might come into operation before the constitutionally latent schizophrenia becomes manifest. Faris and Dunham (1939), Hare (1955 and 1956), Roth (1957) and others have singled out social isolation as having a causal relation to schizophrenia.

Investigations into the schizophrenic's social environment have led inevitably to a closer scrutiny of the patient's family background. The majority of these investigations have focused on the relationship between the developing schizophrenic and his mother, seeking to find in this relationship some correlates with the later emergence of the psychotic condition. The broad hypothesis behind such work is that there are certain factors which distinguish the mother-child relationship of the future schizophrenic from the 'normal' relationship existing in the case of non-schizophrenics. The object of the present study will be to review the evidence which has been reported in connection with this hypothesis and to present the author's own attempts to test its validity.

The thesis is presented in five main sections. In the first section the previous literature on the subject is reviewed to provide a background to the present study. The second section is devoted to a description of the author's

approach - the experimental design of the investigation. The material comprising the investigation is presented and examined in the <u>third</u> and <u>fourth</u> sections. In the <u>fifth</u> and final section an attempt is made to summarise the conclusions reached and to relate in some measure these conclusions to our present knowledge of schizophrenia.

SECTION 1

BACKGROUND AND PREVIOUS LITERATURE

Available information on the type of maternal influences experienced by schizophrenic patients is drawn from two main sources. We have first the opinion of many psychiatrists whose experiences with their schizophrenic patients and their relatives have convinced them that the personalities of the patients' mothers fall into a uniform and recognisable pattern. The expression of these opinions has stimulated a number of investigations aimed at validating these clinical impressions, and assessing the personality traits involved. The results of these investigations provide us with our second source of information.

In this section we will then consider first the picture given by the clinical observations of the mothers of schizophrenic patients before examining the more systematic attempts to study the question.

1. Clinical Impressions

While collecting the data for this study, the author was asked to give a short talk to the nursing staff of the mental hospital where the work was being carried out. Although the nurses had no acquaintance with the literature on this subject it soon became plain that they had formulated, on the basis of their own experience, certain fairly clear cut ideas about the

mothers of their schizophrenic patients. The general opinion expressed was that the mother often constituted a bigger nursing problem than the patient by her over-demanding and antagonistic attitude towards the hospital staff. A ward sister summed up the feelings of the others in declaring, "I think some of these patients must come into hospital to get away from their mothers". Another nurse remarked that, "Living with some of these women would be enough to drive anyone mad!" Psychiatrists have at times gone a little further in declaring that the mothers of their schizophrenic patients are so consistently alike in their attitudes that the psychiatric impression of the mother plays a useful role in the initial diagnosis of the schizophrenic son or daughter. This clinical picture of a distinctive personality pattern in the mothers of schizophrenic patients is a particularly common feature of reports in American psychiatric publications. Indeed, certain sectors of American psychiatry now assume that the impression is valid for all schizophrenic patients. Perhaps more important is a further extension of this view which relates the mother's personality and the patient's schizophrenia in a causal sense, the assumption being that the mother's attitude to her child sows the seed of the subsequent schizophrenic reactions. Many American publications devoted to a psychotherapeutic approach to

schizophrenia assume such a causal link without question (e.g. Whittaker et al, 1958). A typical, though somewhat extreme statement of this view is Rosen's emphatic comment that "Schizophrenia is a disease which has its conception somewhere between birth and prior to termination of the pre-verbal period and is caused by the mother's inability to love her child". (Rosen, 1953) Fromm-Reichmann comments in a similar vein, "The schizophrenic is painfully distrustful and resentful of other people due to the severe early warp and rejection he encountered in important people of his infancy and childhood, as a rule, mainly in a schizophrenogenic mother". (Fromm-Reichmann, 1948) The acceptance of the maternal influence as a prime factor in the aetiology of schizophrenia has become so widespread in certain sectors of American psychiatry that the term 'schizophrenogenic mother' has become a familiar sight in the recent literature. This rather obnoxious term describes the mother whose attitude to her child is so pathological as to cripple the child's physical development and lay the foundation of the later schizophrenic breakdown. In spite of the frequent references to the role of the 'schizophrenogenic' mother, few of its users have attempted to define the term or to formulate their impression of the mother's personality in a detailed manner. Beyond a general agreement

that these mothers tend to lack emotional warmth and that they attempt to manipulate others, one finds a distinct lack of detail behind the clinical stereotype. A noteable exception here is provided by the late Lewis Hill's clear exposition of his observations based on many years experience with schizophrenic patients and their relations. "Now, if we endeavour to reconstruct some of these observations that we have made from our experience of schizophrenic patients and their mothers, we can imagine what must have been the life-situations of the mothers. It would appear that they were dominated by their own mothers, who were opposed to sex and men and who were competitive both with husbands and with children for dominance in the household. They declined to grow old and let these children of theirs mature into motherhood. These mothers of schizophrenics, as a group, might be called 'obsessive-compulsive'. They are abnormally interested in cleanliness and propriety. They are idealists concerning marriage and love, although they seem to be quite vague about sexual matters. One would suspect that they are examples of Freud's observation that at the center of the obsessive structure there is an exquisite hysteria. It appears in getting the histories, with the questions about the mother in mind, that the mother either was a frigid or an immature person without capacity and tolerance for mature

psychosexual intimacy with another person, or, if she had such capacity, for one reason or another it was in eclipse at the time of the patient's infancy." Later, Hill describes the pattern of marital adjustment which he has observed to be typical of these mothers. "When asked how and why they came to be married, these mothers sometimes give the superficial answer that they married for love. But, again, they seem factual and concrete and, as a rule, indicate that they married to get away from home and that they married particular men because they were gentlemen. This means that in courting them they made no sexual demands or advances..... These women have a way of describing their marriage as anything from good to perfect, and yet, when they are pinned down to details, it is found that these allegedly perfect marriages have been punctuated by separations, by bouts of alcoholism and unfaithfulness on the part of the husband, by brutality at times, and frequently have ended in divorce. The divorce rate in this group is high; particularly the number of divorces due to incompatibility in the two persons because of mental illness is higher than would be found in general." Finally, with regard to the mother's attitude towards the child, Hill declares, "These mothers love their children who become schizophrenic not only excessively but conditionally. The condition for their

love is one which the schizophrenic child cannot meet. If he does, to a degree, meet it, in doing so he sacrificies his realisation of a personality of his own, independent of hers..." (Hill, 1955)

Hill's observations then give a picture of a mother who, because of her own deficiencies, is unable to make a successful marriage, or to rear children who are other than a mere extension of her own maladjusted personality.

This description bears some correspondence with descriptions of the mother's personality put forward by other observers. Many of these descriptions are, however, not readily comparable, due to differences in terminology. The mothers are, for example, commonly described as being 'over-protective' in their attitude to the patients, but the criteria of 'overprotection', where defined, vary greatly. One attempt to overcome this obstacle and to order the different clinical impressions in a systematic fashion has been made by a team of observers working at Palo Alto Clinic in California (Jackson et al, 1958). A number of psychiatrists were asked to record their impressions of 'typical' schizophrenic parents by means of a Q-sort procedure. Although this investigation examined the psychiatric conception of both the maternal and paternal role, we shall confine our present comments to the views expressed on

the personality of the mother. A factor analysis of the collected data produced three factors which were taken to represent three general conceptions of the schizophrenogenic mother. As this study represents the only reported attempt to assess systematically current psychiatric conceptions of the personality of mothers of schizophrenics, it would seem worthwhile to repeat the findings in some detail. The three personality types which emerged from the factor analysis are termed by the authors the 'Puritanical', the 'Helpless' and the 'Machiavellian'. The conception of the 'Puritanical' mother is outlined as follows: "It is clear from the above set of items that certain psychiatrists conceive of the schizophrenogenic mother as an over-controlled, highly moral, and determined woman who is attuned to the world as she has chosen to understand it. She is relatively uninterested in sensuous experience and has a sternly developed sense of responsibility. This mother appears to be an assured, stolid person who entertains no self-doubts. Ambiguities are resolved into more convenient dichotomies. Her world is organised in terms of prescriptions and proscriptions, and life is not viewed as a pleasurable venture. Subtlety, spontaneity, and self-indulgence hold no positive values and may even be denounced as evil." The second type, the 'Helpless' mother is described as: "A weak, anxious, and confused person,

lacking in a sense of personal integrity, and consequently buffeted about by the conflicting pressures impinging upon her. In this conception of the schizophrenogenic mother, she is seen as dissatisfied with herself and as expressively inarticulate. She capitulates to demands, albeit subtly attempting to undermine the victory she so easily allows. She is dependent upon others in many ways - for her gratifications, for her sense of personal value, and for decisiveness, where she can only vacillate. Her behaviour suggests a yearning for the role of a child, where she would be nurtured, protected and loved without having to assume the responsibility for herself and others". Finally, the 'Machiavellian' type of mother is seen as: "... coolly, perceptively guileful and manipulative. Rebelliousness, but not impulsivity, is present. She is a highly driven person, she is devious, hostile, unforgiving and unethical as she attempts to achieve her ambitions. Other people are regarded with an eye to their potential usefulness and exist pawns, to be controlled in a rather ruthless quest for achievement and power. The humanizing emotions of compassion, tenderness and love find little place here". (Jackson et al, 1958)

Unfortunately there are several deficiencies in this study which preclude the acceptance of the results as reflecting a valid picture of psychiatric opinion. The original selection

of the twenty psychiatrists who took part in the Q-sorting procedure was limited to those who had worked intensively with schizophrenic patients on long term psychotherapy and who already subscribed to the concept of the schizophrenogenic mother. In the instructions given, those taking part were asked to describe the family of either a schizophrenic child or adult on the dubious assumption that childhood autism and adult schizophrenia are comparable conditions. From the rather obscure description of the original selection of the 108 items involved in the Q-sort one might also conclude that these items reflected in some measure the preconceptions of the authors and thus further limited their findings.

2. Systematic Studies

Leaving for the moment the picture of the parent-child relationship in schizophrenia developed in the course of clinical observation, we turn now to a consideration of the evidence amassed by the more systematic investigations carried out in this field. The adjective 'systematic' might well be placed in parentheses here, for, as will be seen, the methodological deficiencies of many of these studies result in little being added in the way of verification to the candidly subjective opinions we have already considered.

One of the earlier attempts to investigate the pattern of maternal attitudes in schizophrenia was carried out in 1934 by Kasanin, Knight and Sage. A series of forty-five schizophrenic patients was studied, selection being confined to patients whose case histories included a detailed account of early parent-child relationship. The authors concluded from their survey that in 60% of these cases the attitude of the mother to the child was markedly over-protective. Kasanin and his fellow workers themselves qualify their findings by noting that it is the over-protective parent who tends to give a detailed history on the patient's admittance, and that therefore their original selection of the material may have biased the results obtained. A further limitation in this study, which also appears in many other later studies, is that the authors have sought for evidence of over-protection in their data without strictly defining the standards upon which their judgements are made. A similar pattern of maternal over-protection was observed in a series of schizophrenic cases studied by Reichard and Tillman (1950). The pathological attitude behind this pattern, leading to what the authors appropriately term 'smother love', is seen as the expression of a need on the part of the mother to prevent the child developing as an independent being. Over-protection is here designated

as a covert form of rejection in that the child's right to a separate existence is denied. A second pattern of maternal behaviour was observed in this study, taking the form of a more overt rejection of the child by a domineering and aggressive mother. The authors refer also to a third pattern of parent-child relationship involving a rejecting schizophrenic father, although this pattern is observed much less frequently.

In concluding their summary of the patients studied, Reichard and Tillman state that, "In no case did we find a proper respect for the individual's need to be himself and an acceptance of him in his own right". They also make the point that the parental care in these cases appears to be quite adequate and appropriate while the child is an infant, the pathological attitudes of the parent only becoming evident when the developing child seeks to express his individuality. This investigation is again open to the objection that the data collected is taken wholly from the patient's case history without any direct contact with the patient or his parents. The results of a more systematic attempt to evaluate the influence of the family environment on schizophrenic patients were reported in an earlier paper by Lidz and Lidz (1949). Although patients' case histories were again the only medium of information, the selection of the series of cases studied was less open to criticism and the data

collected and analysed in a more objective manner. The histories examined were those of fifty (27 males and 23 females) consecutive admissions to the Phipps Psychiatric Clinic where a diagnosis of schizophrenia had been established prior to the age of twenty-one years. The records were scrutinised for the presence or absence of five clearly defined events:-

1) Deprivation of a parent prior to the age of nineteen years.
2) Chronic instability of a parent or foster parent.
3) Chronic hostility or serious friction between parents.
4) Serious deviations from cultural norms in child rearing.
5) Mental illness in the family tree.

In their analysis of the information thus collected, Lidz and Lidz report the following findings. 40% of the patients in their sample had been deprived of at least one parent, either by death, divorce or separation. Of the thirty-three cases where adequate information was available, 61% were reared in homes with marked and constant parental strife. Only seven of the thirty-three cases were raised by two parents between which there was a reasonable degree of domestic harmony. In approximately 50% of this series where there was actual parental loss, this was adjudged to be due to serious emotional instability on the part of one parent. Although the authors admit to some difficulty in estimating the presence or the degree of unsuitable

child rearing practices, they give a figure of 41% for the frequency of this pattern among the forty-four cases where the information given in the history permitted evaluation. A final conclusion made is that a stable parental influence could be said to exist in the case of only five of the fifty schizophrenic patients covered by the investigation. Lidz and Lidz also repeat the suggestion made in Reichard and Tillman's paper that the concept of the schizophrenogenic mother may have overstressed the very early mother-child relationship whereas "..... it may be the serious difficulties that are chronically present through childhood which prevent the patient from fitting into the pattern offered by society...." (Lidz and Lidz, 1949). A much larger scale study of the family histories of schizophrenic patients was reported by Wahl (1954), who scrutinised the case histories of all consecutive schizophrenic admissions to Elgin State Hospital over a six month period. After discarding a large proportion of the histories on the grounds that they do not yield adequate information, Wahl's experimental sample consisted of 392 schizophrenic cases (231 male and 161 female). Factors which Wahl considered but did not show a significant difference from the estimated incidence in the general population included ordinal placement in the family group and membership of rigid and authoritarian religious sects. There was some evidence to suggest

that the schizophrenic patient came from a family of significantly more than average size, a factor which Wahl suggests might diminish the amount of parental affection available to each child and intensify sibling rivalry. The lack of attention paid to the distribution of social class differences and the effect of such differences on family size would seem, however, to make this aspect of Wahl's results of questionable value. The remaining two factors examined in Wahl's study were parental loss and the presence of severe parental rejection or overprotection. Parental loss was assessed where there was an absence of parental contact over at least five consecutive years before the child reached the age of fifteen years. Of the 392 patients studied, 43% had lost one or both parents before this age and 23% of the patients had been orphaned. A total comprising 48% of the patients were judged to have been exposed to severe parental rejection or overprotection, the former attitude being the much more frequent.

The evidence reported in the investigations already reviewed has been accumulated entirely through examination of schizophrenic case histories, invariably selected according to the amount of information regarding the mother-child relationship which they yield. Other investigators have sought to free themselves from this restriction by obtaining their information

directly from the mothers of the patients. One of the most widely quoted of such investigations, the results of which are representative of other similar studies, is that reported by Tietze (1949). Twenty-five mothers of adult schizophrenic patients were studied intensively by a series of interviews to obtain information on both the maternal attitudes and the personality development of the schizophrenic son or daughter. Tietze's main impression of the subjects interviewed was that they tend to be openly or covertly dominating in their general attitude, their manipulative attitudes being particularly evident in their approach to the interview and the type of relationship which they attempt to impose on the interviewer. More than half of the group frankly described their marriage as 'very unhappy' and Tietze was impressed at the degree of marital strain present in the remainder of the group who did not overtly declare this. Many of the mothers admitted that they married for an ulterior motive, such as to escape from an unhappy home environment. In their sexual adjustment, the majority of the mothers are described as being plainly frigid and intolerant in their general attitude towards sex. From the information obtained on the patient's development, Tietze builds up a picture of the developing schizophrenic and the maternal influences to which he is exposed. In the early nursing of the child the mothers are seen to show a

uniform pattern of rigid and obsessional behaviour. It is of interest here, particularly in view of the results of the present author's study, that Tietze found it impossible to obtain accurate data on early toilet training, the majority of the mothers being unable to give even approximate information regarding onset or completion of training. In general, however, Tietze's study showed an absence of any marked pathological maternal attitudes during infancy, this being regarded as the most 'normal' period of the mother-child relationship. As the patient develops, he emerges as a shy and withdrawn child, markedly lacking in such qualities as initiative and self confidence, and over-dependent both on the mother and the other children in the family. The majority became schizophrenic during adolescence but were still regarded by the mother as being 'normal' in their behaviour until the frankness of their symptoms made psychotic treatment imperative.

A common methodological limitation affecting all of the investigations hitherto considered is the obvious absence of any adequate norms upon which comparison might be based. If there do exist factors in the mother-child relationship peculiar to schizophrenia we can only hope to isolate them by comparison with the attitudes demonstrated by mothers of non-schizophrenics. Many of the authors already quoted were aware

of this weakness in interpreting their dats but thought that the possibility of gathering comparative data from a matching normal control group presented insurmountable difficulties. Leaving aside for the moment our consideration of the very real problems which arise in contnolling this type of investigation, we might now survey the results of some of the contròlled studies which have been reported in the literature.

One of the first controlled studies reported (Prout and White, 1950) immediately confirmed the necessity for some form of controlled comparison in that the results obtained were distinctly different to those yielded in uncontrolled investigations. Prout and White interviewed the mothers of twenty-five consecutive admissions of male schizophrenics to the New York Hospital for Mental Illness, comparing the results with information received from a control group of twenty-five mothers selected from the general population. A basis of selection for the control group was an absence of schizophrenia in the family and evidence of an adequate adjustment on the part of the children. The two groups were equated for age and, as far as possible, as to socio-economic status. The analysis of this dats showed "no major differences in their life experiences" between the two groups. The experimental group were judged to be less ambitions and successful as individuals in comparison to the control group, but to be

relatively more ambitious for their sons. Comparative Rorschach data also suggested that the experimental group had less drive, warmth and emotional stability. The authors conclude that the main distinction between the two groups lies in the schizophrenic's mother's need to enrich the emptiness of her own life by obtaining vicarious satisfaction in the achievements of her son. A further discrediting of the specificity of certain factors in relation to schizophrenia was suggested by the estimation of parental deprivation in schizophrenia made by Oltman, McGarry and Friedman (1952) by which the authors concluded that parental deprivation occurs no more frequently in schizophrenic parents than in normal families. Their figures suggested that the 'broken home' is a significant factor only in cases of neurotic or psychopathic breakdown. Oltman and her colleagues conclude "... that the incidence of dementia praecox is unrelated to known external stresses or deprivation". In a discussion following this paper, Dr. I. Tuesk challenges this interpretation, pointing out that the parental deprivation may be more subtle and involve difficulties in the mother-child relationship rather than gross physical deprivation.

In an attempt to obtain a more objective assessment of maternal attitudes than that allowed by interviewing, Freeman

and Grayson (1955) employed a questionnaire technique. The measuring instrument used in this work was the Shoben Parent-Child Attitude Survey (1949), already partly standardised to differentiate between responses of mothers of problem children and mothers of non-problem children. The Shoben Scale was given individually to the visiting mothers of fifty schizophrenic patients of the Veterans Neuropsychiatric Hospital at Los Angeles. These mothers were also given a short interview to obtain more general information which might substantiate their responses to the questionnaire. The advantage of 'objectivity' which argued in favour of the questionnaire method was here made more doubtful by the ultimate classification of the subject's responses into variables or attitudinal themes, this classification being made on a frankly subjective basis. As in many previous controlled studies, the control subjects were acquaintances or relatives of psychology undergraduates who in this case administered the questionnaire to the volunteer subjects. No mother was accepted in the control group where any member of the family had ever required any form of psychiatric treatment. The results of the final comparative analyses are summarised by the authors as follows - "What seemed to emerge as characterising the mothers of schizophrenics were attitudes of self-sacrificing martyrdom, of subtle (rather than frank) domination, and overprotectiveness. In return for their noble qualities, they expected unquestioning

conformity with parental wishes, through inner conviction rather than external coercion. Marked overconcern with children's sexual behaviour and an abysmal ignorance and fear of consequences in this area stood out with particular clearness." (Freeman and Grayson, 1955)

Of the criticisms which have been levelled at the majority of studies in this field there are three which are perhaps most cogent. The first of these is related to the almost complete absence of consideration of the psychodynamic factors involved which must affect the information collected from the informants. Any interview which seeks to elicit information on such emotionally-laden areas as child-rearing, marital adjustment, intrafamily relationships, is likely to arouse personal anxiety against which the subject will defend himself by a variety of manoeuvres. Such considerations will be particularly relevant in the case of the experimental subjects who are influenced by all the complex reactions arising from having a son or daughter suffering from a severe psychiatric illness. The possibility of penetrating these defences, and obtaining a reasonably valid picture of the family situation, on the basis of a single interview or from a questionnaire, seems highly improbable. The two other main deficiencies of these studies lie in the compilation of normative data from control

groups. Ideally the two groups should be matched according to such factors as age, education, social status and the parental trauma inherent in the mental illness of one member of the family. Most of the previous studies have ignored or given only scanty attention to the effects of different socio-economic backgrounds on child rearing practices and family structure as a whole. Finally, in no case have the authors sought comparative information from the parents of patients suffering from a non-schizophrenic mental disturbance.

The first of these considerations figures largely in the work reported by Gerard and Seigel (1950) who carried out what must be one of the most painstaking attempts to examine the pre-psychotic background of the schizophrenic, giving due allowance to the psychodynamics of the situation. The method used by the authors was that of a standardised interview by which the subjects were guided through a series of topics related to the development of their schizophrenic child. The chief point of departure of this study from others hitherto reviewed lay, however, in the attention paid to establishment of a relationship between interviewer and subject which would minimise the defensive anxieties of the subject and allow the maximum degree of frankness. With this object in view the interview technique was designed to resemble a supportive therapeutic session in which every possible

means were used to create a high degree of rapport. No attempt was made to limit the interview to one session, the average interviewing time per subject being three hours. Although fully aware of the deficiencies of the types of control groups used in other studies, Gerard and Seigel found themselves unable to overcome the difficulties involved and were forced to use control subjects composed of parents of high school males of approximately corresponding ages to the schizophrenic patients. In this way the family backgrounds of seventy-one male schizophrenics in all were investigated for evidence of aetiological factors in their early environment. The negative findings reported in this study included a number of factors which are given positive significance in other studies. The pattern of early feeding and toilet training was not found to contain any factors differentiating the two groups. Evidence of a rejecting attitude towards the child demonstrated in pregnancy was more apparent in the control group than in the mothers of the schizophrenic group. Conventional behaviour problems of childhood (including enuresis, soiling, sleeplessness, temper tantrums, etc.) again occurred with equal frequency in either group. The incidence of 'broken homes' was also found to be of no significance and there was no evidence that the schizophrenics had been exposed to a family influence which was to any extent more

harsh, rejecting or hostile than that experienced by the non-schizophrenics. A number of categories were, however, found to be significant. The schizophrenic group appeared to be much more submissive children than their opposite numbers in the control group. There was also a greater reported incidence of severe physical illness in the experimental group which the authors took to represent a pathological attitude on the part of the mother to illness. Abundant evidence of extreme over-protection of the schizophrenic son was apparent in the interview material which also gave a picture of the mother as being the dominant and important adult figure in the home. The patient appeared to have suffered from a relative lack of social contact outside of the immediate family group and the authors again argue that their social isolation was initiated and encouraged by the mother's attitude. One of the main sources of the unfavourable family atmosphere to which the patients were exposed is found in the unsatisfactory relationship existing between the two parents. As compared with the control group, the marital relations of the experimental group were judged to be either openly discordant or severely lacking in warmth and mutual interest. Frank psychotic symptoms in the parents were rare, but a definite character structure of a neurotic or psychopathic nature was frequently observed. The authors interpret their results as confirming

that the schizophrenic's poor capacity for dealing with the responsibilities and stresses of daily social living are due in part to the pattern of intrafamilial attitudes to which he is exposed throughout his development.

An unusually rigorous attempt to control the second variable of socio-economic status is found in the investigation carried out by Kohn and Clausen (1956). Unfortunately these authors chose to collect their data from the patients rather than from direct contact with the parents. A series of forty-five accessible schizophrenic patients comprised the experimental group with controls individually paired on the basis of age, sex and father's occupation. By selecting their controls with the help of the records of the Public Health Service, the authors were enabled to achieve adequate matching for a period, of on the average sixteen months, before the patient's hospitalisation. The selection of controls was also contrived to achieve an over-all balance with respect to family composition and ecological area of residence. Interviews were conducted by the authors to obtain information on two main areas of the parent-child relationship - authority and affection. The experiential situation was further controlled by focussing the enquiry on experiences which had occurred during the time which the subjects were thirteen-fourteen years old. The specific findings of this

study were that schizophrenic patients more frequently perceive their mothers to have taken an authoritarian role in the home in which paternal authority was conspicuously weak, both minor and major decisions being made by the mother. Evidence in favour of aberrant patterns of affectional relations in families of schizophrenics was negative, no difference being evident between the reports given by the experimental and control group. While a dominant maternal role combined with weak maternal authority was found to be fairly frequent in respect of normal females, this was totally absent in the reports of normal men. It appeared in other words that the authority experiences reported by schizophrenics, regardless of sex, approximate a parental authority behaviour entirely atypical of normal males but not atypical of normal females. A further differentiation occurs when socio-economic status is taken into consideration. While maternal dominance is reported frequently by normals of a low social status and is almost totally absent in the reports of normal subjects belonging to a high social status, there is no apparent correlation between status and maternal dominance in the schizophrenic group. The schizophrenic subjects report maternal dominance, regardless of socio-economic status. The argument that the patient group's reports might be unreliably coloured by projection is to some extent answered by the author's assertion

that most details were rechecked by consultation with the parents without any significant retrospective distortions being disclosed. The authors are ultra-cautious in interpreting their results, refusing to conclude that there is a direct relationship between schizophrenia and maternal dominance. Their main conclusion is in fact that their results illustrate the vital importance of considering social class differences in such studies. Most of the previous investigations, they suggest, would have to be repeated with these considerations in mind before any authoritative statements can be made on the aetiological significance of the parent-child relationship in schizophrenia.

An answer to the final question, as to whether the patterns of maternal behaviour observed in these studies are specific to the family background of schizophrenics as opposed to other forms of mental instability has been tackled by at least three investigations. McKeown (1950) reported his analysis of of parental behaviour in a series of normal, schizophrenic and neurotic subjects, both patient groups being under psychiatric treatment. The author in this case analysed his material in terms of <u>four</u> main categories, two of which figure prominently in the final results reported. McKeown summarises his conclusions as follows - ".... Among the schizophrenics, demanding-antagonistic behaviour characterises the parent of the same sex. Among the

neurotic children, it characterises the parents of both sexes. Encouraging behaviour on the other hand characterises the behaviour of the normals. It can be noted that the demanding-antagonistic behaviour on the part of both parents is fairly rare among the normals". 'Demanding-antagonistic' behaviour is assessed when "parent demands that patient lives up to parents' ideas of right conduct and/or achieve the occupational, athletic, and/or social goals parent had set. Parent is generally rigid and Victorian in his ideas of right conduct. Parent attempts to dictate patient's career plans and may frustrate or discourage the patient's own plans. The status needs of the parent rather than the needs of the patient guide the parent's behaviour.... 'Encouraging' behaviour is in turn assessed when "... Parent attempts to encourage and assist the patient in the process of growing up. Parent encourages patient in school, occupationsl, athletic, and/or social activities with an understanding of patient's abilities and limitations.... There is an attempt to understand and appreciate the patient's needs. The parent's behaviour is affectionate and patient." (McKeown, 1950) Once again the main distinguishing characteristic might then be described as the lack of recognition of the independence and individuality of the schizophrenic patient from childhood until the onset of the psychosis. Of particular interest in McKeown's

report is the degree of correspondence between parental behaviour in the case of schizophrenics and neurotics. Discussing this similarity, McKeown suggests that "the same type of parent behaviour may evoke schizophrenia in offspring that are predisposed to it and problem behaviour in those that are not predisposed. It is not unlikely that some of the normals employed in this study were hereditarily predisposed to schizophrenia but that favourable parent behaviour, among other things, prevented it from coming to expression." (McKeown, 1950) It is unfortunate that the results of this study are somewhat marred by the author's initial approach which resulted in over 3,000 cases being excluded because of complicating factors. This approach resulted in cases being disqualified on the grounds that they were married, from a broken home, from a family of less than two, or more than four children, or where a sibling had died or suffered a mental illness. The 126 patients who formed the final study thus constituted a very select group.

Another attempt to differentiate the family background of schizophrenic patients from other psychiatric groups was reported by Gibson (1958) who used a comparative series of manic-depressive patients. Gibson studied a group of twenty-seven manic-depressive patients and one of seventeen schizophrenic patients through a review of case histories combined with material

gained by interviewing relatives. The collated data were transferred to a questionnaire to allow a uniform evaluation in the case of each patient. Two main factors emerged from this study which differentiated the family backgrounds of the two groups. The manic-depressive families are more concerned with social approval and prestige than the schizophrenic families. This affects the patient in so far as the manic-depressive is continually pushed beyond his limit until he finally fails, while the schizophrenic patient shows a history of repeated failure at every period in life. Related with the need for prestige, the atmosphere of the manic-depressive family background is one of intense envy and competitiveness with the patient as the object of the envy. The schizophrenic patient, on the other hand, never attains the distinction of being an individual object of any sort in the family. His existence is a much less positive one, in that he is used, through a symbiotic relationship, as a channel of pathological 'acting-out' behaviour on the part of the parents. The study failed to indicate any important differences between the respective roles of the parents in either group, although this negative result is interpreted by the author as indicating a lack of sensitivity in the technique used to collect the date. It might also be objected that the evaluation of the data was highly subjective and left too much reliance on the author's impartiality.

A more recent comparative study of mothers of schizophrenics, neurotics and normal controls was reported by a Danish psychologist, Y.O. Alanen (1958). Although the actual monograph is not yet obtainable in this country, it has been reviewed very fully in the British Medical Journal (1959). Alanen reports the following findings as being typical of the mothers of schizophrenics (100) in contrast to the mothers of neurotics (20) and normal controls (20). "The mothers of schizophrenics showed relatively more signs of anxiety and guilt. They were embittered women with a strong need to talk. They showed anxiety and inward insecurity, proneness of unrealistic behaviour, schizoid traits, aggressiveness, poverty, and coldness of emotional life and lack of empathy. These women described their childhood in embittered tones and disclose their relations with their own mothers. Their marriages were often unsatisfactory, with themselves more often than their husbands as the dominant partner. Their life situations have been of more than usual difficulty around the time of the birth and infancy of the patient. Early mother-child relationships had involved anxiety and aggressions towards the child to a greater extent than in the two control groups. The maternal attitude was dominating rather than rejective. They were loveless and had no understanding for the child's own feelings and needs. Rorschach tests supported the clinical findings." (Alanen, 1958)

He interprets the mother's pathological attitudes as being directly responsible for the schizophrenic breakdown through a long process of impairing the child's ego development.

An over-all survey of the work carried out in this field then suggests that the most important variables have been recognised and their influence assessed by the different investigations. It would appear, however, that no single investigation has put the question of a specific pattern in the family background of the schizophrenic to the crucial test imposed by controlling the main variables within one investigation.

SUMMARY OF PREVIOUS LITERATURE

Our review of previous work in this field is by no means complete. Many papers which bear an indirect relationship to the family background of the schizophrenic have not been mentioned as these have tended merely to repeat the conclusions reached through direct investigation. Reference to many other papers has been omitted where the authors have introduced the further complication of investigating the family background in cases of 'childhood schizophrenia'. Our diagnostic concepts regarding the adult schizophrenic state are far from clear cut but the nosological difficulties are even greater in the field of childhood psychoses. In spite of the growing wealth of material on the childhood 'autism' or 'schizophrenia', a direct relationship between these states and adult schizophrenia would seem to be far from established. We have also ignored a number of studies reported on the paternal influence in schizophrenia.

From the material reviewed it would seem that a hazy picture of the mother-child relationship in schizophrenia emerges and that there does exist some degree of consistency in the observations reported. Let us attempt, in this final summary, to bring this picture into clearer focus. There is a fair measure of agreement that the mother's attitude to her schizophrenic

child may be described as over-protective, although this term is seldom defined clearly. In contrast to earlier theoretical views of the schizophrenogenic mother (Fromm-Reichmann, 1948; Rosen, 1953) most investigations find little evidence of deviant or pathological maternal behaviour during the period of infancy. As the child develops, the maternal role is seen to become more distinctly dominating and manipulative, the patient becoming the means of vicarious satisfaction of the mother's neurotic needs. This manipulative tendency is perhaps best summed up in Reichard and Tillman's comment that, "In no case did we find a proper respect for the individual's need to be himself and an acceptance of him in his own right." (Reichard and Tillman, 1950) The possibility that the overprotective attitude on the part of one parent is exaggerated by the early loss of the other parent would seem to be of dubious validity. Some studies report an above normal incidence of parental deprivation while the findings of others in this direction are negative. (Oltman et al, 1952; Gerard and Seigel, 1950) Marital disharmony is reported by most workers and there is also a strong measure of agreement that the mother is generally the dominant of the two partners. Most reports refer to the mother's over-concern with her child's sexual behaviour and sexual frigidity in the mother appears common. The general picture which in fact emerged from these studies closely corresponds to the clinical impressions recorded so vividly

by Lewis Hill (1955).

It is, of course, a simple matter to abstract from the many studies in this field an apparently consistent picture of the mother-child relationship in schizophrenia which ignores the many contradictory conclusions also reached. Some investigators (Prout and White, 1950) find no evidence of maternal over-protection, while others (Reichard and Tillman, 1950; Tietze, 1949) report an alternative pattern of maternal rejection. It has also been suggested (Kohn and Clausen, 1956) that the pattern of over-protection may be an artifact based on social class differences. Information on the infancy and childhood of the schizophrenic child is inadequate and often contradictory. Considering the different methodological approaches used by investigators, it is probably surprising that such a wide measure of agreement has been reached.

Further difficulties arise when we attempt to evaluate the implications of some of the conclusions, particularly as related to the aetiology of schizophrenia. It might, for example, be suggested that the establishment of a consistent pattern of attitudes on the part of the mothers could be explained as their reaction to the aberrant behaviour of the schizophrenic child. Over-protection and other deviant maternal behaviour might thus be regarded as an effect rather than a cause of the patient's

condition. This argument is represented in the following comment made by Escalona (1948) based on her studies of psychotic children. "From experience with non-psychotic children, it is well known that the behaviour deviations of the kind just enumerated are often produced by parental attitudes. Hence it is easy to assume that, in these severely disturbed children, maternal rejection is at the root of the trouble. Yet the more one studies the early life history of psychotic children, the more one is impressed with the atypical and pathological reaction of the children to perfectly ordinary maternal attitudes and to the inevitable daily routines..... Therapeutic programs might at times be modified if these early developmental disturbances were regarded as arising in large measure from the pathology within the child rather than from parental attitudes per se...." (Escalona, 1948). Kasanin, Knight and Sage also consider the same factor in interpreting the results of their own study - "It is important to remember that our patients met the over-protecting parent more than half way. They felt themselves inferior, incapable, inefficient and inadequate, and they wanted this over-protection, looked for it, and yearned for it. As often as not the parents were thus practically compelled to give the children the necessary amount of over-protection which they sought." (Kasanin et al, 1934)

Other investigators, such as Gerard and Seigel, find nothing in their observations to support this suggestion - "The authors were not able to validate the hypothesis that the schizophrenic was over-protected because his mother 'sensed' his 'inferiority'. In one case (of 71) the mother spontaneously stated that she felt that the patient was 'inferior' to his siblings. However, in at least six cases, the mothers definitely felt that the affected sibling was superior in physical strength, intelligence and appearance. Until more definite evidence is available, the contrary hypothesis, i.e., that the mother projected this 'inferiority' on to the child, may be maintained." (Gerard and Seigel, 1950) The argument that the deviant attitudes of the mother can be explained as reactions to rearing a negative child cannot, however, be fully assessed on the basis of the data at hand. One main difficulty here is the lack of attention paid to the mother's personality and life history prior to the child's birth. If the mother's own earlier history were shown to contain many pathological features this would support a negative answer to Escalona's suggestion.

We might then conclude at this point that the results of previous investigations on the whole support the contention that the family backgrounds of schizophrenics display a relatively consistent, though not clearly defined, pattern of relationship, this pattern being particularly evident in the case of the

maternal role. Many questions remain to be answered before this finding can be validly related to the aetiological development of schizophrenia. To what extent does the maternal role deviate from normal standards? How far can the prodromal behaviour of the schizophrenic be related to aberrant parental standards? Does the deviant family background represent a pathological condition on the part of the mother, or merely a reaction to her child's pathological behaviour? Can the family environment of the schizophrenic be distinguished either in form or severity from that affecting other diagnostic groups? If further studies provide an affirmative answer to these questions we might then be in a position to examine the aetiological implication of our findings. The present investigation represents one contribution towards this aim.

S E C T I O N 2

THE PRESENT INVESTIGATION

SELECTION, PROCEDURE AND METHOD

SELECTION OF SUBJECTS

On any patient's admission to hospital an initial case history is compiled, usually on the basis of information given by the patient himself and a near relative. The psychiatrist's first impression of the patient's life prior to his illness is at first totally dependent on the product of this early interview. It is probably true to say, however, that few psychiatrists would deny that the majority of such case histories are extremely limited in value. The patient himself tends to view his past through the distorting lens of his present difficulties. His present problems also react on those around him and the members of his family are perhaps the most acutely affected. Among these reactions is invariably that of guilt with a corresponding need for self-reassurance that the seeds of the patient's illness were not originally sown in the family group. Such considerations are particularly relevant if the patient's history is being given by a parent where the need for self-justification is often so intense as to completely distort the images reflected.

The degree of distortion is often also related to

the severity of the patient's illness and the reconstruction of a schizophrenic patient's background is particularly difficult. In an earlier study of chronic schizophrenic patients (Freeman et al, 195), these factors became clearly evident whenever a patient's relative (usually the mother) was approached in order to obtain more historical information. The patient's development prior to the onset of the illness would be described as uneventful and devoid of any deviant features. The family background would be similarly described to produce an impression of a harmonious family group rent asunder by the sudden and unforeseen tragedy. Later, however, when the mothers were being seen regularly in our weekly group meeting, this stereotyped description was gradually displaced by a more realistic picture of the family group and the patient's place within it. Initial reports of domestic bliss gave way to open admissions of severe marital disharmony. The earlier description of the patient's normal development was gradually retracted as the mother gave repeated information to the contrary. A host of personal anxieties and fears emerged from the mothers themselves who had originally denied that they had any nervous symptoms.

It was, of course, such difficulties that Gerard and Seigel (19) had in mind when they criticised previous studies

which ignored the influence of defensive anxiety on the form and content of information given by schizophrenic parents. In order to avoid as far as possible the misleading impressions which may easily result from superficial contact it was decided that the subjects in the present study should be seen over a period of time which might allow some degree of rapport to be established. The actual approach and handling of the interview situation will be described later. The question has been raised at this point to explain the investigator's decision to restrict the study to a comparatively small number of subjects. The choice lay between a detailed investigation of a small group and a more superficial study of a much larger group. It was decided that the advantages in the quality and accuracy of the information obtained by the former approach would outweigh the merits of the latter approach, which might yield statistically more acceptable but psychologically less reliable information.

As previous investigations have tended to confine their comparison to control groups of 'normal' mothers, it was decided to include in this study a second control group of mothers of neurotic patients to act as a further check on the specificity of the family background in schizophrenia. The significance of social class differences on parental behaviour

was not fully considered until the investigation was well under way. The importance of this variable, brought out so clearly by Kohn and Clausen's study (1956), demanded that the present investigation be re-assessed with this in mind. As the great majority of the subjects examined up to this time had occupied a socio-economic status which might be described as 'lower middle-class', it was decided to make this level a further criterion of selection affection the composition of each of the three groups. Social class was assessed roughly on the basis of the father's occupation, income and general educational background of the family members. The families studied would fall somewhere between Classes III and II in the type of distribution used by Hollingshead et al (1954) and other workers in the field of social psychiatry. At this stage a total of seven subjects who did not meet these new requirements were replaced.

The age level of the subjects examined was to some extent controlled by restricting the schizophrenic and neurotic groups to cases where the patient's age lay between 20 and 35 years. The mothers interviewed were all in their fifties, the mean ages of the control, schizophrenic and neurotic groups respectively being 59.1 years, 56.1 years, and 54.8 years (See Table I).

TABLE I

SUBJECTS - MEAN AGES

	Patient's Age	Mother's Age	Age Married	Age at Birth	Number in Family
Control Group	29.1	59.1	24.6	28.7	2.7
Schizophrenic Group	28.7	56.1	24.2	27.9	3.4
Neurotic Group	24.2	54.8	24.4	30.5	2.8

TABLE II

DIAGNOSTIC BREAKDOWN OF NEUROTIC GROUP

Diagnosis	No.
Anxiety Hysteria	6
Anxiety State	4
Phobic State	4
Reactive Depression	4
Anorexia Nervosa	2

The comparative ages of the patients (in the case of the normal control group this refers to the son or daughter selected as the subject of study) were 29.1 yrs., 28.7 yrs., and 24.2 yrs. The difference in mean ages between the schizophrenic group and the neurotic group is probably due to the former being restricted to well established schizophrenic patients. The sex composition of the patients was twelve female and eight male in each group.

In the actual selection of suitable subjects a number of problems are raised which are to some extent specific to each group. In view of this it is perhaps simpler to discuss further selection procedures by considering each of the three groups in turn.

I - The Schizophrenic Group

A list of all schizophrenic patients in Glasgow Royal Mental Hospital between the ages of 20 and 35 years was first compiled and used as the basis for further selection. In an attempt to avoid any ambiguous diagnoses all patients presenting either an atypical pattern of symptoms or complicating organic features were rejected from the list. Those remaining had been diagnosed consistently by three or more psychiatrists and had spent from two to eight years in

hospital without any marked deviation from the schizophrenic pattern being observed. These precautions had the effect of including more severe and chronic cases of schizophrenia than some of the previous studies, although six of the twenty patients had improved enough to be discharged during the course of the investigation. At the time of writing, only two of these patients have maintained their improvement enough to have remained outside of hospital, the others having suffered a relapse which necessitated re-admission. A final, and obviously necessary qualification, was that the patient's mother was alive, not infirm and within reasonable geographical reach to make contact possible. The patients' mothers who met criteria were initially contacted by letter and their co-operation requested. When personal contact was made the subjects were told that the investigator wished to obtain a more detailed picture of the patient's history and the family background. Only two mothers refused to co-operate, in one case because of illness and in the other because of unspecified reasons. A total of twenty mothers of schizophrenic patients were enlisted in this manner.

II - The Neurotic Group

For purposes of comparison it would have been

obviously preferenable to examine a neurotic group composed of mothers of hospitalised patients, but this soon proved impossible. The number of neurotic patients admitted to mental hospitals in the Glasgow area is extremely low and the majority of those who are admitted tend to be very severe cases, mostly 'acting-out' hysterics, exhibiting near psychotic symptoms. It was therefore considered that the risk of atypical schizophrenics being included within such a group was too great. This possibility was accentuated by the fact that two hospital patients, earlier considered as subjects for the neurotic group, were, some time after admission, re-diagnosed as being schizophrenics. Of the twenty patients finally selected, fifteen were being treated as outpatients at the Lansdowne Clinic for Functional Nervous Disorders and the remainder as short-term inpatients in the psychiatric observation wards of general hospitals in the area. Again it might be said that these patients were largely 'chronic' neurotics as they had been under psychiatric treatment for periods varying from 1 yr. 10 mths., to 2 yrs. 9 mths. A breakdown of the various diagnostic categories covered in this group is given in Table II, this being based entirely on the diagnoses made by the doctor in charge of treatment. The diagnostic problems which debarred the

inclusion of hospitalised neurotics still had to be considered with these patients. Schizophrenic patients are not uncommonly diagnosed as neurotics in the early stages of their illness. In order to minimise this possibility the case histories of the patients were carefully examined for any indications of early schizophrenic symptoms. The criteria suggested by Gillies (1958) were of particular assistance in this respect and patients who showed any of the suggestive signs were excluded. In the case of patients who satisfied the criteria (including those of age, social status, etc.) the patients' permission was requested to allow direct contact with the mother. In contrast to the schizophrenic group, there was a relatively large number of refusals at this stage. A total of 34 families had to be considered before the required number of twenty subjects could be obtained. This situation is partly explicable by the circumstances operating at the clinic through which the majority of the subjects were contacted. The clinic specialises in the psychotherapy of the neuroses and much of the treatment is given in the evenings to allow as little disruption as possible in the patient's working life. Many of the patients who attend prefer not to inform their families that they are undergoing psychiatric treatment and these patients

naturally were obliged to refuse to permit contact with the parents. Of the fourteen refusals, eight patients however declared that the decision was that of the mother who was disinclined to discuss her affairs in this way. Whether this might indicate stability or neurotic fears on the part of the mother is a debatable issue but the effect is to make the neurotic group a less representative sample than the schizophrenic group. In the case of the schizophrenic group none of the twenty mothers who initially agreed to co-operate withdrew during the course of the subsequent interviews.

III - The Control Group

This group is described last because its composition created problems which were of a different and more complex order. As the questions raised here are pertinent to previous controlled studies in this field, it would seem worthwhile to discuss the issues involved in some detail.

From one's reading in American psychological literature it would appear that every university student's curriculum includes an obligation to act as a normal control on psychological investigations. Certainly most of the previous works in the present field of study have enlisted the

aid of such subjects in forming their control groups. It is, or course, obvious that such subjects tend to form a very select group whose responses are by no means representative of the normal population. Another alternative is to use the readily available and co-operative pool constituted by the nursing staff, but again this yields a far from representative sample. This type of problem is enlarged in the present investigation where one has to enlist not merely the subject's co-operation, but that of the mother.

In the present investigation the first solution suggested was that the normal control group be composed of mothers where a member of the family in the required age group was receiving treatment in a general hospital for a physical illness. The advantages here seemed twofold. By this procedure all the subjects examined would be in a comparable position in so far as they faced problems incurred by the ill health of the son or daughter concerned. The second merit of this method of selection lay in the availability of the mothers who could be contacted during visiting hours at the hospital. The simplicity of this solution, however, quickly evaporated when it was applied in practice. Many of the otherwise suitable patients in

the medical wards were being treated for long term chronic illnesses (e.g. cardiac conditions) which had resulted in life long infirmity. Turning to the orthopaedic wards, one found a similar state of affairs coupled with the complication of patients with long histories of repeated minor injuries which raised the question of accident proneness. The factor of chronicity and the predominance of patients of a lower social status in the tubercular wards prevented most of these patients being suitable. In the surgical wards patients within the necessary age group contained a high proportion of illnesses which might be said to include psychogenic factors (e.g. ulcerative conditions). By eliminating all such factors which might allow objections to be levelled at the 'normality' of the group a final list of sixteen suitable patients was arrived at. When the mothers of these were contacted, only five of the sixteen agreed to co-operate in the investigation.

A second and equally accessible source of normal subjects was to be found in the number of individuals answering the required criteria who attend extra-mural education classes in the Glasgow area. Through the co-operation of the Department of Extra-Mural Studies a number of classes were contacted by a circular letter and the co-operation of suitable

subjects requested. An obvious objection to recruitment from such a source is, of course, that extra-mural students are, by nature of their educational interests, a select group. The degree of selectivity became, however, more obvious and objectionable when those who volunteered their co-operation made initial contact with the investigator. The vast majority of co-operative subjects were attending evening classes on subjects which might be grouped generally into the category of 'social science'. They were thus presumably people who were 'community minded' and concerned with social and psychological problems. Indeed, many of the students had already attended social psychology classes dealing with the family group. One might almost say that the very willingness of these volunteers to act as controls militated against their inclusion in a normal control group. In an attempt to minimise these difficulties, selection was restricted to suitable subjects who were attending an extra-mural class unconnected with any social or educational orientation. A further qualification that subjects who had attended more than one extra-mural class be excluded was made in order to avoid the inclusion of many otherwise suitable people who appeared to have run the whole gamut of extra-mural education during their

middle years. When the original list of volunteer subjects was further pruned in this way it was found that only eight of the mothers concerned were eligible as suitable subjects.

The remaining seven control subjects were enlisted through the agency of the Women's Guild attached to a local community centre. Originally contact in this case was made personally during a lecture given by the investigator at the community centre. These subjects were open to the same objection already discussed in that their very membership of a community centre such as this suggested that they would tend to be out-going and socially minded. Of the 40-odd suitable women in this club a total of only twelve expressed their willingness to co-operate. During the course of the interviews carried out with this group of twelve, five of the women were unable to attend for all the interview sessions and finally had to be written off. The reasons given for being unable to continue with the interviews differed among these five subjects, but in each case it was fairly obvious that they had found the interviews acutely disturbing. One lady, in a letter explaining her withdrawal, frankly declared that the interviews had reminded her of events and experiences in her own past "which would have been better left forgotten". The seven subjects who co-operated

fully to the extent of completing the subscribed number of sessions and tests made the numbers of the control group up to the twenty subjects required for comparison.

From what will be said it will be obvious that the control group in this investigation can in no way be taken as representative of 'normal' mothers in the community. The small number of subjects included in the groups would, of course, act against the group being a representative one, even if the other difficulties had been overcome. It might be thought that the investigator has tended to magnify the problems of normal group selection in this case and it must be admitted that a theoretically better balanced set of controls might have been obtained of other means of contact with 'normal' families had been available. Even if this had been possible and if subjects had been recruited who were free from the specific objections we have discussed, one factor would still remain which must surely act in the composition of any control group, no matter how carefully the subjects are selected. In the case of the patient groups, the families were already involved in the situation and the mothers thus had some incentive in agreeing to be seen by the investigator. This incentive is, of course, absent in the case of the non-patient group and one is faced with the apparently insoluble problem

created by the fact that each of these subjects must volunteer their co-operation. It is, of course, impossible to assess the complex reasons which cause people to agree to co-operate in an investigation of this type, although this might make a useful and informative study on its own. During the course of the interviews, however, one obtains some answers to this question. There appeared to be two main reasons which apparently caused the majority of the mothers interviewed to profer their co-operation. In many cases the mothers were obviously extremely proud of having reared children who had now attained to some observable standard of success. Thus the sons or daughters had invariably recently attained success in examinations, promotion at work, or other hallmarks in their career. While this was true of a fair proportion of the subjects, others were quite obviously willing to co-operate simply because of a need to discuss their own problems. In several cases these mothers openly admitted this during the course of the interviews and in many cases the subjects asked directly for advice on how to handle situations in their personal life which they were finding difficult. For every subject who volunteered their co-operation in this group there were many more who refused and once again it is difficult to assess the factors involved. Experience showed that some of the

subjects who either excused themselves originally or who withdrew during the course of the interviews did so because they were disturbed by the probing nature of the investigation. Others, however, may have refused to act as subjects on quite different grounds and for reasons which one could not describe as unhealthy or irrational. In other words, then, we are faced with the rather discouraging conclusion that the 'normal' subject in psychological experiments of this description can never be taken as representative even if every variable is considered by the investigator in his selection procedure. The very fact that these people agree to be interviewed and to discuss personal aspects of their family life in itself biases the information which they give. The groups in the present investigation are relatively small and it may be that some of these difficulties are diminished if larger groups are employed. One can equally well argue, however, that larger numbers may only tend to magnify the problem with the further danger that the information yielded by larger groups tends to be more easily accepted as an objective norm. The aura of respectability which surrounds the use of large group controlled studies in psychological research may be deceiving and dangerously authoritative if one does not take into account some

of the factors which affect the composition of 'a normal control group'. It might, of course, be thought that we are indulging here in psychological 'hairsplitting' which does not greatly affect the limited aims of the present study. The normal control group corresponds with the two patient groups in age range, sex distribution, and roughly according to socio-economic status. It may be considered 'normal' in so far as there is an absence of psychiatric illness in the families involved.

METHOD AND PROCEDURE

The subjects were examined during the course of six sessions, each lasting approximately ninety minutes with an interval of one week between sessions. During the first two meetings no attempt was made to conduct a systematic examination, the main purpose being to create as positive a relationship as possible between the investigator and subject. Questions were limited to those seeking formal information regarding facts already available in the patient's case history. Reassurance was given where necessary and, in the case of the patient groups, this was considerably often. In the early discussions any degree of controversy was avoided, the interviewer's role being that of an interested and appreciative confidant. With the two patient groups the chief topic of discussions was inevitably the mother's description of the disruptive effects of the patient's illness on her own life. The interviewer's attitude was again one of sympathetic interest and concern for the mother's health and welfare. In the case of the non-patient group the mothers were encouraged to discuss general topics and to avoid anything which was of obvious emotional significance.

The general pattern of these early unstructured

sessions was thus that of a very informal chat, the interviewer limiting his role to providing support and approval. It might be objected that the interviewer's approach during these early 'warming up' sessions was, at best, a waste of useful time and, at worst, contrary to all standards of scientific objectivity. The answer to the first of these objections is to be found in the degree of defensive anxiety present in the original attitudes of the patient group which, if ignored, would certainly have greatly restricted the facts and opinions given later. In a number of cases such anxiety would have surely prevented the mother from attending succeeding sessions, particularly when it meant coping with a number of obviously searching personality tests. The frank opinions expressed by the subjects in the more formal interviewing sessions are, it is felt, due mainly to the degree of rapport achieved in the first two meetings. The second criticism, that the nature of the approach violates the objectivity of the interview situation, is based, I believe, on a lack of understanding of the factors which operate in any psychological interview. No matter how objective the interviewer may endeavour to be, the subject will still establish a relationship with the interviewer and

the nature of this relationship will profoundly influence the information elicited. It would then seem more reasonable to recognise, and indeed utilise, the impact of the interviewer's personality by making the relationship an openly reciprocal attempt and to foster it in a positive direction.

The formal standard interviewing was conducted during the third and fourth meetings, the last two sessions being devoted to testing. This section will close with a description of the structure of the interview and the types of test presented.

1. The Standard Interview

A standard interview procedure was used in order that the information given by each subject should be readily comparable. This was done by organising the interview around a series of standard topics, the subjects being asked to express their views on each topic. Within this standard framework the interview was conducted in such a manner as to avoid restricting the subject or giving the impression that the interview was formally structured. Thus, although all topics were covered by each subject, they were not necessarily

discussed in the same sequence. The aim of the interview was to reconstruct, through the eyes of the mother, the patient's life, his illness, and, finally, the life of the subject herself. The interview material thus divides itself into three main sections with a fourth section consisting of the interviewer's own impressions of the subject, based on her behaviour during these meetings. In the life histories of both patient and mother the following topics were included in the interview - birth, early development, behaviour in childhood, academic and vocational progress, interests, relations with the family group, relations with others outside of the family, degree of sexual adjustment achieved, and general health prior to the onset of the present illness. The main areas of enquiry concerning the patient's illness were the content of the early symptoms, the time of their first appearance and the mother's opinion as to the fundamental cause of the illness. A full list of the topics covered by the standard interview can be seen by studying the numbered and underlined headings in the comparative interview analysis contained in Appendix A.

2. Child Rearing Questionnaire

A questionnaire was compiled containing a total of 40 statements dealing with various aspects of child rearing. The majority of these statements were taken from the questionnaire used by Marks (1954) in his comparison between the responses of mothers of schizophrenics with mothers of normal adults. Marks found in his investigation that such a questionnaire clearly differentiated between his two groups. The inclusion of the questionnaire in the present investigation offers an opportunity of assessing the differential significance of the items where the schizophrenic mothers' responses can be compared, not only with a normal control group but with a second patient group of mothers of neurotics. The items of the questionnaire were presented orally to each subject who was asked to state whether she agreed or disagreed with each statement. The full questionnaire is reproduced in Appendix B.

3. Self Assessment Scale

This scale was composed of a list of 45 descriptive adjectives. Here the subject was asked first to mark off those items which she considered others might use in describing her. The subject was then asked to go through the scale for a second

time, now marking off those items which she herself considered to represent a true assessment of her personality. The items comprising this scale are noted in full in Appendix C.

4. Sentence Completion Test

This test consisted of a total of 43 items, each consisting of an incomplete sentence. This form of test has been used a great deal in psychological research, and the items comprising the present test were based on the version first used by Rotter (1947) and later developed by other workers. The subjects were presented orally with each item and asked to complete the sentence as rapidly as possible. The full test is reproduced in Appendix D.

5. Word Connection List

It was thought necessary to include a test which might give some discrimination between the relative degree of mental stability of the three groups. Probably the best validated test of this type is the Maudsley Medical Questionnaire which had been shown to discriminate at a high level of significance between normal, neurotic and psychotic groups. Although this test was included in the preliminary stages of

the investigation, it had to be abandoned, mainly because of the obvious and self revealing nature of the majority of the items. When presented with the test the patient groups in particular were apt to react with anxiety or hostility to this obvious assessment of their mental state. For this reason the Word Connection List (Crown 1952) was used to the same purpose. This test has also been the subject of many validation studies although its validity is not as firmly established as that of the Maudsley Questionnaire. One of the chief criticisms of the Word Connection List is its susceptibility to intellectual and social differences. In the present investigation this objection is perhaps less crucial in so far as the three groups are socially and intellectually relatively heterogeneous. The full list is contained in Appendix E.

6. Rorschach Test

This test, perhaps the best knows of all projective techniques, was presented finally as the last test in the battery. It was hoped that the test would provide an over-all method of comparing and thinking and affective processes of the subjects in the three groups. As will be evident later, however, there are many difficulties involved in applying the Rorschach Test in

in group comparison. The test was administered to each subject individually and scored according to the recognised system of scoring given by Klopfer and Kelley (1946). The individual scores are tabulated in Appendix F.

S E C T I O N 3

ANALYSIS OF INTERVIEW MATERIAL

In spite of the wide variety of personality tests which are now at the disposal of those engaged in psychological research, the standardised interview still remains the most productive source of information. The chief limitation of the interview as a research instrument is the absence of a method of handling the collected data which is not open to the obvious criticisms of subjectivity. After having examined his subjects by means of the interview, the investigator invariably finds himself faced with an embarrassing wealth of information which, however, does not appear to lend itself to any method of reasonably objective and systematic comparison. One solution to this problem is provided by the method of comparative matching (McAdam & Orme, 1954), (Orme, 1957). This method was found admirably suitable for the purpose of the present investigation in that it allowed a reasonably objective and standardised comparison of the three groups studied.

The preparation of interview material for comparative matching is rather laborious, but the results yielded easily justify the work involved.

The full verbatim report for each subject was first broken down into a number of separate statements, each of which

was recorded on a separate card. The subject's identity was noted by a coded symbol on the back of each card. When this procedure was carried out for each of the 60 subjects, every statement made in the course of the interviews was thus finally available on a separate card. These cards were next examined and sorted into a number of categories according to the topics covered by the standard interview. A further breakdown of the carded material was now carried out by arranging the cards in each category in sub groups. Thus any cards bearing statements relating to the patient's toilet training in infancy would fall into a general category dealing with the mother's statements regarding toilet training. The sub headings under this group would refer to the different types of information given in respect of toilet training. The results of this procedure are detailed in Appendix A, which contains a full list of the various categories and the sub headings within them. As the standard interview was aimed at obtaining information about the patient's life history, his illness and also the life history of the mother, it was thought advisable to divide the interview material into four main sections. <u>Section A</u> records the investigator's impressions of the mother's behaviour during interview. The material contained in this section is thus more subjective in comparison with the remainder of the interview material which

deals purely with the statements made by the subjects during interview. Section B deals with all comments made by the mother regarding the patient's life history up to the onset of his illness. Section C includes all statements made in reference to the patient's illness. The final section, Section D, deals with responses relating to the mother's own life history.

Once the interview material is arranged in the manner described it is possible to calculate the frequency with which each type of response is given by each of the three groups studied. These group frequencies are shown in Columns 1, 2 and 3 of the interview analysis in Appendix A. The only other requirement needed is that of an agreed criterion by which the responses of the three groups can be compared. The usual criterion used in the technique of comparative matching is as follows. Responses are accepted as representative of a group trend if they occur with at least a 25% frequency in that group. To be considered as typical of one group in contrast to the other they must also appear with at least double the frequency in that group as opposed to the other group with which it is being compared. In our present study where three groups are involved in the comparison, it can thus be seen that a response, to be considered uniquely characteristic of any group, must occur with

a frequency which is at least double that of the frequency of occurrence in either of the remaining two groups.

Adopting these standards it is first advisable to compare the responses made by the twenty mothers of schizophrenic patients (group S) with those of the twenty normal control mothers (group C). The comparison here can be said to correspond with that made in previous studies where mothers of schizophrenic patients have been compared with matched controls. The responses which satisfy our criteria for this comparison are underlined in each group under Column 1 of the interview table in Appendix A. We next adopt the more stringent criteria of comparing the S group subjects with both the normal controls and the mothers of neurotic patients (group N). The responses which reach the required level of frequency to be considered as unique to the schizophrenic group are marked in red in Column 2 of the table. In a similar manner the responses unique to the neurotic group are indicated in red under Column 3.

The remainder of this section will be devoted to a description of the various comparisons made under these three columns. By these means we will obtain a generalised pattern or framework representing the distinctive attributes of the two patient groups.

1. COMPARISON BETWEEN THE SCHIZOPHRENIC GROUP (S) AND THE NORMAL CONTROL GROUP (C)

These two groups can be contrasted according to the criteria already outlined. The dichotomy is constituted by responses which occur with at least a 25% frequency in one group and being at least twice the frequency of occurrence in the other group. The responses which are detailed below are in other words those which are underlined in Column 1 of Appendix A. These responses give an outline of the main differences between the normal control group and the schizophrenic group.

I - The Normal Control Group

A. The interviewer's impressions of the mothers

In contrast to the schizophrenic group these mothers appear to adopt a natural and positive attitude to the interview situation. In their mood they are generally calm and relaxed. They speak spontaneously and with a good flow of speech. The content of their speech is lucid and coherent.

B. The mother's description of the patient's life history

These mothers, when speaking of their pregnancy and the patient's birth, may describe the labour as being protracted and the birth as being rather painful. Asked about toilet

training they tend to say that toilet training was commenced in the early months of infancy and was usually completed without incident by the end of the first year. Regarding the patient's general characteristics as a child they are apt to describe him as having been an active and mischievous child who was at times stubborn and self assertive, but on the whole happy natured and easy to rear. At work he is described as having had a very good work record. In interests outside of his work he is likely to be interested in organised social affairs and in various crafts. His interests in general are very wide. In his relations with his parents he may be described as having been very affectionate towards them. Regarding his relations outside of the family, he is described as having got on well and mixed easily with others and it may be also said that he took an assertive 'leader' role in his social groups. He may either have had a number of friends of the opposite sex or on the other hand he may have only had one. It is likely that he is now married and in some cases he may have married his only girl friend.

C. As this section deals with the patient's illness it does not enter into the present comparison.

D. The mother's description of her own life history

Speaking of her own family background, the mother is

likely to describe her parents as having been happily married. Her mother may be said to have been a very sociable person who was popular with others. It may be also said that her own mother tended to make the decisions at home. Speaking of her father she is apt to describe him as being warm hearted and affectionate and also as being placid and easy going in his nature. Her father may also be described as being a very strong character. The informant is inclined to describe the relationship between her parents as being a very close one. Regarding her own childhood she may describe herself as having been very wilful and active as a child. Looking back on her childhood in general she feels it was a happy one. Regarding her relations with others she is likely to say that she has always enjoyed company and been a good mixer. In the present she will describe herself as having a very active life with wide social interests outside of the home. She may in some cases qualify these statements by saying that in her adult life she has been rather shy. Speaking of her relations with the opposite sex before marriage she is inclined to say that she had many boy-friends before she met her husband.

Asked about her husband she tends to describe him as very placid, easy going and good natured. He may also be said to be very active, sociable and a person who enjoys company.

This may be qualified in some cases by the informant commenting that her husband has, in fact, fewer interests outside of the home than she herself. Speaking of the physical side of her marriage, she is inclined to describe their sexual relationship as being a satisfactory one and an important part of her married life.

Finally, speaking of her own health, she is likely to describe this as being satisfactory, saying that she has always enjoyed good health.

II - The Schizophrenic Group

A. The interviewer's impressions of the mothers

In their attitude to the interviews the schizophrenic mothers tend to impress as being more ambivalent and manipulative or negative and openly hostile. They show a number of distinctive reactions to the interview situation, tending to avoid interviews, although indirectly, in a covert fashion. They admit to being disturbed in various ways at a time coincident with the interviewing period. In their mood they impress the interviewer as tending to be very depressed or showing a distinct lack of affect. In their speech they tend to be very guarded and lacking in spontaneity, or if spontaneous to be often irrelevant and incomprehensible. In the manner and content of

their speech they tend to dominate the pattern of conversation during interview.

B. <u>The mother's description of the patient's life history</u>

In speaking of the patient's infancy, these mothers tend to report more often that weaning was gradual although there is no apparent distinction in the manner of feeding. Concerning early habit training they find it difficult to remember even approximately the period of toilet training. When asked to describe the patient's general characteristics as a child they are more inclined to describe him as being fastidious and particularly clean in his habits. In contrast to the normal group they say the patient was less active in childhood, tending to describe him as being a rather placid and inactive child. In comparison to other children he is described as sensitive and shy and also as being nervous and easily frightened. Regarding his health in childhood, the patient is described as having been physically well but as having suffered from a variety of nervous symptoms. In starting school he had some initial difficulties which tend to continue throughout his school days. Although there is nothing distinctive about his actual scholastic progress, he tends to be described as shy and passive at school, lacking confidence in his own ability. His work record is inclined to be very poor and erratic. His

range of interests is more likely to be described as being limited and narrow and related to the arts and entertainment. When one turns to the patient's relations with other members of the family other distinctive trends become apparent. In comparison with his siblings he is described as being quieter and more dependent. In his relations with his parents he is said to be very open and confiding, although he is apt to be described as having an unaffectionate nature. This absence of affection tends to be qualified by the mother's description of herself as being undemonstrative and unaffectionate in her own nature. In his relations with others outside of the family, he is said to have been very shy and selfconscious. If he makes friends he more often tends to have one close friend rather than mixing in a wide circle. In the company of others he tends to take a very submissive role. His relations with the opposite sex appear very limited and he is apt to be described as having no interest in the opposite sex. His mother tends not only to accept but approve of this attitude. He is often described by his mother as being cold and sexually frigid and is likely to be unmarried.

D. The mother's description of her own life history.

Speaking of her own family background, the mother tends to describe her parents as being unhappily married. Her parental home is apt to be disrupted through separation, divorce

or the death of one parent, these circumstances occurring during the mother's own childhood. Her description of her own mother contains no distinctive statements although she is less liable to describe her mother as being sociable and popular with others and as making the major decisions in the home. Speaking of her father, she tends to describe him as having either a very weak character or as being unapproachable or distant. He may have died when the informant was a child. Regarding her own childhood she is apt to describe herself as being sensitive and shy and in general looks back on her childhood as being an unhappy one. Regarding her own occupation before marriage she frequently reports that she stayed at home helping with the household duties. When she has worked outside of the home, however, she tends to express regret at not having continued with her career which was broken by marriage. Speaking of her relations with others, she is likely to declare that she has never really enjoyed company, and has had few social interests, preferring her own company. During her life after marriage her interests tend to centre narrowly on the family and the home. She has very little contact with the opposite sex before marriage, was particularly shy with boys, and may say that she was regarded by friends in her early adulthood as being emotionally cold towards the opposite sex. Her husband is most often her first

boyfriend. Speaking of her husband, she is apt to complain that he avoids responsibility in the home and also that he is lacking in ambition and drive. She may also say that he drinks heavily. Her husband is inclined to be considerably older (at least nine years) than herself and she is likely to state that she married him either to get away from an unpleasant home life or on the rebound from an unhappy love affair. She is inclined to admit frankly that her marriage has been unhappy and may report that the marriage has culminated in either separation or divorce. Regarding the physical side of their marriage, she tends to describe her sexual relations with his husband as being frankly repellent to her. She is inclined also to describe her relationship with her husband to be devoid of sentiment and feeling. She may declare herself to be particularly attached to one of the other children in the family who is her special favourite. When other members of the family marry she is apt to be very critical about the marriage partner chosen. Finally, she tends to describe her own physical health as being very unsatisfactory.

2. RESPONSES CHARACTERISTIC OF BOTH SCHIZOPHRENIC AND NEUROTIC GROUPS (C & N)

An inspection of the response frequencies made by the N Group subjects (Column 1, Table A) demonstrates that a number of responses which differentiate between S and C Groups no longer reach the required criteria of significance when the comparison is extended to include the neurotic group. The figures show, in fact, that some responses are commonly characteristic of both patient groups in comparison with the normal controls. This common ground between the two patient groups involved the following type of responses.

In speaking of the patient's life history both patient groups report a greater frequency of a breakdown of toilet training in later childhood. They are also more apt to describe the patient as being fastidious and particularly clean in his habits as a child. Nervous symptoms in the patient's childhood may be related although these only infrequently require treatment. When we consider the reports given on the patient's schooling, it is found that both groups of mothers are more likely to say that the patient had initial

trouble in starting school. The patients in both groups are also reported to be shy and passive at school, lacking confidence in their own ability. In contrast to the normal group, these mothers are likely to describe the patient's interests as being connected with the arts and with entertainment. In the patient's relations with his parents both groups report that the patient has always been very open and confiding. Regarding his relations with others outside of the family both the neurotic and the schizophrenic patients are equally likely to be described as being shy and self-conscious in company.

When we turn to the mother's description of her own life history we find that the following characteristics again differentiate both the neurotic and the schizophrenic groups from the normal control group. Both groups of mothers report a tendency for their own father to have died during the course of the informant's childhood. Regarding the informant's own husband, he is apt to be described as a heavy drinker with equal frequency in either group. Regarding her own health, the informant is inclined to complain of a variety of nervous symptoms and disorders.

Re-examination of Responses Characteristic of Both Patient Groups.

As some of these responses have been cited by previous investigators as specific to the mothers of schizophrenics, it would seem worthwhile to re-examine the common response pattern in more detail. This may be done by considering some of the typical individual statements which determine the final group frequencies.

A breakdown of toilet habits in later childhood is reported more frequently by both sets of patient mothers than by the normal controls. This tendency towards enuresis is more common in the early history of the schizophrenic patient although its frequency is also significant in the neurotic histories. In recent years the value of childhood enuresis as a predictor of later adult maladjustment has been questioned and it is therefore interesting that it is found to be characteristic of the patients involved in the present study. The reports of the mothers suggest that not only is enuretic behaviour more prevalent in the schizophrenic's childhood but that it is inclined to be more persistent. Of the nine schizophrenic patients involved, five were described as having been periodically enuretic throughout adolescence and into early adulthood. Each of the five neurotic

patients involved were reported as being enuretic over a much shorter period. An obvious criticism here is that we have no means of knowing how many mothers, particularly of the normal controls, denied enuretic behaviour which had in fact been present in the child's early history. This objection may validly apply to almost every response in the interview material. It must then be realised that this study is principally aimed at the personalities of the three groups of mothers. The interview responses are not put forward as necessarily factual accounts of the family circumstances but as statements of opinion made by these mothers under conditions aimed at achieving as uniform a degree of rapport as possible. Such considerations are particularly relevant in the case of the mothers in the schizophrenic group where defence mechanisms are often more than obvious.

Similarities in the early childhood behaviour of the neurotic and schizophrenic patients are evident in the present analysis. Both sets of patients are, in comparison to the normal controls, more frequently described as having been <u>fastidious and particularly clean in their habits</u>. The majority of mothers in both patient groups stressed this aspect of the patient's early personality. - "She was a very clean child. I don't think I have ever in my life seen her dirty. She always

liked to be neat and loved new clothes, even when she was only about four or five years old." "She was clean, perfectly clean, always clean - never dirty. She was always fussy about her appearance. You never saw her dirty herself or her clothes like her sister who was always getting messed up." These two responses are typical of the trend of comment on this distinctive aspect of the child's behaviour. The mother's description frequently contained suggestions that the interest in hygiene and personal appearance was part of a general rather obsessional pattern. "She was always very fussy when she was a child. For example, she was forever dusting the chairs with a feather duster and was always drawing my attention to dust in the house which I had missed. If you gave her a drink she always inspected the cup and thought nothing of giving it back to you if it was chipped or not clean enough for her liking. I remember she used to even brush down her bed before going into it at night. At first we were amused at this sort of behaviour from a five year old but we soon began to feel that she was just a bit too fussy for a young kiddy." The latter part of this description contains one main apparent difference between the two groups on the common obsessional pattern of behaviour. While the mothers in the neurotic group tend to disapprove of, or to have been in some way concerned about, the child's

behaviour, the mothers in the schizophrenic group imply acceptance and approval in their comments. One of the latter group concluded a description of the child's obsessional behaviour with the following comments - "Everything she did was perfect. She never did anything but she did it correctly. She was immaculate in everything. When I think of her as a child that's the phrase that comes to my mind - immaculate perfection." Thus, although the behaviour of the patients was, in this respect, common to both patient groups, the mother's interpretation of the behaviour and her attitude to it is quite different. This is a feature which will become evident repeatedly in our comparison between the neurotic and schizophrenic mothers.

Nervous symptoms in childhood are reported with equal frequency in the neurotic and schizophrenic histories. The type of symptoms described here cover the whole gamut of common childhood neurotic reactions, but most commonly excessive temper tantrums, night fears, and a variety of temporary phobias. No differences between the type of symptoms reported by the two groups were apparent and there was a significant absence of any tendency towards early autistic behaviour in the reports of the mothers of the schizophrenic patients. Two of the mothers in the neurotic group and three of the schizophrenic mothers consulted a doctor or

took their child to a psychiatric clinic for treatment. The remainder declared that they would have done likewise had they at that time appreciated the possibility of treatment for nervous disorders.

The child's first introduction to school is another situation which created difficulties in both patient groups. Initial trouble in starting school is more frequently reported in the schizophrenic group but is also present to a significant degree in the case of the neurotic group. The comments here tell the familiar story of emotional upset at this time. Several mothers painted a picture of their child weeping and inconsolable on one side of the school gate with themselves in a similar state of distress on the other side. This early difficulty in adjusting to school involved other factors than separation. The child's initial inability to find his place in the classroom group was frequently the object of concern, this being apparently due to the child being shy and passive at school, lacking confidence in his own ability. The mothers are inclined to describe the child's early school life as being over-shadowed by the victimisation and bullying of other children and fears of the teacher's authority. - "At first he was always in trouble at school and I thought he would never settle down. He would always be running home crying that another boy had punched

him or his teacher had given him a row. There was always something wrong but it was just that it was all a bit strange to him at first until he settled down and found himself." Here again one can observe a difference in the mother's attitude to the situation. The neurotic mothers tend as a whole to have accepted the difficulties as being partially due to the child's inability to adjust to others. The schizophrenic mothers, however, tended to deny the child's inadequacy and approve of the factors which isolated him from others. - "The other boys were rough and ready types and resented Jim's good manners and polish. Jim hated fighting and tried to avoid trouble with some of the hooligans at school but they picked on him. I used to tell him just to ignore them and to keep on being a gentleman. Sometimes I had to go up to the school and give the teacher a bit of my mind." It might also be mentioned here that this early inability to make an adequate adjustment to school is reported as being a continued feature in the childhood of the schizophrenic whereas it appears only as a temporary incapacity in the case of the neurotic group.

Agreement is again apparent in the types of interests reported in the histories of both patient groups. A breakdown of interests could be made in various ways, the categories used here conforming to the classificatory scheme applied by Slater & Woodside (1951) in their study of urban working class families.

As compared to the normal controls, both patient groups are described as being <u>less inclined towards social interests</u> (particularly organised social interests which involve membership of a structured group, e.g. scouts, girl guides, youth clubs, etc.). There is also a comparative <u>lack of interest in crafts</u> and practical hobbies (e.g. woodwork, model buildings, etc.). The interests of the neurotic and schizophrenic patients are <u>directed more towards entertainment and the arts</u>. According to the mothers' reports these patients tend to show a keen interest in the theatre, cinema and television. They are also more inclined to be interested in music, either actively or passively through attending concerts or collecting recorded music. One might generalise their interests as being on the whole more solitary, requiring less active participation, and directed more to the world of phantasy than to reality.

Speaking of the patient's relations with others, both groups of mothers are more inclined to say that <u>the patient as a child confided in his parents a great deal</u>. Although the form in which this feature is reported varies, 11 of the schizophrenic and 10 of the neurotic mothers made comments of which the following is typical - "He used to tell father and I everything he did. Where William and Sandra (the patient's siblings) had always their own little secrets, James was always open so that you really knew

his every thought. He was always more ready to ask for and accept advice from me than the other two." Although the confiding nature of the patient was welcomed and approved by both sets of mothers, several of the neurotic group admitted to having been at times irritated by the degree of interest which was thus demanded of them. In his relations with others outside of the family group both the neurotic and schizophrenic patients were more frequently described as being shy and self-conscious in company. In the different reports given, one can, however, discern a difference between the two groups of patients. The neurotic patient may be described as being somewhat inadequate in many of his social relationships but invariably it is also added that he was relaxed and normally assertive when with friends of long standing. The schizophrenic patient, on the other hand, is more apt to be described as taking a very submissive and passive role in any type of group.

In the mother's own life history, the first common characteristic which distinguishes both patient groups from the normal controls is the comparatively higher frequency of paternal loss through death during the informant's childhood. Seven of the schizophrenic group and five of the neurotic group declared that their father died before they themselves reached their tenth year. This factor is totally absent in the normal control group.

As can be seen from the appropriate frequencies, the mothers in the schizophrenic group show a significantly higher tendency for their homes to have been disrupted by both paternal and maternal loss through death, divorce or separation, while paternal loss is the only disrupting feature in the family background of the neurotic mothers.

A common feature in the subject's own marriage is the higher incidence of heavy drinking in the case of the husband (the patient's father). In studying the individual statements here one is once again struck by the difference in attitude between the two groups in their interpretation of the same situation. Where drunkenness is complained of in the neurotic group, the mother is apt to stress the effects on the children and on the family's financies and to lay particular emphasis on brutality and the illtreatment suffered at the hands of a drunken husband. The mothers in the schizophrenic group who report the same behaviour tend to emphasise more the husband's essential inadequacy, regarding his heavy drinking as an ineffective form of compensation for a lack of true masculinity. The following response is illustrative of this attitude - "He got drunk so that he could pretend he was a man but all he succeeded in doing was make himself look even sillier. Drunk or sober he was a pretty poor imitation of a man."

Our final observation of these common responses is related

to the mothers' complaints of their own nervous symptoms. Although these complaints occurred with approximately equal frequency in both patient groups they differed to some extent in the nature of the nervous disorder. In the case of the neurotic group the complaints took the form of bouts of depression, panic attacks and general symptoms of anxiety in their past adult life. The symptoms described by the schizophrenic mothers were more vague, but they might be described as being less 'affective' in origin. The actual reports implied such symptoms as obsessional behaviour, difficulty in concentration, hypochondriasis, periods of withdrawal, and lack of interest in the environment. Reactions to the menopausal period are not included in this category of response.

3. RESPONSES SPECIFIC TO THE SCHIZOPHRENIC GROUP

We have now arrived at the point where we can finally consider the responses which, by their incidence, can be said to be specific to the mothers of the schizophrenic patients. The responses which fall into this pattern are those which occur frequently enough to be taken as representative of the group and for which the group frequency is also at least twice the incidence of occurrence in either the normal control or neurotic group. The responses are marked in red in Column 2 of the comparative table in Appendix A.

These mothers tend to impress one as being ambivalent and manipulative in their attitude to the interview situation. In some cases this ambivalence gives way to a more negative attitude where the mother is openly hostile and suspicious. She tends to avoid interviews, although she does this in an indirect, covert fashion. She may admit that she has been disturbed in her health at a time coincident with the interviewing period. In her mood she may give the impression of being depressed or on the other hand she may show a distinct lack of affect. Her speech may be guarded in so far as she seldom speaks

spontaneously during the interview, but more often her speech is spontaneous in form but irrelevant and incomprehensible in content. Her flow of speech tends to dominate the pattern of the conversation.

Her description of the patient's infancy contains no characteristics which are in any way specific to her group. One exception to this is that the mother tends to have great difficulty in remembering when toilet training was initiated or completed. Asked about the patient's school days she may say that she had some initial trouble with the patient when he first started school. This is also reported in the case of the neurotic patients, but the mother of the schizophrenic patient is more likely to comment that this initial difficulty continued throughout the patient's later schooling. His work record after leaving school and prior to the onset of his illness is likely to be poor and erratic. Although there is nothing unique in the patient's interests, his range of interests is inclined to be very narrow and limited. In comparing the patient with his siblings the mother is inclined to describe him as being quieter and in various ways more dependent than his brothers and sisters. In his relations with his parents he may be described as showing little affection to them. In such cases the mother is inclined to add that she herself is undemonstrative and that she

has difficulty in displaying affection towards her children. In his relations with others outside of the family circle he is likely to be described as taking a very submissive role. It is likely that the mother will say that the patient has shown no interest in the opposite sex and there was a tendency for her to approve of this lack of interest. She may spontaneously imply that the patient has always been rather cold and sexually frigid.

Speaking of the patient's illness the mother is apt to regard the patient as having been 'normal' until the onset of his illness. To her the first signs of the patient's illness included symptoms denoting general depression, expression of paranoid ideas, withdrawal from the environment and general retardation. In her description of the appearance of these early symptoms it may be seen that they are coincidental in time with such events as the patient leaving home for the first time or with the object loss, usually of a sibling or a close friend. The mother is inclined to put the cause of the illness down to either loneliness caused by the patient being away from home, or to a variety of sexual matters.

In speaking of herself and her own life the mother may say that her childhood was marred by the loss of one of her parents. This may be due either to the death of one parent or to the parents being separated or divorced. Describing her own father she is

inclined to say that he had a very weak character or that he was unapproachable and distant in his manner. Looking back over her own childhood she tends to feel that she was always sensitive and shy. She describes her childhood on the whole as being an unhappy one. Regarding her occupation before marriage she may say that she worked only in the home carrying out household duties. Where she has worked outside of the home she is likely to express regret at not having continued her career which was broken by marriage. Speaking of her relations with others during her earlier adult life she is inclined to say that she has never enjoyed company, has had a limited social life and invariably prefers to be alone. During her married life her interests have centred narrowly on the family and she has very little social life outside of the home. She may say that she was always particularly shy with boys and it is very likely that her husband will be described as her first and only boyfriend. She is inclined to comment here that in her adolescence and early adult life she was regarded by her friends as being emotionally cold towards the opposite sex. In describing her husband she is apt to criticise him for avoiding responsibility in the home. She may also complain that he is lacking in ambition and drive. Her husband is more likely to be at least nine years older than the informant. In speaking of her marriage she may admit that she married her husband in order to get away

from an unhappy home life. Summing up the marriage as a whole she is inclined to say that it has been an unhappy one and there is a tendency for the marriage to have actually broken up through separation or divorce. Her sexual relationship with her husband in marriage is unlikely to be a satisfactory one and in fact she is inclined to describe the sexual side of her marriage as being frankly repellent. Where she does not express this view directly she is likely to make it clear that the relationship with her husband has always been devoid of real emotion and feeling. Speaking of her relationship to the patient's siblings she may admit frankly that she is particularly attached to one of the other siblings. Where any of the patient's siblings have married and left the home she is likely to be extremely critical about the marriage partner. Finally she is inclined to say that her own physical health has been very unsatisfactory.

The description given above allows one to form a picture of the common pattern of responses which, by their frequency, delineate the mothers of the schizophrenic patients from the mothers of the other two groups studied. The responses which make up this pattern are, of course, interview headings which summarise the actual responses made by the individual subjects in the group. In a sense then, this pattern is an abstraction

representing the framework of the responses made by the group as a whole. Each of these mothers had a relationship to her child which is in essence sharply defined and differentiated from the relationship made by any other mother in the group. In obtaining the abstract pattern which had been outlined, one must sacrifice to a great extent the individuality of each mother-child relationship. The frequency of the responses given, however, is such that many of the attitudes expressed are so uniform that the sacrifice of personal uniqueness is minimised. We can, however, fill in this framework as in our consideration of responses common to the two patient groups by a more detailed examination of the responses, illustrating some of the individual reports which appear to typify the particular trends involved.

Re-examination of the Interview Responses Specific to the Schizophrenic Mothers

In this re-examination, the interview material will be again considered under four main sections.

A. The interviewer's impressions of the mothers

In her attitude to the interview situation she was ambivalent and manipulative. - When first contacted these mothers invariably expressed their willingness to be interviewed

in a most emphatic and often colourful fashion. The response here is typified by the following statement made by one of the group - "I would go through fire, hell and floods for my girl. I would die for her if I thought it would help." During the course of the interviews the subjects formed a relationship with the interviewer which might be described as being superficially a very positive one. They would invariably declare that they enjoyed the discussions and benefitted from them. The following comments by members of the group are typical of their attitude. "You help me to pull myself together. I feel I could talk to you and tell you anything. I need someone to tell my feelings to. For a long time there was no-one. I feel so much better when coming to see you." "You are the only person I have to tell my troubles to. You seem to understand what I've gone through. I feel much better since being able to talk to you." "You are my control, you know. I need to see you now and then to steady myself." In many ways, then, these mothers showed a need to express themselves to someone and to tell of their own reactions to the patient's illness. As their relationship with the interviewer expanded, however, it took on more and more of a manipulative form. Very frequently the mother spontaneously

expressed the view that the interviewer resembled one of her family. Where the patient was male, the identification was usually with the patient and where the patient was female, the interviewer was seen to resemble one of the other male siblings. The mothers showed a great deal of interest in the interviewer's own life and particularly in his health. Six of the group at different times expressed the view that the interviewer was not looking well and should have a long holiday. Two of the mothers actually presented him with a tonic during a subsequent interview. Many of the mothers attempted to maintain their relationship with the interviewer outside of the interviewing sessions by extending invitations to their homes. Perhaps the most amusing illustration of the underlying ambivalence in the relationship was that provided by one mother who was moving her home from Glasgow to Edinburgh. She said that she must keep in touch with the interviewer and insisted on giving him her new Edinburgh address. In doing so, however, she erroneously wrote down the address of a friend living in Cornwall.

During the third and fourth sessions when the formal interviewing was carried out, the manipulative behaviour of the mothers became much more evident. The subjects often appeared for interview complete with diaries, albums, letters, and in fact anything that had once belonged to the patient. The mother

would then attempt to read from these copious notes, thus controlling the trend of the interview and avoiding questions. Several of the subjects actually prepared themselves for the interview by writing down on paper everything they intended to say during interview. Another effective way of blocking the interviewing was for the subject to put forward a variety of complaints about the organisation of the hospital and the treatment of the patient, asking the interviewer to take appropriate action. Their complaints about the hospital were usually extremely vehement and bore little relationship to the true facts. Many of the mothers blamed the hospital for the patient's continuing illness - "Poor Peggy has fallen into the wrong hands here. They are making her worse. We have ruined a fine girl by throwing her into the ash can. The doctors here treat me like a patient." A great deal of concern was expressed about the illtreatment of patients, such comments being again highly imaginative - "I notice all the nurses have keys on a chain. I'm sure they're often cruel to the patients and beat them with their key chains." The most common fear expressed in respect of the patient's treatment while in hospital was, however, the more unusual one of the degree of sexual licence which many of the mothers imagined was allowed by the hospital authorities. One of the subjects came storming into an interview saying that

she had seen a male and female patient sitting together in the hospital canteen. She said she thought this was disgraceful and described the hospital as "a glorified brothel".

In their attitude to the interviews some of the mothers deviated from this generally ambivalent and manipulative pattern in being negative, openly hostile and suspicious. Although they attended for interview they maintained throughout an emotional distance between themselves and the interviewer. They continually asked the reason for questions put to them and often expressed the view that, "You're trying to make out that it's me that's crazy and not my daughter." Although all the mothers completed the six interviews, they often avoided interviews in an indirect and covert fashion. A common manifestation of this was a mistake in the time and date of the interview, or arriving at the wrong place. One mother held the record for this performance by misinterpreting either the time or place for interview on eleven occasions. Many of the subjects admitted disturbances in their health coincident with the interview period. These included a number of apparently direct reactions to the interviews which were almost totally absent in the case of the other two groups. The actual disturbances here varied from physical disabilities to emotional distress. In three cases asthmatic attacks which had been dormant for years were reactivated at the time the subjects were being seen.

Others reported having gastric complaints, high blood pressure, severe headaches and general tension. One of the mothers fainted when she was about to leave her home to attend an interview and had to be revived by her family. In their mood some of the mothers appeared depressed. In such cases the mother's depressive feelings were evident in her behaviour. Six of the subjects in all broke down and wept several times during the interviews. The depression appeared to be related not to the patient's illness as such, but to the effect of this upon their own lives. Others, however, showed in their mood a distinct lack of affect. This was especially marked in their unemotional description of the patient's illness and their almost detached enquiries as to the likelihood of recovery. Although some of the subjects tended to be guarded and seldom spoke spontaneously during interview, this was not true of the majority. The speech of most of the group was so rapid and spontaneous as to be irrelevant and incomprehensible. In these cases the subjects moved from one topic to another with bewildering rapidity, their replies invariably being irrelevant to the questions asked. When one attempted to have the subject decipher a series of comments which had been incomprehensible, she was apt to move off on to another topic leaving the interviewer behind still trying to make some sense out of the previous remarks.

At the termination of an interview one was left in a mental fog, with the almost impossible task of unravelling a disconnected series of comments by the subject into some sort of logical order. Not only was the content of the speech incomprehensible, but the form and quantity was alone invariably enough to dominate the pattern of the interview. It was extremely difficult to interrupt their flow of comments to direct the interview towards specific questions and with many of this group the number of interview sessions had to be increased beyond six. One of the mothers, indeed, had to be seen for ten ninety minute interviews before the standard interview could be completed.

B. The mother's description of the patient's life history

In speaking of the patient's early habit training, the mother could not remember when toilet training was initiated or completed. In these cases the subject was unable to give even an approximate date for the training period, not even being able to state whether training was completed by the first or second year. This type of vagueness in recollection was not evident in the subjects who formed the normal control group although four of the neurotic group were also unable to give approximate times of training. From the comments made by these

neurotic group subjects it seemed evident that the mother's vagueness was related to the fact that toilet training, as such, was absent, the child having trained himself. The same explanation did not seem to hold good for the schizophrenic group subjects as the mothers here all agreed that they had actively trained their children. Their difficulty seemed to amount to an almost complete repression of the toilet training period.

In discussing the patient's schooling there was a tendency for the mothers of both the patient groups to describe initial difficulties which occurred when the patient was starting school at the age of five years. In the case of the schizophrenic group, however, the mothers were apt to say that <u>these difficulties continued throughout his school days</u>. Some of the patients were reported to have been in trouble with the school authorities over truancy, while others were said to have stayed off school at the slightest pretext. Other difficulties in adjustment reported included strong aversion towards teachers and inability of the patient to find an adequate role within the classroom group. It was frequently reported that <u>the patient had a very poor and erratic work record</u> after leaving school. These patients were invariably reported as having been vocationally mobile. They

had often been employed in a wide variety of disparate types of work. This mobility was usually, but not always, in a downward direction. Thus one patient had left school to work in a bank. His next job was in a solicitor's office, and on leaving this he was employed in a junior capacity in a commercial office. After leaving this job he worked as a store-keeper in a factory and finally was employed up to his illness in the role of a labourer. Although some of the patients stayed within the same vocation they tended to move from one job to another within their chosen career. <u>The patient's leisure interests were described as being very limited and narrow</u>. Although the schizophrenic patient could not be differentiated from the neurotic patient according to the content of his interests, the range of his interests was invariably reported as being a more limited one. Speaking of the patient's relations with other members of the family group, the mother was first of all apt to report <u>that he was quieter and more dependent than his siblings</u>. The patient was said to be more sensitive than his siblings who often dominated him in various ways. The mother herself appeared to approve of the patient's ultra-sensitivity. The following statements are typical of this trend - "John was a bit of a bull and Alex (the patient) was more of a lamb. Poor Alex would cry often. He was very sensitive, but John never felt things like that. As they

grew up he became a man of the world and Alex didn't. Alex had more feeling for things. While John just pushed his way around Alex would feel his way around." "Magda's brother didn't have the fine touches she had. She was always super-sensitive. He bullied her around quite a bit. I used to laugh at her if she cried, but he didn't have the same fine touches that she had in her nature." Although dominated by his siblings the patient was described as being extremely attached and dependent upon them. - "He used to make a hero of his brother and worshipped him. Everywhere his brother went, Jim used to follow him around like a little puppy dog. When Jim got older his friends were usually his brother's friends." Again in comparison to his siblings, the patient is often described by the mother as being more dependent upon his parents, this dependency being particularly evident towards the mother herself. The following comment is illustrative of this trend. - "I always had to be there or she became worried. Even playing with other children she had to have me around. If I wanted to go out at night and left her with her father she didn't like it and would worry until I returned. I've always been so close to her. Even when she was a child and I was spring cleaning if I pushed all the furniture to one side of the room she would start screaming because the furniture had cut her off from me." Although there was a tendency for the neurotic patients also to be

described as being dependent upon their mothers, the difference here is again in the mother's attitude towards the situation. The neurotic patient is more apt to be described by his mother as being <u>over</u> dependent upon his mother. In the schizophrenic group the mothers are more inclined to accept and actively encourage the child's dependency and by their behaviour effectively frustrate the child's attempts to be more independent as he develops. One mother when declaring proudly that her daughter had always found it best to rely on her guidance gave the following illustration. - "When she was older she decided that she wanted to pick her own clothes. She said the clothes I bought were too young for her and I was trying to keep her like a child. I let her buy a dress herself, but when she came home I made her try it on and showed her herself in front of a mirror. She looked so funny I called a neighbour in and we had a good laugh at her. After that she saw it was best to have me along to advise her and choose her clothes." Although the patient is described as being the more dependent member of the family, he may also be said to be <u>unaffectionate in his relations with his parents</u>. There is a tendency for the mother to add that <u>she herself is undemonstrative and unaffectionate</u> in nature. The following remarks made by two of the group serve as illustrations of this trend. - "I've never been able to get close to Doreen.

She has always seemed aloof to me. She has always given my sister more affection than me. Mind you, I could never say I was affectionate to her or the others. I don't approve of slopping over people, cuddling and everything. I never did like that sort of thing with children." "Peggy was a very quiet and serious child and she never showed her feelings much, although I never saw her unhappy. She never showed affection and she never allowed me to show affection to her. It's just as well, really, because I'm no good at showing affection to my children, nor to anyone for that matter." In his relations with others outside of the family the patient is described as taking a very submissive role. In speaking of the friendships made by the patient as a child the mother was apt again to emphasise the patient's sensitive nature and his tendency to be submissive and easily dominated. - "He was different from the other children in that he was sensitive and shy, quiet and gentle. He always hated to see anyone or anything hurt. He always seemed to be the follower on in the crowd, fitting in with what the other boys wanted to play, but never organising anything himself. He would often come home from playing crying and I think the other boys bullied him a bit." "Alex never had many friends really when he was a boy. He was always very good mannered and obedient. He still has his good manners. I think he was a bit too obedient

and good mannered for some of his friends who were rougher and would push him around a bit. Alex didn't mind doing what the other boys told him to do, he was always quite happy to do it for them. If anyone bullied him he would worry, as he had such a gentle nature and was easily hurt by criticisms." This difference between the patient and his childhood friends is again evident in the comment made by several of the mothers that the patient was particularly sympathetic towards humans and animals who were in any way afflicted. - "Although he knew lots of other boys he always took a special liking to lame dogs. For instance he would bring home another little boy who had a stammer, then another who had a limp and so on. It was the same with animals. If he found a bird that was injured he would bring it home and nurse it. He always seemed to have more sympathy for others that way." Again, although the patient's shyness and self-consciousness in company is reported with equal frequency in both the schizophrenic and neurotic groups there is a distinct difference in the mother's attitude towards this aspect of the child's behaviour. In the neurotic group the mother's comments indicate that they wished their child to be more outgoing and at ease in company and encouraged them, although not always successfully. In the schizophrenic group, however, the mothers again indicate their approval of the patient's limited relationships with others. -

"She didn't have many friends. She thought she was superior to everyone, and in most cases she was. I was quite pleased to see that she was so selective. She was better than most of the other children around us, so it was really a good thing she spent most of her time on her own."

In speaking of the patient's relationships with the opposite sex, the mother was inclined to indicate that he had no interest in the opposite sex. There is again a tendency for the mother to approve of this lack of interest, as the following three statements illustrate. - "Magda never liked men. She was modest and no-one could take liberties with her. Even if a boy held her hand she would tell me. She had one man but I didn't trust him. He was one of these men of the world types. I asked him what his intentions were, but he saw I would stand for no nonsense and left. I made sure Magda wouldn't be tricked by any man. I'd rather see her dead than ruined. She was always instinctively aggressive to men. She was always so pure." "David was never one to bother about girls. He had very clean habits. I'm glad to say he had no time for that sort of thing." "Oh, she never went out with boys. None of that silly stuff. She was a good clean girl. I hate that sort of thing, I hate it. She couldn't stand silly girls either, and I remember she didn't like pictures with kissing in them. I

don't like anything like that either. We're not a kissing family and we have no time for that sort of silly stuff." Another mother described how she had discovered that her son had taken a girl out on a few occasions at a time when he was a university student. She said that she had always believed in allowing him to make his own decisions so she merely faced him with the alternative that he either stopped seeing the firl or have his university fees stopped. The boy took the former course and never again attempted to seek the company of a girl. The mother is apt to speak here of the patient's attraction for the opposite sex, again adding that this was not reciprocated. - "He was a very attractive boy and all the girls ran after him, but he wasn't in the least interested in girls. He was always such a clean boy that way. Girls and things like that didn't bother him." It is of interest here to note the frequency of the word 'clean' in the mother's description of the absence of normal heterosexual activity in the patient. In many of the cases where the patient did have a friend of the opposite sex this is apt to be in some way arranged or connected with an elder sibling to whom the patient is particularly attached. One of the female patients, for example, had only one boyfriend who was the brother of her own brother's fiancee. She went out with this boy regularly while her brother was in the Army, but as soon

as her brother returned home she cut off her connections with the other boy. At this point many of the mothers commented that people had regarded the patient as being cold and sexually frigid in his attitude to the opposite sex. Again these mothers were inclined to accept this description, but to regard it as a compliment rather than a criticism.

C. <u>The mother's description of the patient's illness</u>

<u>The mothers were inclined to regard the patients as having been 'normal' until their illness</u>. In spite of the deviant behaviour patterns reported during the patients' earlier development, the mothers of this group tended to assert that the son or daughter was psychiatrically normal until the sudden and unexpected onset of the schizophrenic symptoms. From their point of view the history of the illness is a relatively short one. The view the mothers take of the illness is then distinctly different from the situation which arises in the neurotic group where the mothers tend more to regard the patients' illness as representing a culmination of life long difficulties which have been obvious throughout the patients' development. Asked to describe the early stages of the schizophrenic breakdown, the mothers are inclined to say that <u>the first signs of the illness included general depression, expression of paranoid ideas, with-</u>

<u>drawal from the environment and general retardation</u>. The ordering of the mothers' reports here into the various categories involved a great deal of difficulty and the categories themselves are somewhat tentative. The main source of difficulty here lies in the overlapping of symptoms contained in the mothers' descriptions of the early signs of the illness. The most frequent symptom reported, that of general retardation, is also evident in some of the descriptions which have been listed under the categories 'general depression' and 'withdrawal from the environment'. The term 'general retardation' here covers a variety of reports which indicate that the first change in the patients's behaviour observed by the mothers took the form of a slowing up of the patients' motor responses. The following descriptions might serve to illustrate this point. - "The first thing I noticed was that he was taking much longer to do things. He would take half an hour to dress where it had taken him only a few minutes before. He himself didn't seem to see that he was taking so long over things. Time seemed to pass more quickly for him........... He would sometimes stop in the middle of doing something and I don't think he knew himself that he was stopping." "If he walked along the road he seemed to have difficulty in making up his mind when he came to a corner. He seemed to be always hesitating every time he moved." "She

just seemed to be slowing up at the beginning. Even sitting at the table reaching for something she seemed to take an awful long time to do it and would sit with her hand hovering over the sugar as if she wasn't sure. Everything she did seemed to be slower until you felt like giving her a push." One might say at this point that the earliest features of the illness reported by the mothers were to some extent catatonic in nature, although only three of the patients could now be classified as catatonic schizophrenics. It appeared that <u>the first symptoms of the illness were coincidental in time with</u> either <u>leaving home for the first time</u> or <u>object loss</u>. At the time when the illness became schizophrenic the patients were inclined to have left home (to begin work, army service, etc.) or to have been deprived of the company of a person (usually an elder sibling) on whom the patient had always been dependent. In speaking of the patient's illness <u>the mother was inclined to consider the illness to be directly due to</u> either <u>loneliness caused by absence from the home</u> or to a variety of <u>sexual matters</u>. The fact that the patient's illness had developed at a time when he was absent from the home for the first time greatly impressed some of the mothers and led them to connect the two events. - "He had never been away from home before and I think he must have been terribly homesick. Then again, you never know what is going on when they're away

from home. He may have got into bad company." There was a tendency for the mother's comment here to contain hints that the patient's illness may also have been activated by him being exposed to some form of licentious behaviour while he was away from the home influence. A significant number of the mothers regarded the precipitating factor to be directly or indirectly sexual in nature. The common opinion here was that the patient had been exposed to an immoral situation which had proved traumatic. - "I wonder if he had some kind of shock out in Singapore? Maybe he heard one of these V.D. lectures and it frightened him. I'm sure it must have been something like that. He knew nothing about girls and sex. He never saw intercourse in the home and he never heard any swearing." Another of the mothers described how her son had visited a theatre with a girl a short time prior to the onset of his illness. She went on to say, "It was one of these American things with girls and risque dialogue. The sort of thing that if you had none of these feelings in you it would bring them out. Maybe the girl knew her way around a bit more than my boy and something may have happened after the show that he would think sinful. Maybe it was worrying about that that might have brought on this illness." The show in question was, in fact, "Annie Get Your Gun".

D. <u>The mother's description of her own life history</u>

Speaking of her own family background, the mother was inclined to report that her parental home was <u>disrupted through separation, divorce, or the death of one parent</u>, this having occurred during the informant's childhood. In the case of seven of the thirteen subjects involved, it was the informant's father who died when she herself was under the age of ten. Of the remaining cases involved, three of the subjects' mothers had died and a further three had left the home through separation or divorce. In five of the six cases where it was the informant's mother who died or was divorced, her father had remarried and negative feelings towards the stepmother are expressed. - "My stepmother was the same type as my husband. She had too many relatives and they were always visiting our house. She didn't care for me. There was no need for father to marry again. He was trapped into it. My stepmother didn't want me to go out. She was always wanting me to be nursing her and she was always feeling ill." "My father remarried three years later and my stepmother was fifteen years older than him. We were looked after well enough materially but there was no affection in the home. My stepmother didn't like my father looking at us, never mind loving us. She had no motherly instincts at all." Speaking of her parents, the informant was apt <u>to regard her own father as being</u>

either <u>a very weak character</u> or <u>unapproachable and distant</u>. The father's weakness here was seen in his lack of ambition and drive.- "Father was always going to do something but never did it. He was just a bit too placid and easy going. He never got anywhere although he had the ability and could have. I like people who know where they're going and make some attempt to get there." The father was also often described as taking little interest in his own family although being active socially outside of the home, and as being difficult to approach. - "My father was a great welfare worker in the district but we saw very little of him when we were young. We were brought up in the kitchen where we were seen and not heard. A look from Father was enough for us. There was no charity at home - Father only had charity for others." "It wasn't just that Father was strict, although he certainly was that. He kept himself aloof from us. He was such a difficult person to approach that you never did approach him unless you had to. My stepmother was easier to approach, but she was one of these people who have a naturally dirty mind and she always thought the worst."

Looking back on her childhood the mother tends to describe herself as being <u>sensitive and shy as a child</u>. "I was like my boy in that respect when I was young. I always fell ill at ease in company and I was terribly sensitive. If anyone

criticised me I was apt to cry and because of this I think I avoided company a lot." Another mother declared, "Right from being a child I have always been shy and worried in company. I think I've always had an inferiority complex. My husband hasn't been much of a help here. He's just made it worse. He used to say that I had an inferiority complex just because I was inferior." The mothers are inclined to say that <u>their childhood was on the whole unhappy</u>. "I never really had a childhood. I was always at home doing housework. We didn't get out much at night and I think I must have been lonely. I certainly wouldn't like to live my childhood over again." "They say that your childhood is the happiest time of your life. All I remember as a child was wanting to be old enough to get away from home." A significant number of the mothers in the schizophrenic group in fact did not manage to get away from home until they married. <u>Their occupation was that of helping in the domestic work at home</u>. - "I would love to have taken a job but Mother always needed me at home. By the time things were better and she could have managed I was too frightened to leave home and start work." Where the informant was working <u>she tends to express regret at not having continued her career</u>. A number of these mothers felt that their latent abilities had never been developed and that they could have enjoyed success in their chosen

vocation if this had not been interrupted by their marriage. The following comment, although rather melodramatic, is illustrative of this trend. - "I was always such a lovely singer. If I hadn't married I might have been another Patti. I had the talent, the energy and the drive to get to the top if I hadn't got married. Oh! What a frustrated life I have had."

Regarding their relations with others in general, the subjects are inclined to say that in their adult life before marriage <u>they have never enjoyed company, had few social interests and preferred to be alone</u>. This trend is very typical and again a few illustrations are quoted. - "Jim is like me in lots of ways. When I was younger I was very shy. I didn't like going out much and if I did I liked going about myself. I don't enjoy meeting people but I enjoy my own company quite well." "I'll tell you one thing about me. That is, I'm not sociable. I don't like being with people and I can't stand crowds. I've always been the same. I used to run away rather than have to face people. I remember at school I refused to go up on the platform for my prize for the same reason. I could always sit fine on my own with a book, or listening to the wireless. I don't like parties or dances or anything like that." This aversion to company and social activities is also evident in the life the mothers have led since their marriage. Here they invariably

report that <u>their interests centre narrowly on the family and the home</u>. "I don't bother much about my neighbours. I haven't got many friends and I don't like people to speak to me. I like to mind my own business. I don't go out much. If I go out it goes for my nerves. I've penetrated my mind on my family." Another mother declared, "I don't make friends easily for I only speak to superior people. I seldom go out, and when I do I prefer my own company or that of my daughters." The way in which the subjects phrase their comments here is almost identical. - "I've never bothered making friends with people. All I have ever bothered about was my family. I could never be bothered talking to people. My home is my world. That's all I need." This narrowing of the mothers' interests on the home to the exclusion of all else is perhaps best typified by the following comment made by one of the mothers during interview. - "I used to look forward each day to the hour of 10 o'clock. At that time I always locked the storm door and then the inside door and then I would say to myself, 'Now I've got these three safe here from the world'." It is almost unnecessary to add that few of these mothers were involved in any communal activities such as Women's Guilds.

Speaking of her relations with the opposite sex before

marriage the mothers are apt to say quite frequently that they were regarded as being emotionally cold towards the opposite sex. "My friends used to call me the iceberg and say I never thawed out. They meant that I never let boys kiss me or anything like that and I don't see what was wrong in that. I could never stand that sloppy talk either, and if a boy started saying daft things to me I'd just tell him where to get off." The subjects seldom report that they had much contact with the opposite sex before marriage and in fact the mother may admit that she was particularly shy with boys. "Although I was a bit shy with everyone it was much more so with boys. I never knew what to say to them. They seemed to irritate me easily or if they didn't do that they bored me. I was always much happier with my own sex and I still am." The majority of the mothers declared that their husband was their first and only boyfriend.

In speaking of their husbands the subjects are apt to complain that he avoids responsibility in the home and that he is lacking in ambition and drive. They tend to voice the common criticism that their husbands were too inactive and passive in their attitude to life. - "My husband is a great sitter-back. We used to fight a lot over the children. He would never take a hand in bringing them up. He just sat back and let me do it. He's that sort of man, he would sit back and let me do everything.

It's just as well I've been capable." Another mother said of her husband, "Everyone always thought I should leave him right from the beginning. I'm better off without him now, but these people ruin you. He should have made money but he had no ambition, no push. He wasn't really a man." This general criticism of a lack of what the subjects consider to be masculine drive and forcefulness is again evident in this final comment made by one of the mothers. - "My husband is more like my other daughter. They're both very lethargic. I always had to lead him where we were going. I decided how we were going to get there. If he went out he wouldn't know what corner to turn if I wasn't there. He was just a drifter with no ambition and that I can never forgive." It would be a pity to leave this topic without mentioning the subject who, after describing her husband as a "stupid little nonentity", went on to say, "He's such a little nonentity around the house that when I'm cleaning up I often find myself dusting him along with all the other ornaments." Speaking of their reasons for marrying, the mothers are inclined to say that <u>they married to get away from an unhappy home life</u>. - "He just happened to be the man available at the time. I was fed up with my job and fed up with nursing my mother, so I got married to escape everything." "I really married on the spur of the moment to get

away from the house and looking after the family. Talk about out of the frying pan into the fire - that was me." The majority of the subjects were inclined to say that <u>their marriage had been frankly unhappy</u>. "My husband was a beast. Just a typical man. Only interested in drink and sex. I don't think I had a happy day during the whole of my married life." Another mother declared, "I made only one mistake in life and that was getting married. If I'd my life to live over again I certainly wouldn't repeat that error." At this point some of the subjects go on to say that <u>their marriage had been broken through separation or divorce</u>. The various reasons given for the failure of the marriage again form a common criticism of the husband's lack of ambition. In some cases the subjects and their husbands still live together but in name only. "Although we live in the same house we rarely see each other and we never speak to each other. He wants a divorce but I wouldn't grant this for the sake of the children. When he told me he wanted to leave me he said I was a nagging bitch, and when I told my daughter she said that he was right." There is a tendency also for <u>the husband to be considerably older (at least nine years) than his wife</u>. In many cases the mother stated that the marriage was held together only by her feelings for her children. One of the mothers, in putting this point, made an amusing and revealing

slip of the tongue. - "Thank goodness I've always had a strong material instinct."

Talking of the physical side of their marriage, the mothers tend to describe their sexual relations as being frankly repellent. - "I can't stand people touching me or pawing me and I never could. Although I was fond enough of my husband at the beginning of our marriage I still couldn't stand being pawed and slobbered over." Another mother declared, "I hated the physical side of our married life right from the beginning. I hated it, I hated it. I lived in terror of it. I found it repulsive. I'd do anything to get out of it. It's always caused a lot of quarrels between my husband and I." In cases where the mother did not frankly renounce the sexual side of her relationship with her husband, she was inclined to indicate by her remarks that their relationship was devoid of sentiment and feeling. - "We never really had any feeling for each other. Although we can often enjoy each other's company it's more in the way you would enjoy someone's company who is your own sex. Neither of us has ever been highly sexed and we both regard sex as an instrument of birth. My husband never talks affectionately to me and that suits me fine because I can't stand that sort of silly talk. I think you could call ours a spiritual marriage

rather than a physical one." Another mother declared, "Ours is a house where intellectual feats have always been at a premium. I can't say I love my husband and I'm not sure I could say he loves me, but I respect him for his intelligence and he respects mine. This seems to me a much firmer basis for a marriage than a lot of silly behaviour."

The mother's attitude towards other children in the family may appear more fiercely possessive than is the case with subjects in either of the other two groups and she may admit that she has always been particularly attached to one of the patient's siblings. The mother's description of her relationship with her favourite sibling is at times quite bizarre. One mother, in talking of the patient's brother, said, "He radiates love. He has always been more affectionate than my daughter. Even yet when I'm reading he sits with me and puts his head on my shoulder. He never passes my chair without running his hands through my hair or something. My son is my idea of Heaven and Jessie is my idea of Hell. One of my fears is that Jessie will get well enough to stay at home again and will destroy my son's life." Where a sibling has married, the mother may be very critical about the marriage partner. - "He's a very nice boy but he's not good enough for my daughter. If she had only waited I'm sure she'd have got a better match, and even if she

hadn't she's a girl who could have made her way in the world without a husband." In the main, however, the patient's siblings tend to remain unmarried at the time of interview, and again the mother invariably approves of this state. - "I have other four daughters, and they're all shy and sensitive girls. The eldest is 38 and none of them is married. It's not because they couldn't get a man, it's just that they couldn't meet anyone nice enough for them. They're such nice girls I doubt if there's any man good enough for them."

Finally, in speaking of her own health, <u>the mother is apt to say that her health has been very unsatisfactory</u>. During interview these subjects were apt to deluge the investigator with a flood of complaints about their own health. The tendency for nervous symptoms and allied disorders here was equally prevalent in both the schizophrenic and neurotic groups but the mothers in the schizophrenic group certainly complained a great deal more frequently about poor physical health. It was difficult to single out from reports of physical ill health symptoms which were possibly of a nervous origin. For example, many of the mothers complained of feeling constantly tired, run down and short of breath. Others complained of headaches, giddy spells and gastric upsets. Possibly the most distinguishing

factor here lies not so much in the degree of ill health reported but again in the mother's attitude towards it. One's impression was that these mothers were much more preoccupied with their health than the subjects in the other two groups, their preoccupation at times almost amount to hypochondriasis.

RESPONSES SPECIFIC TO THE NEUROTIC GROUP

By the same procedure it is possible to obtain a pattern of responses which, in their frequency of occurrence, are unique to the neurotic group. The responses considered here are these which are marked in red in Column 4 of the interview table in Appendix A.

Speaking of the patient's infancy, the mothers in this group are more inclined to say that weaning was not completed until the second year. They are inclined to describe him as having been a particularly attractive infant. As a child he is frequently said to have shown a tendency towards emotional lability. His physical health during childhood is likely to have been poor. Of his progress at school the mother is apt to describe him as being very conscientious and easily worried about exams. She may say, however, that he was the most intelligent child in the family. He is more likely to have continued with further education on leaving school and there is a tendency for the neurotic patient to be still engaged in some form of study at the time

of interview. Where the patient is actually engaged in an occupation, his mother may report that he was dissuaded by his parents from following his own vocational choice. His interests are distinguished from those of the other groups by his being particularly interested in religious matters. Discussing the patient's relations with his parents, his mother may say that he has always been over-dependent upon her. She may also add that his father openly prefers one of the patient's siblings. Speaking of his relations with the opposite sex, his mother is apt to comment that the patient was repeatedly disappointed in love.

When the mother is asked about the first signs of the patient's illness which she herself observed, she describes phobic behaviour, somatic symptoms and acute anxiety with panic attacks. These symptoms are inclined to be coincidental in time with a period during which the patient was worried over studies or his work. The mother may consider that the patient's illness has been directly due to early severe physical illness and on the whole she is inclined to take the view that his illness is a culmination of life long difficulties. She regards the onset of the illness as being a very gradual process.

Speaking of her own family background, the informant may report that she was more attached to her father than to her

mother. As a child she is inclined to say that she was nervous and easily frightened, and she may mention a number of specific fears or phobias to which she was subject. In speaking of her marriage she is likely to imply that her sexual relationship with her husband has given her only limited satisfaction and is regarded as being a factor of minor importance in their marriage. Speaking of her own health she may describe various difficulties which have been apparent during the involutional period.

As before, this characteristic pattern is now re-examined and illustrated by describing some of the typical responses made by mothers.

Re-examination of the Interview Responses Specific to the Neurotic Mothers

In this re-examination the interview material is considered under the four main sections.

A. The interviewer's impressions of the mother

It may be seen from the table of comparative frequencies

in Appendix A that the interviewer's observations of the subjects in this group did not differ significantly from that made in respect of the normal control group.

B. The mother's description of the patient's life history

Although these mothers are more inclined to report that the patient was bottle fed in infancy, this characteristic just fails to reach the criteria of incidence which would differentiate the feeding habits of the neurotic mother from the schizophrenic mother. There is, however, a distinct tendency for the mothers of neurotic patients to say that the patient's weaning was not completed until the second year. From the remarks made by the mothers concerned it would appear that the later weaning was due, not to any difficulties on the part of the child, but to a voluntary postponing of weaning on the part of the mother. In speaking of the patient's infancy these mothers are more inclined to say that the patient was an extremely attractive infant. While the physical appearance of the infant is, of course, referred to by the mothers in the other groups, these subjects tend to dwell upon the infant's physical attractiveness. - "She was lovely to look at and lovely in nature. She was just like a beautiful wee fairy. I loved to wash and dress her up like a doll." Another mother declared,

"You wouldn't think it now, but when he was a baby he was beautiful, just beautiful. He was just like a lovely little doll. In fact he reminded me of a doll I had when I was a child. My husband used to laugh at me because I was always dressing him up in new clothes. He used to say that I should call him my teddy bear instead of my son. But it wasn't only me, everybody that came in used to say how beautiful he was." Although the incidence of responses fails to satisfy our criteria, it is interesting to note that there is also a strong tendency for these mothers to describe the patient as being a very contented child who has presented no difficulties in early rearing. This type of view which is expressed by most of the mothers in this group is to be found in only one case in the schizophrenic group and also much less frequently in the statements of the normal controls. Another distinctive feature in the reports of the neurotic patient's childhood is the suggestion of <u>emotional lability</u> which appears in many of the responses. - "He was an awfully good child, but very easily upset. If something frightened him or upset him in any way he seemed to go to pieces. In the same way, if anything that he liked was to happen he got terribly over-excited. If things just went along normal and smoothly he was fine. It was just that his feelings seemed so easy to spark off." "Liza was the sort of child that

you never knew from one moment to anyother what mood she would be in..... She was terribly exciteable and easily affected by things around her..... She laughed easily and cried easily..... I always felt she would be happier if she could have disciplined her feelings or controlled them in some way. Liza was always so much at the mercy of things in life that didn't affect others."

The patient's health in childhood is more likely to be described as having been poor. According to the mothers' reports there is a definite suggestion here that the childhood of the neurotic patient is disturbed by repeated illnesses. In some cases the ill health includes a specific illness of some severity which is usually seen to have had lasting effects. In the present group of twanty, four of the mothers declared that the patient had been diagnosed as suffering from some form of chorea in childhood. Where this illness occurred it became apparent during the child's school days, somewhere between the age of six and nine years. In the majority of cases, however, the patient was reported as having suffered from a barrage of physical illnesses with little time between them to allow the child to recover normal health. The following report on one of the patients is typical of these circumstances. - "She was fine until she was about 3½ years old, then she got scarlet fever and had to be taken into hospital. She was just recovering from this

when she was back in hospital with kidney trouble. A year after that she got diphtheria and not long after that she had a very bad attack of whooping cough and then trouble with a threatened mastoid. It just seemed to be one thing after another." This record of a long series of illnesses is a repeated feature in the childhood of mahy of the neurotic patients. Another patient, for example, is reported as having suffered from a severe attack of bronchitis at the age of ten months, scarlet fever at the age of three years and severe tonsilitis at the age of seven culminating in tonsilectomy. This was followed by an attack of catarrhal jaundice which affected her heart, and six months later when the patient was eight years old she developed dysentery which was still being treated when the patient contracted diphtheria. In hospital she picked up a germ and on coming home had to be treated for a severe attack of gastro-enteritis. Her earlier bronchial trouble developed into asthmatic attacks which began at the age of four and continued for many years. Nine of the thirteen cases who fall into this category are reported to have suffered from an attack of scarlet fever in their early childhood although this did not always involve hospitalisation. Of some interest here is the effect of the child's physical illnesses on the mother's subsequent behaviour. Many of the subjects stated that the bout of ill health to which the patient

was subjected made them overprotective and overconcerned about the patient's health thereafter. This led them at times to restrict the patient's activities as they felt their child to be vulnerable and less able to stand up to things. - "After Joan had these illness one on top of another I felt I should keep my eye on her. I think now that it made me shield her too much and maybe protect her too much for her own good. Looking back now I can see I did all sort of things for her that she would have been better doing herself. Not only that, but I would try to do anything which would prevent her suffering in any way. Perhaps I overdid this and gave her the wrong impression of the world outside. For example, I would always change the ending of stories I told her so that nothing ever ended unhappily. In different ways like that I think I had a tendency to hide from Jean anything that I thought would upset her." Many of the mothers are inclined to think that the traumatic effect of these childhood illness has been later reflected in the patient's adult nervous symptoms.

The patient was usually described as having been an able enough scholar and, in fact, the mother may often say that the patient was the most intelligent member of the family. He is, however, invariably described as being overconscientious, tending to worry a great deal about exams. Many of the subjects

reported extreme nervous reactions on the part of the patient when faced with school exams. This did not seem to be related to the patient's ability in that he usually did very well in examinations. - ""He never failed an exam in his life and in fact he was often the top of his class. The fact that he was good at his work did not give him any confidence. When the exams came around he would shut himself up in his room and work until the small hours of the morning. During this time he would never go out to play with his pals who never seemed to worry about these things as much as him. I've seen him actually sick and off his food before exams and yet I'm sure he knew there wasn't the least chance of him failing." Some of the patients went on to University or undertook some form of further training after leaving school and although they were reported as having been successful students they still reacted in the same way to any scholastic competitive situations.

In discussing the patient's occupation the most distinctive trend which emerges in the case of the neurotic group is that <u>the patient may be reported as having been dissuaded from following his own vocational preference</u>. This persuasion, usually on the part of the mother, tends to be related to the patient's early illness and to the mother's opinion that the patient requires constant care and protection. Five of the female patients, for

example, had at one time wished to enter the nursing profession. in all but one of these cases the patient was dissuaded from this ambition through the influence of her parents, particularly her mother. - "She always wanted to be a nurse and I had a terrible job talking her out of it. I wouldn't have objected but for the fact that she had been so unwell when she was young and I felt that she wasn't strong enough for that type of work. I also thought that nursing would involve Avril in having to face the sad side of life and I didn't want her to have to put up with that." Another mother in the same circumstances said that she guided her daughter away from nursing because "she didn't have the constitution or strength of character which nursing demands." Where the patient had gone on to pursue higher education on leaving school, the mother again sometimes admitted that this was due to parental pressure. - "When he was ready to leave school we asked him what he wanted to do. He said that he had only one ambition and that was to go into the R.A.F. and make this his career. I was determined that he would have a good education and we refused to let him throw away his life like that. Unfortunately Robert never seemed grateful for our guidance at that time. He did not realise it was best for his sake. He actually said I wanted him to go to university for my own prestige and not for his good and that's not

true. My real object was in helping him attain a professional status which would help to take him away from the rough and tumble of life."

The main distinctive characteristic of the neurotic patient's interests is that <u>he is more inclined to be interested in religious matters</u>. Such interest in religious matters was usually initiated somewhere around the adolescent period. In the seven patients who were reported to show this characteristic, all had experienced sudden religious conversion somewhere between the ages of fourteen and seventeen. In such cases there was a tendency for the patient's interests to become narrowly focussed on religious activities at the expense of previous social interests. The religious experience appeared to have the effect of changing the patient's whole way of life and channelling his behaviour in such a way that he was often cut off from former friends. Although some of these patients continued to lead a very active social life, their activities were within the context of the church or the religious organisation to which he adhered. The mother's attitude here was in each case one of disapproval.

They had felt at the time that their son or daughter's religious interests were exaggerated and, in their effect, too restricting. - "I have always regarded myself as a Christian and brought my

children up the same, but Violet was just too keen. She stopped going to dances, seldom went to the cinema and, in fact, if she went to any sort of gathering it was something to do with the church. She gradually lost contact with friends of her own age because they had different interests and most of her friends at the mission seemed to be much older than her. I worried at the time because it was making her take life too seriously." From the mothers' reports it would appear that the patient's religious conversion was invariably a very traumatic and emotional experience which greatly surprised the parents.

Speaking of the patient's relations with other members of the family, the informant was apt to say that the patient had always been very overdependent upon his mother. Here again the mother's attitude tended to be one of disapproval and often it was evident that she had made strenuous and well meaning attempts to make the patient more independent in relation to herself. - "I used to advise him a lot when he asked for advice, but when he grew up I began to think he was just relying too much on what I said. After that when he had a problem I would try to make him solve it himself." At times the patient's overdependency upon his mother was related to the comparative lack of interest shown in him by his father. The mother was apt to say that the patient's father openly prefers one of the patient's siblings.

Regarding the patient's relations with the opposite sex, he was described as having been disappointed in love. The theme of unrequited love appears to figure frequently in the history of the neurotic patients. Not only are they frequently described as having been let down by a boy or girl friend to whom they were very attached, but they appear to have reacted very intensely to such circumstances. Several of the patients had a very long history of unfortunate romances which had all culminated in disappointment and frustration. The mothers frequently commented that these experiences robbed the patient of his self-confidence and made him feel unwanted and unloved. - "Lorna never had too much confidence in herself, but half the trouble was that she was so frequently let down by boys. When her last boyfriend gave her up I thought she would never get over it. She wept for days and was off her food. It wasn't so much that she was madly in love with the boy but she seemed to think the other girls were thinking she couldn't hold a man." Where the patient had married, this disillusionment is apt to continue in relationship to their marriage partner. In the mother's eyes the patient's marriage was seen to be an unhappy one and at times a contributory factor in her illness. In four of the six cases where the patient had married, the mother was of the opinion that the patient's husband or wife was being directly unfaithful to them.

In one of the remaining cases the patient herself had been involved in an affair with another man which had resulted in a temporary separation from her husband. The mother's attitude towards these circumstances was often to the effect that the patient was himself to blame for these unfortunate experiences with the opposite sex. Some of the mothers said that they had noticed that their son or daughter invariably became attached to someone else who was very unlikely to return their ardour. Thus the recipient of their affection was apt to be married, attached to someone else or so much in demand as to be unlikely to respond adequately. - "She always fell for a boy that was beyond her reach. At first it was a boy she met who was engaged to a friend of hers, and after that it was another boy who had a terrible reputation and had a string of girl friends all over the place. I knew nothing would come of it but I couldn't really interfere and she wouldn't have listened anyway. Another boy she fell for was too interested in his studies to be bothered with girls for some time. She was either innocent and didn't see the trouble she was letting herself in for or she was just playing at being in love."

C. <u>The mother's description of the patient's illness</u>

Speaking of the early signs of the patient's illness, the

subjects describe <u>the first noticeable symptoms</u> as including <u>phobic behaviour, somatic symptoms and acute anxiety with panic attacks</u>. It is again difficult to categorise these early symptoms and there is undoubtedly overlapping between the different categories. The most common type of phobia concerned fears relating to travel and public places. Claustrophobia was often reported. Under the heading of 'somatic symptoms' was included a general tendency towards hyopchondriacal behaviour. A number of the patients were convinced that their symptoms denoted a fatal heart disease while others complained of vague gastric discomforts. Another common symptom at the beginning of the breakdown was that of severe headaches. The general anxiety and occasional panic attacks experienced by some of the neurotic patients was related directly to both their somatic symptoms and phobic behaviour. Several patients, for example, were afraid to leave the home in case they suffered from a panic attack while in the street or at work. Many of the somatic symptoms reported were obviously part of the general pattern of anxiety. In the mother's comments about the patient's illness there was a tendency for the <u>first symptoms</u> to be <u>coincidental in time with</u> the patient being <u>worried over studies or work</u>. Although this was true of several of the neurotic patients it did not seem that any of them had actually experienced direct failure in relation to their

studies or their work. The general tendency here was for the patient to have been doing rather well at his work and to have been subsequently promoted. At this point, the patient would seem to have worried a great deal and to become anxious over his ability to cope with the new responsibility and demands of higher office. One of the patients who was a student had passed all her exams, obtaining a fairly high standard of marks but became very upset because two of her friends had obtained distinctions. Asked for her own opinion as to the aetiology of the patient's breakdown, the mothers in this group showed a tendency to say that <u>the breakdown was due to early severe physical illness</u>. - "I don't think she ever really got over that terrible two years of illness she had when she was little. From that time on I always felt that she was less able to cope with difficulties than other children. I think that her breakdown really goes back to that very early age." This type of comment shades into the next distinct category here denoting the mother's tendency to say that <u>the patient's illness represents a culmination of life long difficulties</u>. This is a very distinct tendency in the neurotic group, the majority of the mothers taking the point of view that the illness had a long history and that the onset was a gradual one. The patient has never been 'normal' in so far as he has

always been vulnerable and shown a tendency to react in an extreme fashion to difficulties which others can take in their stride. The following statement is representative of the type of comments made here. - "I don't look upon her present illness as an illness so much, but just as the ending of something I have been expecting at the back of my mind for a long time. Many of the things she is complaining about now she has had, although not in such a violent way, most of her life. If you asked me what had caused her illness I think I would have to say that it's just that she has never been able to adjust to adult life. She is much younger than her age and too gentle. She has always really been younger than her age. She's just immature."

D. The mother's description of her own life history

Speaking of her own parents, the informant is more inclined to state that as a child she was more attached to her father than her mother. Although most of the mothers in this group describe their own mother as kindly, warm and approachable, several of them added that they had always felt closer to their father. The father in these cases was described as being more understanding and gentle in his manner towards his family. - "I don't mean that you couldn't take your troubles to Mother.

She always listened and she was very helpful, but Father had the healing touch. He seemed to understand people's problems better and he could always make things seem not so bad after you had spoken to him. If I had ever any really serious problems it's Father I would go to for advice and comfort."

Looking back on her own childhood the informant tends to describe herself as being nervous and easily frightened and she may describe specific fears or phobias. Although in general these mothers describe themselves as having been fairly active and outgoing children, several of them add that they were nervous and over-emotional. - "I was all right if everything was going all right but if anything happened unexpectedly I was apt to get upset easily. I seemed to get excited more easily than other children. If I saw a sad picture or read a sad book I would burst into tears and if something good was happening the next day I couldn't sleep at all the night before." Several of the mothers went on to describe specific phobias which had affected their behaviour since childhood. One mother declared, "I am terrified of sickness in adults. It makes me feel ill myself. I've always had a terror of sickness and often had to go out of the room if someone was sick. It's not just someone being ill - that's all right. It's someone actually vomitting and being sick. I certainly couldn't clear up after anyone like that. I remember

when one of the children was sick I couldn't force myself to clean up afterwards and had to get one of the other children to do it." Another mother declared, "One thing I can't stand is the sight of blood. I've always been like that. If anyone cuts a finger even and it bleeds I feel sick and dizzy and sometimes I have to do and lie down. I have been that way with blood ever since I can remember." An interesting aspect of such phobias is that the mother's phobia is often seen to be repeated in the behaviour of the patient, and it may in some cases be related even to the patient's maternal grandmother. - "Lorna is the same about sickness. She just goes the same way as I do. And, do you know, my mother was like that. I remember she couldn't stand anyone being sick although she was a great nurse if anyone was just ill." "Although he's a big strapping boy he is like me when it comes to blood. Can't stand the sight of it. I remember other boys used to laugh at him. When he cut his finger he nearly went berserk. My mother was the same and I think I remember her saying that her mother couldn't stand the sight of blood too. I wonder if it's hereditary?" Speaking of her own marriage, the informant is inclined to say that the physical side of her marriage is considered to be of minor importance and has given only limited satisfaction. The majority of the mothers in the normal control group describe their sexual relation-

ship with their husband as being satisfactory and as playing an important part in their marriage. The majority of the mothers in the schizophrenic group either describe the sexual side of their marriage as being frankly repellent or make remarks which indicate that their relationship with their husband could be described as cold and lacking in affective interchange. In contrast to this, the majority of the mothers in the neurotic group make statements which might be described as occupying a middle position between these two extremes. While one might describe them as being sexually frigid their comments also give the impression that, outside of their sexual relationship, there existed a relatively warm relationship between husband and wife, involving a fair degree of emotional interchange. - "I can't say I've ever been particularly interested in that side of married life. Fortunately my husband is a very gentle man and wouldn't inflict himself upon anyone who didn't want him. I think a tolerant affection outlasts that sort of thing. We have always loved each other very deeply and I don't think we have lost a great deal just because I haven't been too highly sexed. Mind you, I had six pregnancies in all so I didn't do too badly." Another mother described the situation in a similar fashion. - "My husband is quite understanding here. As long as we were happy we didn't think much of the physical side

as being awfully important. Mind you, we are very fond of each other and people used to say that we were always laughing together like a couple of kids." Finally, when speaking of their own health, the mothers in this group are apt to say that they have been rather nervous and disturbed of late because of menopausal difficulties. They report a variety of reactions to this period of life, perhaps the most common of which is increased irritability, difficulty in sleeping, loss of appetite, tendency towards emotional outbursts, etc. Several of the mothers were under medical treatment for their difficulties and were receiving sedatives from their medical practitioner.

SIGNIFICANCE OF THE SPECIFIC 'SCHIZOPHRENIC' RESPONSE PATTERN

The analysis of the interview material has yielded a pattern of responses which distinguishes the schizophrenic group from both the neurotic and normal control groups. This pattern of responses has been described as being 'specific' to the twenty mothers of schizophrenics, but we must remember that the specificity is related only to a comparatively higher incidence of occurrence in the schizophrenic group. Before the pattern of responses previously indicated by the interview analysis can be regarded as truly specific to the schizophrenic group, further questions must be answered. We require first to know more of the distribution of these responses between the individual subjects in the schizophrenic group. It is possible that the picture of the mothers of schizophrenics afforded by the interview analysis is artificially created by a minority of the group who consistently give the characteristic responses throughout the interview. At present we have also no way of judging how many of the subjects in the neurotic and normal control groups show, in their individual responses, a response pattern which conforms to that

TABLE III

COMPARATIVE SCORES BASED ON INCIDENCE OF RESPONSES UNIQUE TO THE SCHIZOPHRENIC GROUP

SUBJECT	SECTION A			SECTION B			SECTION C		SECTION D		
	C	S	N	C	S	N	S	N	C	S	N
1	6	66	28	17	67	16	43	20	27	129	56
2	0	50	37	6	48	60	34	16	71	114	71
3	0	18	13	48	70	0	24	14	46	136	18
4	32	49	13	0	60	16	59	23	16	110	34
5	13	50	0	34	48	41	31	18	46	109	86
6	0	42	12	9	34	11	41	15	0	95	34
7	0	67	0	0	79	42	33	0	12	169	49
8	0	29	7	0	66	0	28	16	57	121	18
9	13	60	0	11	29	0	20	0	0	86	0
10	6	44	13	0	29	51	39	0	24	104	56
11	26	24	13	0	49	29	36	20	64	122	55
12	0	70	0	42	79	10	34	10	0	140	31
13	6	33	29	0	42	20	20	15	56	99	24
14	0	29	0	8	63	10	31	8	12	132	11
15	0	45	17	7	49	41	37	16	7	107	30
16	0	60	0	0	58	0	23	0	48	92	10
17	25	45	8	11	26	29	34	13	20	119	45
18	0	49	26	0	76	17	36	8	0	156	41
19	26	43	6	9	79	0	10	0	24	171	36
20	0	18	0	0	29	17	19	8	20	139	8
T	152	891	220	202	1,080	410	635	221	550	2,350	713
M	7.60	44.55	11.00	10.10	54.00	20.50	31.75	11.05	27.50	117.50	35.65

TABLE IV

COMPARATIVE INTERVIEW SCORES (AS PER TABLE III) IN RANK ORDER

NUMBER	SECTION A			SECTION B			SECTION C		SECTION D		
	C	S	N	C	S	N	S	N	C	S	N
1	32	70	37	48	79	60	59	23	71	171	86
2	26	67	29	42	79	51	43	20	64	169	71
3	26	66	28	34	79	42	41	20	57	156	56
4	25	60	26	17	76	41	39	18	56	140	56
5	13	60	17	11	70	41	37	16	48	139	55
6	13	50	13	11	67	29	36	16	46	136	49
7	6	50	13	9	66	29	36	16	46	132	45
8	6	49	13	9	63	20	34	15	27	129	41
9	6	49	13	8	60	17	34	15	24	122	36
10	0	45	12	7	58	17	34	14	24	121	34
11	0	45	8	6	49	16	31	13	20	119	34
12	0	44	7	0	49	16	31	10	20	114	31
13	0	43	6	0	48	11	31	8	16	110	30
14	0	42	0	0	48	10	28	8	12	109	24
15	0	33	0	0	42	10	24	8	12	107	18
16	0	29	0	0	34	0	23	0	7	104	18
17	0	29	0	0	29	0	20	0	0	99	11
18	0	24	0	0	29	0	20	0	0	95	10
19	0	18	0	0	29	0	19	0	0	92	8
20	0	18	0	0	26	0	10	0	0	86	0

	Section A	Section B	Section C	Section D
S : C =	75%	60%	-	100%
S : N =	70%	45%	75%	95%

of the schizophrenic group as a whole.

The basic question here, in other words, concerns the extent to which the 'specific' schizophrenic pattern can identify the twenty subjects of the schizophrenic group and exclude the forty subjects who form the other two groups.

Fortunately, our method of interview analysis lends itself to further treatment which aids in answering this question. Each subject may be given a numerical score representing the extent to which her responses approximate to the characteristic pattern of the schizophrenic group as a whole. Where a subject gives a response which is distinctively characteristic of the group pattern she is credited with a score corresponding to the group frequency of that response (the figures marked in red in Column 2 of the interview analysis). The subject's final score is calculated by adding together the scores obtained in this way. It will be obvious that such scores represent indices of conventionality, in that the higher the score the more the subject's responses correspond with the conventional pattern of the schizophrenic group. The procedure thus gives some indication of the distribution of the significant responses within the schizophrenic group. A similar technique can be applied to both the normal and neurotic

group subjects to give a corresponding set of scores which will again represent the degree to which each subject's responses correspond to the schizophrenic group pattern. The resulting distribution of scores is illustrated in Table III where each subject's score on the four sections of the standard interview are noted. As each section of the interview deals with information which is not readily comparable, the cumulative scores have been tabulated independently for the four sections. The difference between groups means is, of course, highly significant in each section of the interview, as is to be expected in view of the scoring procedure. To allow the range of distribution occurring in the three groups to be readily comparable, the scores in each group are ranked in order from highest to lowest in Table IV. It will be seen from this distribution of scores that, in some cases, the responses of subjects in the normal and neurotic groups conform to the schizophrenic group pattern more closely than is the case with some of the schizophrenic group. The degree of specificity of the pattern of schizophrenic group responses, varies markedly within the four sections of the interview.

The results of our comparison might be summarised

as follows:- The proportion of schizophrenic group subjects correctly identified and differentiated from all subjects in the neurotic and normal control groups is <u>70%</u> in Section A, <u>45%</u> in Section B, 75% in Section C, and 95% in Section D.

In offering a tentative interpretation of facts, one must keep in mind the relatively small size of the numbers involved. It is, however, interesting to note the comparatively small proportion (45%) of schizophrenic patients who could be clearly identified according to their previous history. (Section B) This might suggest that the value conventionally given to the previous history in differential diagnosis of schizophrenia is unjustified. A much more reliable guide would appear to be given by the description of the onset of the illness. (Section C) This in itself is perhaps not too surprising. Much more surprising is the apparent reliability of the life history of the mother, (Section D), which identifies successfully all but one of the present subjects. The evidence here is in accordance with the earlier assertion that the mother's personality and behaviour may provide a useful aid in diagnosing a schizophrenic son or daughter.

The interview analysis has allowed us to make a fairly detailed comparison of both sides of the mother-child equation in the three groups under investigation. Having established the varying degrees to which the emerging patterns can be taken as representative of the schizophrenic group we are now finally in a position to gather together our observations and interpret their significance.

In the early history of both the neurotic and schizophrenic patient we find a great deal of common ground. The frequency of such traits as obsessional behaviour, nervous symptoms, lack of self confidence and self assertion, over-depency on the mother and a general inability to reach an adequate level of adjustment to the social group differentiates both sets of patients from their non-patient peers. The degree of social inadequacy is seen to be more persistent and to pervade more areas of the patients' lives in the case of the future schizophrenics, but the main difference between the two groups is to be seen in the mother's interpretation of, and reaction to, the patient's deviant behaviour. In the neurotic group the mother displays a more rational and insightful attitude to her child's difficulties. She in fact recognises that the behaviour is deviant and does her best, usually unsuccessfully, to aid the patient in making a more stable adjustment. The mother of

the schizophrenic patient shows, on the other hand, a remarkable capacity for denial in her attitude to the patient's earlier difficulties. Not only does she distort reality in projecting the cause of the patient's abnormal reactions outside of him, but she also accepts, approves, and actively encourages the deviant features in his development. Her influence on the patient is almost specifically designed to effectively cripple the child's attempts to reach an independent and stable level of adjustment. The mother's irrational interpretation of events, her lack of adherence to logic and her manipulative attitude to others is strongly evident in her attitude and behaviour in the present interview situation. Such impressions are in accordance with the observations reported in previous studies which have commonly stressed the dominating, egocentric and manipulative role of the mother who is unable to form "a proper respect for the individual's need to be himself and an acceptance of him in his own right". (Reichard & Tillman, 1950)

It would seem doubtful, however, whether the oft-used term 'overprotective' can be validly applied to the pattern of child rearing in schizophrenia. From the observations of the present study one might almost argue that 'overprotection' is more typical of the early background of the neurotic than that of the schizophrenic. The overprotective attitude is

stimulated by the frequency of childhood illness which figures so prominently in the early history of the neurotic patient. These early events tend to cause the mother to regard the child as being in special need of care and protection, thus originating a degree of maternal concern which continues to exert its influence throughout the patient's life. This suggestion of a low degree of resistance to illness in the neurotic's childhood has been observed in previous sociological studies (e.g. Slater & Woodside, 1952). Previous evidence has indicated that, not only do neurotics suffer from a higher proportion of illnesses in childhood, but that their illnesses lead to further complications much more frequently than the non-neurotic population. The mothers in the present study describe the neurotic patient as being vulnerable, not only physically but emotionally as well. He is seen to be more at the mercy of his environment than others and therefore more in need of a well protected and regulated existence. One finds it difficult to avoid here the impression of a constitutional predisposition to later neurotic breakdown.

The frequency of marital disharmony in the homes of schizophrenic patients is clearly evident in the interview responses and is in accordance with previous findings. The most common criticism made by the mothers in the present study

regarding the patient's father is that he is of a weak character, lacking in 'masculine' forcefulness and ambition. It is of interest to note that the mother tends to level exactly the same criticism at her own father. Bearing in mind also the abnormal attitudes to sex expressed by these mothers, one might interpret the findings as suggesting a basic inability to accept the female role. At any rate, the object choice of the mother tends to be an individual who in his passiveness and acceptance of feminine domination is allied in nature to her own father. This suggestion is given further support by the observation that the mother frequently marries a man some years her senior.

Our observations also allow us to consider the view that the mother-child relationship in schizophrenia is abnormal only because of the abberant behaviour of the schizophrenic from childhood onwards. (Kasanin, Knight & Sage, 1934) Normal mothering responses, it is argued, cannot develop in a one sided relationship where the child constantly fails to respond to the mother's advances. Pathological features in the personality of the mother might be further accentuated by the later stress imposed by the slowly developing schizophrenic illness. The present data does not bear out the contention that the mother in some way senses the 'inferiority' of the

child who later becomes schizophrenic. On the contrary, their reports show an astounding lack of insight, and often complete denial, in respect of the patient's abnormalities. They see the schizophrenic symptoms as appearing suddenly without warning in a previously normal personality. The present evidence points more to the neurotic patient as the one whose constitutional inferiority is recognised early by the mother, who is not surprised by the final breakdown.

A further answer to out question is to be found in the picture which emerges of the mother's own life history prior to the patient's birth. The material here shows a characteristic pattern which is almost specific to the schizophrenic mothers. These women tend to report an unhappy early home life which is often disrupted further by parental loss. As children they are unhappy, insecure and unable to make good contact with others. They remain to some extent social isolates throughout their lives, their marriages predestined to failure by their rejection of their own femininity. Perhaps the most characteristic feature of these women is the already mentioned capacity for denial and distortion which so colours their unrealistic interpretation of events. In their attitude to their children one is impressed by their lack of acceptance of the child's individuality and by the degree to which their

influence draws the patient into the mother's orbit of egocentricity. The descriptive term 'schizoid' might be validly applied to the mother's own personality and it is not difficult to see a resemblance between the life history of the mother and her schizophrenic son or daughter. This correspondence may be further accentuated by referring back to the interview scores in Table IV. It is possible to utilise these scores to obtain the measure of the correlation between the mother's reports of the patient's life history and her description of her own life history. When a Rank Difference correlation is worked out on these scores (see Appendix A), it is found to be as high as 0.70 (significant at the 0.01 level). We must, of course, be cautious in our interpretation of this correlation which does not express a direct measure of correspondence between the patient's and the mother's life histories. The correlation does, however, demonstrate that the mothers who give the most conventional set of responses in describing the patient's history also give the most conventional set of responses in describing their own life history. The correlation between these two sets of scores thus indirectly suggests a positive relationship between the mother's life history and that of the patient.

At a later point in this report an attempt will be

made to collate the interview findings with the information given by the personality tests and to relate the whole to the question of schizophrenic aetiology. We can say at this point, however, that the interview findings agree to a large extent with the observations made by many of the previous investigators in this field. Interestingly enough, it would appear that these findings most closely approach the descriptive account of the mothers of schizophrenics made by Lewis Hill (see pages 4-5) on the frankly subjective basis of his own experiences with schizophrenic patients and their families.

SECTION 4

RESULTS OF TESTING

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1. CHILD REARING QUESTIONNAIRE

Table V indicates the scores obtained on this questionnaire by each subject, the cumulative score being the total of agreements to the forty statements presented. As can be seen from this table, the questionnaire successfully differentiates the schizophrenic group from both the normal control and neurotic groups, the difference between the means being significant above the .01 level. Mark (1953) applied an extended form of this questionnaire, containing 139 items, to mothers of male schizophrenics and normal controls. The shorter version of the questionnaire used in the present study contains most of the items which Mark found to be significant. The performance of the subjects in the present investigation thus indicates that a questionnaire of this type successfully differentiates the mothers of schizophrenics not only from the normal control group, but also from the mothers of neurotic patients.

In order to obtain some idea as to the particular items in the questionnaire which accounted for the difference in group scores an item analysis of the test was carried out. The procedure here was to construct contingency tables of the items which appear on inspection to separate the three groups.

TABLE V

CHILD REARING QUESTIONNAIRE - DISTRIBUTION OF SCORES

SUBJECT	C GROUP	S GROUP	N GROUP
1	25	12	14
2	30	12	12
3	14	21	4
4	6	17	11
5	17	13	22
6	5	22	9
7	4	23	12
8	11	18	7
9	12	16	12
10	2	32	7
11	10	37	4
12	4	13	25
13	5	30	11
14	6	34	7
15	12	25	9
16	13	24	7
17	10	11	11
18	22	16	7
19	14	27	10
20	9	16	7
TOTAL GROUP SCORES	231	419	208
MEAN GROUP SCORE	11.55	20.95	10.40

The difference between the means is significant

(See Appendix B)

TABLE VI

CHILD REARING QUESTIONNAIRE - ITEM ANALYSIS

(Incidence of Scores per Item)

ITEM No.	C GROUP	S GROUP	N GROUP	ITEM No.	C GROUP	S GROUP	N GROUP
1	5	15	4	21	5	4	5
2	8	15	8	22	1	4	0
3	3	4	4	23	5	11	5
4	1	3	1	24	16	19	10
5	17	11	7	25	5	16	5
6	3	10	10	26	5	14	13
7	10	17	12	27	4	4	2
8	2	10	1	28	4	8	0
9	4	14	1	29	1	4	3
10	4	15	3	30	7	6	5
11	2	4	1	31	1	10	5
12	0	5	0	32	7	11	2
13	2	4	0	33	2	13	1
14	5	18	6	34	6	16	9
15	10	8	12	35	8	14	14
16	11	8	2	36	14	17	13
17	8	11	9	37	6	15	4
18	3	13	2	38	12	12	2
19	2	2	0	39	13	11	9
20	5	7	11	40	4	16	7

The results of this analysis are illustrated in Table VI where the incidence of scores per item is entered for each of the three groups in turn. The underlined scores indicate the items which significantly differentiate both patient groups together from the normal controls, but not from each other. The scores printed in red indicate those items which significantly differentiate the responses of the schizophrenic group from both the normal control and neurotic groups in turn. The contingency tables and appropriate Chi-^{2} values are shown in Appendix B. It is of interest to note that only in the case of the schizophrenic group do the scores reach a level which isolates this group from the others. In not one case does this occur in the neurotic group whose responses, as can be seen from Table VI, correspond closely with those of the normal controls.

In subjecting the individual items of a questionnaire to a Chi-^{2} analysis, certain difficulties arise in assessing the significances which are determined. One of the main problems here has been clearly outlined by Cronbach (1949) in his criticisms of the statistical methods normally applied to Rorschach scores. Referring to what he terms the 'Inflation of Probabilities', Cronbach points out that, where a number of items are being tested for significance, the total number of

(26) The young child should be protected from hearing about sex.

There are, in all, a total of ten items which significantly differentiate the schizophrenic group from both the normal controls and the neurotic group. The mothers of schizophrenic patients are then more inclined to agree with the following statements:-

(1) Children should be taken to and from school until the age of eight, just to make sure there are accidents.

(8) Children who take part in sex play become sex criminals when they grow up.

(9) The child should not plan to enter any occupation of which his parents do not approve.

(10) Too much affection will make a child a 'softie'.

(14) It is not the duty of the parent to teach the child about sex.

(18) A good mother should shelter her child from life's little difficulties.

(25) If children are to grow up and get somewhere, they must be kept after.

(33) It is best to give children the idea that their parents have no faults.

significant tests must be taken into account in evaluating their probability. This point may be equally validly applied to any other tests, such as the present questionnaire, which involved significance tests for the forty items. Although actual testing has been carried out only for those items which suggest on inspection significant differences, we must also take into account the other items which have been rejected after inspection. Using the conventional 5% significance, we should expect that in a test containing forty items, two items would significantly differentiate the groups by chance alone. In view of this point, it was decided in the present study to accept as significant only those items which were at the 2% level or above. This does not provide an entirely satisfactory answer to the problem, but by raising the standards of acceptance in this way we might hope to isolate only those items where the significance is meaningful.

In only two of the forty items do the scores significantly differentiate both patient groups together from the normal control group. The subjects in both patient groups are more inclined to agree with the following two statements:-

(6) Parents should sacrifice everything for their children.

(37) Children who always obey grow up to be the best adults.

(40) The father's influence on a child's life is of little importance in comparison with the influence exerted by his mother.

Most of these significant items suggest a general tendency towards over restrictive control of the child, mingled with some degree of emotional detachment on the part of the mother. The responses on the questionnaire are thus in accordance with the observations of these mothers already made during interview. The attitude of the schizophrenic mothers towards sex also appears again in their responses to the questionnaire. Although only one item relating to sex reaches the criterion of significance, three other items on the same theme reach the 5% level and are thus almost significant.

2. SELF ASSESSMENT SCALE

The subjects were asked to complete two different self ratings on this scale. In the first rating the instructions were that they should indicate which of the forty-five descriptive adjectives comprising the scale might be used by others in describing the subject's personality. In the second rating the subjects were asked to rate themselves again according to their own analysis of their personality. The two types of rating were used in an attempt to compare the subject's conception of herself as she appears to other people with herself as she really is. Table VII lists the scores (number of adjectives used in the rating) for each of the sixty subjects. Inspection of this table shows a tendency in each group for a smaller number of adjectives to be utilised in the second, as compared with the first rating. This tendency is more marked in the case of both patient groups, although the difference in mean scores here is by no means statistically significant. We are here, however, less interested in the total scores obtained than in the specific adjectives which the subjects applied to themselves in their descriptions. To this end, an item analysis was carried out, Chi^2 tests being applied in the case of all items where inspection suggested

TABLE VII

SELF ASSESSMENT SCALE - DISTRIBUTION OF SCORES

	FIRST RATING			SECOND RATING		
No.	C	S	N	C	S	N
1	39	28	24	23	17	17
2	18	29	10	14	20	6
3	18	22	15	14	15	8
4	20	22	22	13	19	19
5	18	18	27	14	15	23
6	13	21	28	9	21	25
7	26	26	26	19	17	24
8	25	27	15	18	23	14
9	21	17	25	17	9	16
10	31	17	15	24	14	7
11	18	15	22	18	12	21
12	7	20	26	6	14	25
13	28	11	26	16	8	25
14	23	12	33	7	7	29
15	32	21	40	19	12	27
16	41	36	21	21	22	18
17	21	27	20	13	21	17
18	39	11	18	27	11	12
19	25	24	17	22	21	14
20	16	22	18	11	18	15
TOTAL	479	426	448	325	316	362
MEANS	23.95	21.30	22.40	16.25	15.80	18.10

TABLE VIII

SELF ASSESSMENT SCALE - ITEM ANALYSIS

(First Rating)

ITEM No.	C GROUP	S GROUP	N GROUP	ITEM No.	C GROUP	S GROUP	N GROUP
1	1	4	5	25	5	5	3
2	7	8	11	26	18	18	19
3	20	15	14	27	17	6	12
4	11	9	4	28	14	15	17
5	2	11	3	29	4	9	2
6	18	14	13	30	2	4	9
7	14	9	9	31	7	3	16
8	5	15	4	32	15	13	14
9	15	7	4	33	11	11	12
10	18	17	14	34	9	6	4
11	4	3	5	35	6	6	3
12	17	12	11	36	17	14	15
13	7	6	9	37	5	10	7
14	6	5	9	38	12	14	12
15	15	15	11	39	4	6	5
16	10	10	13	40	19	10	9
17	10	10	18	41	14	5	13
18	6	15	18	42	8	1	1
19	13	10	8	43	18	7	9
20	15	7	18	44	8	8	4
21	19	6	17	45	18	17	17
22	4	13	17	TOTAL	479	426	448
23	9	6	2				
24	6	7	8	MEANS	23.95	21.30	22.40

TABLE IX

SELF ASSESSMENT SCALE - ITEM ANALYSIS

(Second Rating)

ITEM No.	C GROUP	S GROUP	N GROUP	ITEM No.	C GROUP	S GROUP	N GROUP
1	0	1	0	25	0	0	1
2	5	17	8	26	18	16	19
3	20	7	14	27	7	5	12
4	0	2	2	28	14	14	17
5	3	3	4	29	0	1	0
6	13	18	11	30	4	4	8
7	8	8	8	31	6	3	18
8	0	0	0	32	15	13	13
9	6	5	5	33	10	1	9
10	17	18	14	34	0	0	0
11	3	3	5	35	3	4	1
12	14	6	9	36	17	13	15
13	0	1	2	37	2	5	7
14	2	3	3	38	1	7	6
15	12	12	7	39	0	2	0
16	9	10	13	40	19	10	13
17	9	14	18	41	5	5	10
18	1	3	3	42	0	3	0
19	6	17	8	43	11	5	3
20	15	11	18	44	1	2	1
21	13	9	17	45	18	15	17
22	15	13	17				
23	0	3	0	TOTAL	325	316	362
24	3	4	6	MEANS	16.25	15.80	18.10

significant differences between the groups. The results of the item analysis in each of the two ratings in turn are indicated in Tables VIII and IX . The scores on these tables naturally represent the frequency with which each item was utilised by each of the three groups in turn. The significant items on these tables are indicated in the same manner as before. Items where the frequency of responses significantly differentiates both patient groups from the normal control group but not from each other are indicated by underlining. The figures marked in red signify those items where the frequency of the responses uniquely differentiates either the schizophrenic or the neurotic group. The same difficulty arises here as we faced in the item analysis of the Child Rearing Questionnaire, in that in this case probability tests are being carried out for forty-five items in each of the two ratings. Once again the conventional 5% level of probability has been rejected, items being accepted only at or above the 2% level. It is hoped to thus minimise the inflation of probabilities inherent in this method of analysis.

Considering first the responses which significantly differentiate both patient groups together from the normal

control group, we might summarise the results as follows. In the _first rating_ the subjects are less inclined to use the following terms in assessing the impression they make on others - 'fussy', 'conscientious', 'jealous', and 'optimistic'. As compared with the normal controls, these mothers are, however, more inclined to describe themselves as 'irritable' and 'energetic'. In the _second rating_ the subjects are less likely to say that they are 'optimistic', but more likely to describe themselves as being 'a worrier'.

A number of items in the scale show a frequency of response which is uniquely characteristic of the schizophrenic group. In the _first rating_ the mothers of schizophrenics are less inclined to say that others would refer to them as being 'affectionate', but feel that they are more likely to be regarded as 'dominating' and 'callous'. In the _second rating_ they describe themselves as being less 'sociable' and less 'cautious' than the mothers in the two others groups. They are also inclined to describe themselves as being 'exciteable' and 'ambitious'.

There are only two items on the scale where the frequency of the response is sufficient to be regarded as uniquely characteristic of the neurotic group. In the _first rating_ these mothers are more likely to feel that others regard

them as being 'a worrier'. They also show a tendency to describe themselves as being more 'lovable' than the subjects of either of the two remaing groups. This latter description again appears in the <u>second rating</u> where these mothers again more frequently rate themselves as 'lovable'. There is an obvious lack of duplication between the two ratings which indicates a tendency in each of the three groups for the subjects to deny a number of personality traits which they imagine others attribute to them. The sole exception to this lies in the case of the neurotic group where the term 'lovable' is emphasised in both ratings. It might also be noticed that although both patient groups tend to describe themselves as being more of 'a worrier', the subjects in the schizophrenic group do not feel that this aspect of their personality is so evident to others. Of the items uniquely distinguishing the schizophrenic group, the majority accord well with the previous personality pattern of this group extracted from the interview material. Their opinion that others might regard them as less 'affectionate' is almost accepted as a self assessment as indicated by their score in the <u>second rating</u> although this fails to reach a statistically significant level. While rejecting the terms 'dominating' and 'callous' as applied to themselves, they do,

however, tend to admit that their behaviour might be interpreted by others in such a way. Their description of themselves as being less 'sociable' and more 'ambitious' is also well in line with the information given by their life histories. Indeed, the only rating in this scale which perhaps runs a little contrary to the interview impressions is their assessment of themselves as being more 'exciteable'.

3. SENTENCE COMPLETION TEST

Examination of the responses to this test supports the claim that the test yields useful information on the personality attributes of individual subjects. When each subject's responses were compared with the interview record it was evident that the test results supported, and at times added to, the information obtained directly from the subject during interview. When we move from individual to group comparison, however, difficulties in handling the comparative data become immediately obvious. The test items cover so many personality variables as to defeat any attempt at systematic and objective comparison. As the test has been often used as a research instrument, a number of attempts have been made to introduce a system of scoring which overrides such difficulties. Perhaps the most satisfactory and best validated of these scoring systems is the one introduced by Rotter and Willerman (1947) and later used successfully by Rotter et al (1949), (1954), Hadley and Kennedy (1949). The method here is to rate each response on a seven point scale, according the degree of mental stability denoted by the response. The rating continuum runs between conflict (+3, +2, +1) and healthy (-3, -2, -1) with neutral (0) responses occupying an

intermediary position. Rotter gives characteristic examples of different rating values for each item which act as a guide to scoring. Thus, taking Item 20 - 'My nerves.... ' as an example, the response 'are completely shattered' would be rated +3, while an alternative response 'never bother me' would be rated -3. Responses are regarded as neutral if they appear to contain no personal significance. (e.g. 'Boys..... will be boys'.)

The subject's final score is, of course, the algebraic sum of the ratings on the forty three items of the test. It will be readily apparent that this procedure is not entirely adequate and that it certainly leaves a great deal of room for subjective distortion in scoring. It does, however, have the merit of concentrating on one variable only and its reliability is reported as being higher than one might suppose. Before scoring the test material in the present study, the responses were transferred to separate cards, one for each of the forty three test items. The responses of the sixty subjects were then rated together, item by item without any identification as to which group or individual the response belonged. It was hoped, by this means, to keep subjective influences down to a minimum. The final scores are shown in Table X . It can be seen that the normal control group

TABLE X

SENTENCE COMPLETION TEST - DISTRIBUTION OF SCORES

SUBJECT	C GROUP	S GROUP	N GROUP
1	- 8	+ 30	- 14
2	- 24	+ 26	- 19
3	+ 11	+ 24	- 14
4	- 27	+ 15	+ 17
5	- 11	+ 9	+ 48
6	- 8	+ 24	+ 9
7	- 17	+ 20	- 15
8	- 29	+ 21	- 7
9	- 12	+ 20	+ 25
10	- 13	+ 17	+ 8
11	- 15	+ 38	+ 5
12	- 7	+ 11	+ 13
13	- 11	- 2	+ 24
14	+ 10	- 2	+ 20
15	- 6	+ 4	+ 5
16	- 27	+ 27	- 16
17	- 14	+ 5	- 10
18	+ 15	- 9	- 7
19	- 9	+ 13	- 15
20	- 12	+ 13	+ 26
TOTAL GROUP SCORE	- 214	+ 304	+ 83
MEAN GROUP SCORE	- 10.70	+ 15.20	+ 4.15

tend to return definitely negative ('healthy') scores, the schizophrenic group definitely positive ('unhealthy') scores, with the neurotic group adopting roughly an intermediary position. The difference between the means is significant for both patient groups in comparison with the normal controls, but the mean scores also differentiate between the schizophrenic and neurotic groups.

We can thus conclude that, on the basis of this scoring procedure, both patient groups tend to give a more pathological pattern of responses, this being significantly more pronounced in the case of the schizophrenic group.

Rotter's method of scoring provides us with a useful method of comparing the responses of the three groups in respect of one broad variable. For the purposes of the present investigation it is very helpful to use the scores obtained to conduct an item analysis of the test in the same manner as we have dealt with the previous tests. In so doing, we extend our information to allow some indication as to which of the test items account for the greatest differences in scoring among the three groups. The most direct method of conducting an item analysis on the basis of the test scores is to calculate the total score per item for each of the three groups in turn, and to use these figures to construct contingency

tables. The values obtained in this way are illustrated in Table XI . It was felt, however, that as the scores in this case are ratings which are more open to subjective contamination this method might give misleading results. One of the main difficulties is that a cumulative group score for each item would tend to give too much weighting to 'neutral' scores which in many cases refer to responses which are completely lacking in any degree of personal significance. In view of this, it was decided to use an alternative procedure which places less emphasis on the seven point scoring system, concentrating only on positive scores of any value. Taking each test item in turn, a note was made of the number of subjects in each group who returned positive ('unhealthy') scores, regardless of differences in the numerical order (+1, +2, +3) of the scores. The total figures, representing the group incidence of positively rated responses for each item, are indicated on Table XII. Items which, on inspection, appear to indicate significant differences between group responses were tested by the usual contingency tables (see Appendix D). Once again those items which contain scores significantly differentiating both patient groups together from the normal controls are denoted by underlining, while those uniquely differentiating either of the patient groups are indicated in red.

TABLE XI

SENTENCE COMPLETION TEST - TOTAL SCORES PER ITEM

ITEM No.	C GROUP	S GROUP	N GROUP	ITEM No.	C GROUP	S GROUP	N GROUP
1	- 4	0	+ 10	23	+ 13	+ 32	+ 30
2	- 3	+ 12	+ 6	24	+ 7	+ 19	+ 12
3	+ 6	+ 20	+ 8	25	+ 8	+ 8	+ 2
4	- 10	+ 22	- 7	26	- 12	- 22	+ 27
5	- 16	+ 7	- 14	27	+ 4	+ 32	+ 9
6	- 16	+ 2	- 18	28	- 23	+ 10	- 23
7	+ 4	+ 4	+ 10	29	- 13	- 10	+ 22
8	- 16	+ 4	- 15	30	+ 6	+ 20	+ 18
9	+ 4	+ 3	- 10	31	- 3	+ 24	+ 20
10	- 3	- 5	- 11	32	- 5	+ 2	+ 25
11	- 4	+ 8	- 10	33	- 13	+ 5	- 1
12	- 6	+ 11	- 12	34	+ 9	+ 20	+ 16
13	- 7	- 17	- 3	35	- 9	- 2	- 11
14	0	- 14	- 10	36	- 20	+ 9	0
15	+ 15	+ 18	+ 28	37	- 7	- 18	- 2
16	- 12	0	- 15	38	- 20	- 9	- 5
17	- 2	+ 37	- 9	39	- 3	+ 5	+ 8
18	- 12	0	- 14	40	- 11	+ 10	+ 18
19	+ 1	- 9	- 13	41	- 14	- 19	- 12
20	- 22	+ 12	+ 29	42	+ 6	+ 5	+ 12
21	- 6	+ 21	- 14	43	- 1	+ 31	- 8
22	+ 2	+ 17	+ 10	TOTALS	- 214	+ 304	+ 83

T A B L E XII

SENTENCE COMPLETION TEST - ITEM ANALYSIS

(Based on number of subjects giving positive scores (+1, +2, or +3) in each item of the test.)

ITEM No.	C GROUP	S GROUP	N GROUP	ITEM No.	C GROUP	S GROUP	N GROUP
1	1	2	7	23	11	18	19
2	6	8	5	24	9	12	9
3	7	10	6	25	5	7	6
4	2	12	3	26	4	3	17
5	2	10	4	27	5	17	7
6	0	8	1	28	1	11	0
7	9	8	10	29	1	5	14
8	2	9	2	30	9	12	10
9	5	6	4	31	7	17	15
10	7	6	5	32	4	6	16
11	6	12	4	33	5	11	9
12	3	13	5	34	9	16	10
13	3	5	5	35	4	6	5
14	5	7	2	36	3	14	9
15	10	9	7	37	5	2	3
16	7	5	2	38	0	2	7
17	7	16	5	39	4	6	3
18	4	7	6	40	3	13	17
19	6	2	3	41	3	3	2
20	3	15	17	42	11	5	9
21	5	18	4	43	5	16	5
22	4	13	12				

By referring back to the original individual responses, one can note certain characteristic group trends which account for some of the quantitative differences in scores.

Examining first the qualitative differences which lie behind the positive scores returned by both patient groups as compared to the normal controls, the following patterns become evident:-

Item 20 - 'My nerves....'

The responses of both groups to this item are indicative of nervous instability, e.g. - "are shattered.... have always bothered me..... are in a bad way". There are no observable differences between the responses of the neurotic and schizophrenic groups on this item.

Item 22 - 'I suffer.....'

The responses of the two patient groups in this item indicate a variety of complaints. There is, however, a tendency for the neurotic group to again complain of nervous symptoms in comparison with the schizophrenic group whose complaints are more of physical disorder.

Item 23 - 'I failed.....'

Although the responses of both patient groups are again more 'unhealthy' than is the case with the normal

controls. There is also a fairly obvious difference between the two patient groups. In general, the responses of the neurotic group might be interpreted as suggesting an over-all sense of inadequacy, e.g. - "....at everything, ...to face up to things all my life, ... to make a go of things." The responses of the schizophrenic group tend, in contrast, to suggest failure in a more specific direction, e.g. - ".... those that needed me, ... to be what was in me to be, ... as a mother."

Item 31 - 'What pains me.....'

There is, again, a fairly obvious difference in the pattern of unhealthy responses given by the two patient groups. In the case of the neurotic group, the responses are, in a sense, more introverted, relating to personal failure, e.g. - ".... is not having the guts to go on, ... is not keeping my end up, ... is letting things get me down." In contrast to this tendency, the mothers in the schizophrenic group tend to project the source of the pain outside of themselves, e.g. -"..the injustice of life, ... people who are ungrateful, ... the cruelty around me."

Item 36 - 'By myself....'

There is no discernable difference here between the two patient groups, the replies in general indicating a fear

of being alone, e.g. - "…. I am afraid, …. I get nervous."

<u>Item 40</u> - 'I....'

As might be expected, this item brings forth a wide variety of responses, but those of both the neurotic and schizophrenic group tend, in comparison with the normal controls, to be predominantly self critical.

Examining next the items which may be regarded as uniquely characteristic of the schizophrenic group, the following patterns emerge:-

<u>Item 4</u> - 'I want to know....'

A very typical group trend here is for the responses to suggest bewildered resentment at the subject's personal circumstances, e.g. - "…. why God has punished me, …. what is the point of my life, …. what went wrong with my life."

<u>Item 6</u> - 'Back home....'

There is again a clear group tendency for the replies to indicate negative attitudes towards the home, e.g. - "…. I'm no longer happy, …. there's too much to do, …. work, work, work and nothing else."

<u>Item 17</u> - 'I can't....'

There is again a great measure of uniformity in the responses here which indicates some degree of disturbance

in mental function, e.g. - ".... think, ... concentrate, ... help myself". Fourteen of the twenty subjects of the schizophrenic group gave responses of this type.

Item 21 - 'Other people ....'

The responses to this item again show a high measure of agreement and indicate in general either indifferent or negative feelings towards others, e.g. - ".... I can do without, ... should mind their own business, ... cause trouble". Sixteen of the twenty subjects gave responses of this type.

Item 27 - 'I need ....'

There is a tendency here for the responses to express the need for assistance, e.g. - ".... help desperately, ... someone to help me, ... your advice". Eleven of the group give responses which conform to this pattern.

Item 28 - 'My husband ....'

The responses here are very uniform and characteristic, indicating openly negative feelings towards the marriage partner, e.g. - ".... is hopeless, ... is spineless, ... is a fool". The responses of fourteen of the twenty subjects fall into this category.

Item 43 - 'Most men ....'

The responses to this item are perhaps the most consistent in the whole test, and again indicate strong negative attitudes towards the opposite sex, e.g. - ".... are beasts, ... are swine, ... are just like selfish children". Seventeen of the twenty subjects give responses of this type.

Considering finally the responses which might be regarded as uniquely characteristic of the neurotic group, the following tendencies are evident:-

Item 26 - 'The future ....'

The general tendency here is indicative of pessimism or fear in regard to future events, e.g. - ".... is bleak, ... is frightening, ... I dread". Twelve of the neurotic group give responses of this nature.

Item 29 - 'I am best when ....'

The responses here are less uniform but might be taken as indicating personal inadequacy, e.g. - ".... with someone I can lean on, ... nothing is happening, ... I'm asleep".

It is, of course, difficult and perhaps artificial to conceptualise out of a test such as this any general conclusions. According to the scoring procedure used, it would seem, however, that the responses of both patient groups tend to contain more pathological material indicative of mental instability, this being particularly pronounced in the case of the schizophrenic group. Our examination of the content of the significant items might also be interpreted as supporting the picture of the two patient groups which has gradually emerged during the investigation. The responses of the neurotic group seem to typify the subject's recognition of her own personal inadequacy and reduced capacity to cope with life. In the responses of the schizophrenic group, one can also discern personal inadequacy which is, however, characteristically projected outwards in an almost paranoid manner. Again evident in this group is the openly aggressive attitude to the male sex.

4. WORD CONNECTION LIST

This test was used as an alternative to the Maudsley Medical Questionnaire to give some over-all indication of the relative mental stability of the three groups. Each subject's score on this test is indicated in Table XIII. As can be seen from the table, the results here differentiate the neurotic group from the normal controls and the schizophrenic group, the difference between the means being significant. Thus we might say that the performance of this group of mothers of neurotic patients indicates a degree of mental instability and that, in this way, their responses to the test are comparable to those of a group of neurotic subjects. Although the schizophrenic group return slightly higher scores than the normal controls, the tendency is by no means marked and certainly not significant.

The results of this test are thus in contrast to the results obtained on the Sentence Completion Test where the scoring system applied is also described as providing an index on mental stability. The most obvious explanation here is that, although the two tests set out to measure the same broad variable, they do so in quite different ways. The Word Connection List demands only the choice of two alternative responses, the significance of one of these being often rather obvious. In

TABLE XIII

WORD CONNECTION LIST - DISTRIBUTION OF SCORES

	C GROUP	S GROUP	N GROUP
1	12	22	15
2	11	5	22
3	18	22	19
4	18	7	4
5	20	9	14
6	7	3	29
7	9	9	16
8	16	23	20
9	1	0	26
10	6	23	15
11	5	17	18
12	6	11	6
13	6	18	13
14	9	18	21
15	9	9	14
16	14	7	20
17	18	10	18
18	10	5	22
19	18	21	15
20	16	18	19
TOTAL	229	257	346
MEAN	11.45	12.85	17.30

$C_M : N_M \quad t = 3.27$

P is greater than 0.01

$S_M : N_M \quad t = 2.11$

P is greater than 0.05

fact, several of the schizophrenic group subjects declared spontaneously that it was easy to select the 'right word' from the two alternatives. In other words, the form which this test takes makes it a very simple matter to perform defensively and protest a more 'sober' total score than might otherwise result. In the case of the Sentence Completion Test the procedure is less structured and, if the subjects conform to the instructions regarding speed of responses, less open to defensive deliberation. Of these two tests, it seems likely that the Word Connection List provides a more direct measure of neuroticism whereas the Sentence Completion Test provides an assessment of the deviant attitudes expressed by any group. Our previous examination of the form which these deviant attitudes take would suggest that the instability in the schizophrenic group lies in a basic egocentricity and an inability to establish positive, mature, interpersonal relations. In the case of the neurotic group, the basic disturbance might be conceptualised as representing more a recognition of personal inadequacy and inferiority. The contrast between the two groups in this respect will perhaps be made clearer in our consideration of the final personality test in the present battery - the Rorschach Test.

5. RORSCHACH TEST

The individual Rorschach scores for each subject are detailed in Appendix F. In using the Rorschach Test as a research instrument one is inevitably faced with the restrictions imposed by the absence of any completely adequate method of comparing group scores, for example the fact that the total number of responses returned by different subjects may vary quite widely alters the probability of any particular category of response being present in the record. Another difficulty lies in the fact that, while most of the Rorschach categories can be expressed numerically (usually in the form of a percentage of the total number of responses), there are others (e.g. colour shock, confabulation, etc.) which are indicated only by their presence or absence in any record. The varied statistical procedures which have been applied to the Rorschach Test by research investigators have been strongly criticised by Cronbach (1949) in a paper to which we have already alluded. The disadvantages of the traditional method of comparing the mean group scores for each of the Rorschach response categories have been thoroughly exposed by Cronbach and need no elaboration here. Cronbach suggests that a less objectionable alternative statistical procedure here is to arrange

all the scoring categories in such a manner that a Chi-^{2} analysis can be applied. It is further suggested that the analysis should be directed in such a way as to answer a number of specific hypotheses regarding group differences on the different Rorschach scoring categories. Thus, rather than comparing the three groups on the basis of, say, percentage of animal content (A%), the procedure here would be to compare the number of subjects in each group with a high A% (i.e. above a pre-established 'normal' level).

This method of analysis has the added advantage in that it overcomes the difficulty of introducing the Rorschach signs which cannot normally be expressed as percentages or as quantitative scores. For interest, however, the mean scores for each of the main scoring categories are tabulated in Table XIV.

Table XV illustrates the method of analysis which was applied to evaluate the differences between the three groups. The analysis has been restricted to scores which lie outside the normal limits. These limits were established prior to the actual analysis and were decided on by reference to Klopfer and Kelley (1946). Under the three columns of the table is noted the number of subjects in each of the three groups whose records conform to the category in question. Taking Item 16 as an

TABLE XIV

RORSCHACH TEST - MEAN GROUP SCORES

	C GROUP	S GROUP	N GROUP
R	25.90	28.75	22.05
T	48.39	47.76	45.13
RT	8.83	19.58	12.75
F%	41.60	50.15	51.50
F+%	59.80	51.60	63.45
F-%	1.65	10.20	1.60
M	2.15	1.20	0.95
FM	2.10	2.60	2.35
m	0.20	0.50	0.85
ΣC	2.73	3.05	3.15
FC	3.10	2.25	1.45
CF	0.95	1.65	1.80
C	0.15	0.20	0.45
Σc	1.40	2.35	0.65
A%	41.70	44.65	57.20
H%	13.40	12.10	14.15
W%	39.95	30.50	37.95
D%	53.50	55.20	54.40
d%	5.55	7.25	6.25
Dd + S%	1.00	6.65	0.90

TABLE XV

RORSCHACH TEST - COMPARATIVE ANALYSIS OF GROUP SCORES

ITEM No.	CATEGORY	No. OF SUBJECTS C	S	N
1	Low R (<20)	6	2	7
2	High R (>40)	3	2	0
3	Low Av. T (<30)	1	0	0
4	High Av. T (>60)	2	3	1
5	Low F% (<20)	1	0	1
6	High F% (>50)	4	9	9
7	High F-% (>10)	1	7	0
8	M = 2 or less	10	•••18	•••19
9	CF + C>FC	3	5	••14
10	$\Sigma c > \Sigma C$	3	•10	2
11	$M > 2 \times \Sigma C$	4	0	0
12	$\Sigma C > 2 \times M$	5	••9	••15
13	High A% (>50)	5	6	••14
14	K + k (excluding Card VII)	4	3	•••14
15	Low W% (<20)	0	••6	0
16	High W% (>30)	13	6	16
17	Low D% (<45)	6	4	2
18	High D% (>55)	7	10	9
19	Low d% (<5)	0	2	1
20	High d% (>15)	1	1	2
21	High Dd + S% (>10)	0	••6	0
22	Colour Shock	4	3	•11
23	Cards Rejected	2	2	•9
24	Confabulation/Contamination	0	•••11	2
25	Personal References	1	•7	0
26	Morbid/Bizarre Responses	1	•9	2

example, we may see by reference to the table that this considers subjects showing a high A%, the limits in this case being a percentage of animal content over 50%. This occurs in the case of five of the normal controls, six of the schizophrenic group and fourteen of the subjects in the neurotic group. With this example in mind, most of the categories in Table XV are self-explanatory, although a few might require additional explanation. Under Items 11 and 12 is considered the balance between movement and colour responses. The lack of balance in the relationship is examined in both directions. In the normal balance here (again based on Klopfer and Kelley) it is assumed that the total of movement responses does not exceed twice the sum of colour responses, or vice versa. Items 11 and 12 thus concern records showing an abnormal relationship between two response categories. Item 14 considers the number of subjects who return deviant or toned down shading effects to any of the ten Rorschach cards, excepting Card 7, this exception being made as Card 7 elicits a deviant response which appeared to be determined by the card rather than by the subject's response to it. Under Item 23 is noted the number of subjects who reject any of the ten cards. Item 24 similarly lists the number of subjects in each group who return responses indicative of either confabulation or contamination.

Item 26 deals with morbid or bizarre responses in the same way and under Item 25 is noted the number of subjects who give personal references, symbolically interpreting the blot in terms of their own personality, e.g. "This is like a big black hole. It reminds me of my life and the way my mind is working just now". In establishing the significance of various items, we are again faced with the vexing question of inflating probabilities by applying Chi-^{2} tests to a large number of scoring categories within the same test. Although only twenty-six scoring categories are considered in Table XV, it is almost impossible to estimate the number of categories which have been rejected by implication. However, the problem is perhaps less acute here as compared with the previous test in the battery. The majority of the twenty-six scoring categories considered in Table XV were selected on the basis of the investigator's own hypothesis that the Rorschach Test might show group differences in a predictable direction. On the basis of the information already gained from the interview material and the other tests in the present battery it seemed possible that the schizophrenic group might show a basically schizoid element in their responses while the neurotic group might show a pattern indicative of a general neurotic emotional instability. Our purpose here was to test a specific pre-

established hypothesis and to some extent this frees us from the objections levelled at critical Chi-^{2} tests. In view of this, items acquiring the probability of 5% or over have been accepted for this test. Although the level of significance is indicated (* = 5% level; ** = 2% level; *** = 1% level), the usual method has been used to indicate at a glance the significant items and the direction in which the significance lies. The underlined figures indicate the items which differentiate the two patient groups together from the normal controls while those marked in red establish the items which are uniquely characteristic of either the schizophrenic or neurotic group.

It can be seen that both patient groups are together differentiated from the normal control group in that their responses show a tendency towards fewer human movement responses (M less than 2) or for their colour responses to completely outweigh the movement responses (total of colour responses more than twice the total of human movement responses). This might be interpreted as indicating a lack of control of impulses in emotional contact with the outside environment, in other words the interpretation is that of a deficiency of adequate sublimation.

The following responses appear to be uniquely

characteristic of the schizophrenic group..... a high F-%, shading responses dominating colour responses, a low W%, high Dd + S%, presence of confabulation and contamination, personal reference, and morbid and bizarre content. Let us attempt to examine this pattern on the basis of the usual Rorschach interpretations. The disruption of form level represented by the higher F-% suggests a lack of control and inadequate contact with reality. This tendency to distort reality is again evident in the relative preponderance of confabulation, contamination and the higher number of morbid and bizarre responses which appear in this group. A deficiency in abstract thinking and a tendency towards concrete perception is indicated by the low W% and the tendency towards personal identification with the blots. The high Dd + S% is achieved mainly through an increase in the number of white space responses given, and might thus be interpreted as representing an obsessional and negative attitude towards the environment. Finally, the predominance of shading over colour responses implies a degree of restriction of the subject's emotional contact with her environment.

The responses uniquely characteristic of the neurotic group are as follows ..... CF + C responses outnumbering FC responses, high A%, high number of K or k responses, colour shock,

and an increase in the number of means rejected. One might interpret this pattern as suggesting a degree of immaturity, a lack of normal mature emotional inhibition and resulting inner anxiety.

It would appear, indeed, that our original hypothesis has been to a great extent verified. The resemblance of the pattern characteristic of the mothers of schizophrenics to the typical Rorschach pattern of schizophrenia is impressive. The present pattern might indeed by reasonably described as schizoid. Similarly the characteristic pattern of the mothers of neurotics is indicative of neurotic disturbance and is in fact not atypical of the pattern which one expects from patients with hysterical tendencies. This finding as applied to the schizophrenic group has been noted by previous investigators. Muller (1950) applied the Rorschach Test to forty schizophrenic patients and found that a number of them, although clinically normal, showed evidence in their test responses of severe character disturbance in the direction of schizophrenia. Modonesi (1951) made a similar finding after giving the Rorschach Test to ten relatives of schizophrenic patients. It is thus of some interest that a consideration of the responses which identified the two patient groups leads us to the conclusion that the behaviour of these mothers on the Rorschach Test

corresponds to a great extent with the performance one might expect to be given by their schizophrenic or neurotic offspring.

SECTION 5

GENERAL SUMMARY AND CONCLUSIONS

Before finally reviewing the findings of the present study and allowing ourselves to speculate upon their bearing on the aetiology of the schizophrenic condition, it is perhaps as well to mention a few obvious limitations. The arguments in favour of using comparatively small groups in an investigation of this type have already been discussed. The size of the samples involved, however, does limit the scope of the enquiry and prevent the investigation of inter-group differences which would be more readily examined in a larger scale project. No attempt, for example, has been made to compare the respective attitudes of the mothers to male and female schizophrenic offspring. Our data suggests that the psychopathology of these women is such that their reaction to a male offspring would be the more intense and destructive, but the numbers involved here do not make a systematic comparison possible. Pertinent to this question is the work of Kohn and Clausen (1956) which demonstrates differences in patterns of parental authority between <u>normal</u> males and females. This investigation also indicated that both schizophrenic males and females report the same parental patterns of strong maternal and weak paternal authority which is found to be fairly typical in the rearing of normal <u>females</u>. We might conclude then that, even if there is no sex difference in the parental attitudes

experienced by schizophrenic males and females, the combination of a dominant mother and weak father would be more harmful to the development of the male offspring.

In the present study the father's role has only been seen indirectly, through the eyes of the mother. A number of the fathers in the schizophrenic group were seen separately during the course of the interview, although this was incidental to the main study. One's impression of these fathers was that they conformed closely to the picture of the submissive, emasculated male drawn by their wives. In a few cases the father struck one as being not so much submissive as disinterested in his role in the home. Other investigators, (Lids, Parker and Cornelison, 1956; Lidz, Cornelison, Fleck and Terry, 1957; Bowen et al, 1959) who have made a direct study of the paternal role in schizophrenia, have also laid emphasis on the negative role played by the father. Myers (1956), in a factorial study of the schizophrenic's family history, found the absence of a strong paternal figure to be one of the most constant features involved. If the schizophrenic is to be regarded as in any way a product of his familial environment, then the father's role is obviously of great importance. As interest in the present study has been primarily directed to the maternal role, we have tended to limit his significance to a reflection of the mother's object choice.

Apart from the case of only children, the family unit

is not, of course, restricted to the triangle of parents and the schizophrenic offspring. The impact of parental attitudes upon the development of the schizophrenic cannot be fully assessed unless we take into account the siblings who, though reared by the same parents, do not become schizophrenic. It may, of course, be argued that, as each human relationship is a unique one, the maternal influence may vary greatly, both in its form and intensity, and that the pathological mother-child relationship is specific only to the schizophrenic patient. This argument is, however, far from convincing and there is an obvious gap in our information which is also apparent in previous investigations. Again, during the course of this study, contact was made with a number of siblings of the schizophrenic patients. In some cases these siblings themselves made contact with the express purpose of spontaneously relating the effect of the mother's behaviour on the patient's eventual breakdown. In one such case every member of the family, with the exception of the patient, had left home at the earliest opportunity. The patient's brother, who had joined the Merchant Navy on leaving school, declared - "He was the unlucky one who didn't manage to break away. I'm sure I would have been here today if I hadn't got out of that terrible atmosphere at home." In other instances the siblings who were interviewed were either still under the parental wing or had married but still had close contact with their parents.

One's impression of these siblings was that they showed clear evidence of neurotic disturbances. A young married woman, sister of a schizophrenic patient, for example, confided that she had come to an arrangement with her husband that their relationship should exclude sexual contact because ".... that sort of thing makes me ill and I would be too disgusted with him to carry on". Without any systematic examination, however, it would be obviously foolhardy to generalise such impressions and conclude that all the siblings of the patients were neurotic unless they had been fortunate enough to escape from their home environment at an early age. From the reports given in the present study it would seem highly likely that many of the siblings had survived their early rearing to have made a reasonably normal and stable adjustment to adult life. We will shortly return to the implications of such circumstances in attempting to assess the effect of the mother-child relationship on the aetiology of schizophrenia. At present it is only meant to draw attention to the need for a corresponding comparative study of the siblings of schizophrenic patients.

Bearing in mind these and other limitations inherent in the present study we might briefly summarise the main findings as follows:-

The basic hypothesis that the mothers of schizophrenic patients display a uniform pattern of personality traits, which is

not evident in mothers of normals or neurotics, has been largely verified. The features composing this characteristic pattern are mainly those which have been observed in previous studies of a similar nature. After an unhappy and insecure childhood, freqnently aggravated by parental loss, they show a repeated failure to make an adequate social adjustment. The relationships they do form with others are coloured by their need to manipulate others in accordance with their basic egocentric needs. Their object choice in marriage is that of a weak and submissive male, resembling their own father, who, unless he remains detached from family events, is quickly and effectively emasculated. The failure of the marriage is determined further by the mother's intense preoccupation with, and abhorrence of, all forms of sexual activity. The children of the marriage, while apparently accepted and adequately cared for in infancy, are soon exposed to the influence of a dominant mother whose behaviour towards them is effectively designed to isolate them from others and establish a continuing dependency on her. This curious combination of emotional detachment and smothering devotion results in a symbiotic relationship of such intensity that we can appreciate Hill's comment - "What is a schizophrenic profited if he shall gain the whole world and lose his own mother" (Hill, 1955). Perhaps the most outstanding feature, which appears in all aspects of their behaviour, is the mother's capacity to project, deny,

rationalise and distort reality to suit her own needs. Rather than adjust to the external world she adjusts the external world to her at the expense of an adequate relationship to reality. This aspect of the mother's behaviour is clearly evident in face to face contact during interview and in her response to personality testing. It is perhaps most clearly demonstrated in the Rorschach Test where her performance contains a degree of thought disorder and reality distortion to which the term 'schizoid' is applicable.

In the picture afforded of the early history of the schizophrenic we find many of the features which have been traditionally observed and noted by others who have studied the level of adjustment made by patients prior to the onset of the schizophrenic illness. The general 'schizoid' nature of the patient's personality conforms to the numerous other confirmations of this classical assumption(Bleuler, 1954; Polatin and Hoch, 1947; Silverberg, 1947; Wilson, 1951; Gillies, 1958). Their failure to achieve occupational success has again been reported by many workers (e.g. Rabin, 1947; Shakow, 1946). The lifelong failure to make adequate object relations, so evident in the present group has also been well established (Edelsten, 1949; Lewis, 1949). Our comparison has shown that such features are not, however, specific to the early history of the schizophrenic as they figure

also in the histories of neurotics. What is specific, however, is the attitude of the mother to the early emergence of schizoid behaviour in the schizophrenic offspring. While the neurotic is encouraged to make a better adjustment to others, the schizoid behaviour of the schizophrenic is accepted and approved by the mother.

Having established the presence and form of pathological features in the maternal relationship we are faced with the more difficult problem of relating such factors to the aetiology of schizophrenia.

"The basis of sanity is correct and automatic recognition of the breach between subjective mental individual experiences in the world and the knowledge of the status of the world as it actually exists.... It is therefore obvious that in schizophrenia it is the ego that is ill" (Federn, 1953). Federn's description of schizophrenia as being basically a disturbance of ego functions and a failure of adjustment to reality would be generally excepted even by those who deny the importance of environmental experience to the development of schizophrenia. In order to assess the possible effects of a pathological mother-child relationship on the ego functions let us first refer briefly to the course of normal ego development. The work of Piaget (1929, 1930, 1932, 1951) and other authorities on child behaviour has demonstrated that adjustment to reality is

not fully attained until late childhood. During the 'adualistic' stage of infancy there is no differentiation between the self and the outside world, no self awareness and no consciousness of external objects. Even in early childhood, when the child has become a fully conscious being, his thinking is still essentially egocentric and limited by the incomplete differentiation between the self and the external world. The child's interpretation of the world around him differs from that of the normal adult in that he - "does not conform to reality but rather deforms reality moulding or 'assimilating' it into something which subjectively concerns him, rather than adapting or 'accommodating' himself to it" (Freeman and McGhie, 1957). It is only after a long process of trial and error that he adjusts to objective reality as it is and becomes capable of reality adapted thought and action. Out of this process of differentiation between external reality and inner mentality emerges the 'self' as an object distinct from all other objects. Equipped with the basic differentiation of the self as a figure apart from the background of environment, the child is able to acquire other differentiations which are functions of the healthy ego. Of perhaps prime importance among such functions is the ego's ability to select from the background of past apperceptions only those which are pertinent and applicable to dealing with a reality situation in the present. This function

of reality testing, what Linn has appropriately termed the 'scanning' operation, is described more fully in Bellak's theoretical paper on the psychoanalytic concept of the ego as related to schizophrenia. "Thus.... the ego selects and organises these apperceptions which are conscious or can easily become conscious and which are continuously part of the contemporary apperception in a way which permits one to differentiate.. various figure and ground judgements, e.g. external versus internal, and permits one generally to exercise "good judgement" founded upon past experience as to what is safe and what is not, what is probably and what is not..... This world slowly evolves adaptively into the clearly perceived, logically related one of normal adult behaviour" (Bellak, 1958). These ego functions, which permit the normal adult to keep a firm grip on reality, do not, however, develop in a vacuum but through the individual's interpersonal reactions with others in his environment. In childhood the main media of influence is that of the parents upon whose example the child builds his own frame of reference for interpreting and dealing with reality.

Relating such aspects of normal ego development to what we know of the family background of the schizophrenic we might make a hypothetical reconstruction of the possible role which the mother's influence may play. As far as our observations

indicate, the mother's care for the child in early infancy is adequate and within normal limits. The maternal attitude appears, however, to undergo a pathological change as soon as the child attempts to take his first steps in the direction of learning to become a separate individual with a will of his own. By a constant series of manipulations the mother continues to effectively prevent the growing child establishing adequate object relations and a mature adjustment to reality. Apart from the direct effect of the mother's denial of the child's individuality, the ego development of the schizophrenic may also be crippled by constant exposure to a paralogical system of thinking which subordinates objective reality to subjective needs. If in the course of one interview these women are capable of creating an almost tangible atmosphere of confusion, one would suppose that reality testing might be severely impaired. This view of schizophrenia as a breakdown in communication due to parental distortions in the communication process has been expressed before, and notably by Lidz and his colleagues (1958) who have examined this process of 'transmission of irrationality' in schizophrenic families. After an intensive three year study of fifteen families containing a schizophrenic offspring, the authors came to the following basic conclusion - "... the schizophrenic patient is more prone to withdraw through distortion of his symbolisation

of reality than other patients, because his foundation in reality testing is precarious, having been raised amidst irrationality and chronically exposed to intrafamilial communications that distort and deny what should be the obvious interpretation of the environment, including the recognition and understanding of impulses and the affective behaviour of members of the family" (Lidz et al, 1958). On such lines a purely environmental hypothesis may be constructed, stressing not the specific infantile trauma caused by a 'schizophrenogenic' or 'perverse' mother suggested by Rosen (1953), but the continual pattern of stress imposed by abnormal familial relationships throughout childhood and adolescence.

This is one way of interpreting the evidence of pathological maternal behaviour but the finding may be also interpreted as pointing to an entirely different, indeed an opposite, view of the aetiology of schizophrenia. The schizoid personality pattern which is so evident in the mothers of schizophrenic patients may be taken as suggesting that the process of transmission is not environmental but genetic. The investigations of Kallman (1946, 1947, 1948, 1953), Slater (1953), Gardner and Stephens (1949), Wittermanns and Schults (1950), and others argue strongly for the existence of a genetic basis to schizophrenia. Might it not then be equally reasonable to

conclude that the present findings, along with those of previous investigations, merely add to the evidence of a genetic strain in schizophrenia? On consideration, such an interpretation would seem, however, to be as oversimplified and misleading as the other extreme view of a purely environmental mode of transmission. One would surely expect that exposure to such an abnormal and ego-restrictive pattern of rearing would have disastrous effects on any individual's development. Kallmann himself, while in no doubt as to the existence of a genetic substrate in schizophrenia, is careful to add that "the final outcome of the disease is the result of intricate interactions of varying genetic and environmental influences".

In fact, the two views expressed here are not inconsistent with each other. If we accept that the schizophrenic condition is fundamentally a disorganisation of the ego we are still faced with the question as to the cause of this disorganisation. Although the development of a healthy ego which allows complete self differentiation is undoubtedly influenced by the individual's interactions with others in his interpersonal environment, it is equally clear that an adequate biological substrate must also exist for the necessary development to take place. One might then conclude that, developmentally, the ego functions may be impaired, either by inadequate functioning of the

biological substrate or by unfavourable influences in the environmental forces to which we are subjected at any stage of development. The origin of inadequate ego functioning thus lies in the psychobiological development of the individual and is most likely to be due to an interaction of both organic and psychological factors. The schizophrenic, we might suggest, is then predisposed towards inadequate ego development by a genetic or constitutional weakness. His already precarious hold on to reality is further loosened by the forces in the family which actively discourage his attempts to come to terms with himself and his environment. As is the case with other aspects of mental development such as intelligence, inheritance sets the limits of the individual's capacity for development and upon his environmental experiences will depend the degree to which these capacities or incapacities will actually be realised. This interpretation also offers an explanation for one of the problems which is otherwise difficult to reconcile with a purely environmental explanation of the effects of the mother-child relationship in schizophrenia. We refer here to the existence of a sibling or siblings who survive the familial influences to emerge, if not unscathed, certainly non-schizophrenic. In such cases we would hypothesise that these siblings lacked the constitutional predisposition that renders the schizophrenic

offspring so vulnerable to maternal pressures.

The study finally raises many questions which, if answered, would greatly clarify the whole question of the relation between childhood development and adult illness. A number of these questions have already been introduced. A larger scale investigation built on similar lines but involving larger groups would have obvious advantages, particularly in assessing the sex differences in the backgrounds of male and female schizophrenics. Our understanding of the father's role in the family pattern is still obscure and there is an obvious need for studies of non-schizophrenic siblings. (The latter issue is to be the subject of a proposed project to be initiated soon at the Psychiatric Division of the National Institute of Mental Health, Bethesda, under Dr. H. Pollin.) A study of schizophrenic patients who had been adopted and raised from infancy by step-parents would also provide a method of comparing the genetic and environmental media of transmission. Finally, in the field of child psychiatry, it might be possible to study family patterns at an early state to assess the value of existing observations in predicting the likelihood of the emergence of a schizophrenic offspring in certain families. If, in fact, the findings of this and other similar studies of the adult schizophrenic are to be of

any real practical value, it is to Child Psychiatry that we must hopefully look for the conclusive establishment of our concepts and the possibility of using the knowledge gained to limit or prevent the onset of schizophrenia.

Although modern research has produced great advances in the treatment of schizophrenia, the improvements attained have so far been primarily symptomatic. In our present state of knowledge of the vast problem of the schizophrenic condition it seems highly unlikely that a specific form of physical therapy will ever be devised which is effective in all cases covered by the still vaguely delineated nosological boundaries of schizophrenia. The more important problem of prevention is, as yet, not even on the horison. The wider our knowledge of the many factors involved in the production of this most terrible of all psychiatric disorders, the more hopeful is the possibility of coming to terms with it. This study is presented in the hope that in its small way such work will add another pebble to the stepping stones which will guide us towards this eventual goal.

APPENDIX A

STANDARD INTERVIEW ANALYSIS

COMPARATIVE ANALYSIS OF INTERVIEW MATERIAL

	1 C	1 S	1 N	2 S'	3 N'
A. THE INTERVIEWER'S IMPRESSIONS OF THE INFORMANT					
1. In her attitude to the interviews					
She was natural and positive	17	4	15	4	15
She was ambivalent and manipulative	1	11	4	11	4
She was negative, openly hostile and suspicious	2	5	1	5	1
She avoided interview in a covert fashion	2	12	0	12	0
She admitted disturbances in health coincident with the interviewing period	0	11	1	11	1
2. In her mood					
She seemed nervous, apprehensive and anxious	4	3	6	3	6
She was calm and relaxed	13	2	9	2	9
She appeared depressed	1	6	1	6	1
She was markedly labile	2	2	3	2	3
There was a distinct lack of affect	0	7	1	7	1
3. In her speech					
She was spontaneous and had a good flow of speech	15	13	17	13	17
She was guarded and seldom spoke spontaneously	3	6	3	6	3
She was lucid and coherent	18	7	16	7	16
She was often irrelevant and incomprehensible	2	13	4	13	4
She tended to dominate the pattern of conversation	4	13	6	13	6

B. /

	1 C	1 S	1 N	2 S'	3 N'
B. THE INFORMANT SAID OF THE PATIENT'S LIFE HISTORY					
1. Regarding the pregnancy and birth					
That the pregnancy was normal and uneventful	13	16	16	16	16
That the pregnancy was difficult (recurrent sickness, etc.)	6	4	4	4	4
That the birth was normal	14	14	13	14	13
That labour was protracted and the birth painful	5	2	7	2	7
That it was an instrument delivery	1	4	4	4	4
That she was unwell for some time afterwards	2	2	2	2	2
That she did not wish to have the baby	0	4	3	4	3
2. Regarding feeding in infancy					
That the patient was breast fed	14	11	6	11	6
That the patient was bottle fed	6	9	14	9	14
That weaning was gradual	5	10	8	10	8
That weaning was abrupt	14	10	10	10	10
That weaning was completed by 12 months	17	18	10	18	10
That weaning was not completed until the second year	3	2	6	2	6
That she could not remember the time of weaning	0	0	2	0	2
That there were feeding difficulties	3	1	2	1	2
3. Regarding toilet training					
That toilet training was commenced in the early months	17	2	13	2	13
That toilet training was not commenced until the second year	2	2	1	2	1
That toilet training was completed by the end of the first year	14	2	10	2	10
That she could not remember when toilet training was initiated or completed	0	10	4	10	4
That no particular difficulties arose during toilet training	14	17	13	17	13
That toilet training later broke down	1	9	5	9	5

	1 C	1 S	1 N	2 S'	3 N'
4. Regarding his general characteristics as a child					
That he was fastidious, and particularly clean in his habits	6	13	12	13	12
That he was active and mischievous	10	2	5	2	5
That he was an extremely attractive infant	2	1	8	1	8
That he was stubborn and self assertive	6	1	5	1	5
That he was very placid, quiet and rather inactive	4	9	5	9	5
That he was on the whole a contented child and easy to rear	9	1	17	1	17
That he was very difficult to rear	1	1	2	1	2
That he was nervous and easily frightened	4	10	7	10	7
That he was particularly happy natured and even tempered as a child	9	2	5	2	5
That he was emotionally labile	2	4	11	4	11
5. Regarding his health					
That it was excellent	14	17	5	17	5
That it was fair	4	1	2	1	2
That it was poor	2	2	13	2	13
That he had nervous symptoms in childhood	1	7	8	7	8
That these required treatment	0	3	2	3	2
6. Regarding his schooling					
That there was some initial trouble in starting school	3	9	6	9	6
That this continued throughout his schooling	0	7	3	7	3
That he was shy and passive at school, lacking confidence	1	5	8	5	8
That he was over-conscientious, worried about exams, etc.	4	7	15	7	15
That he was very bright at school	10	7	11	7	11
That he was an average scholar	7	10	8	10	8
That he was a poor scholar	3	3	1	3	1
That he was a poor scholar in relation to his siblings who are described as being more intelligent	4	6	2	6	2

	C (1)	S (1)	N (1)	S' (2)	N' (3)
That he was the most intelligent of her children	2	2	6	2	6

7. Regarding his occupation

	C	S	N	S'	N'
That he worked with people rather than with things	9	7	4	7	4
That his work involved a long period of training	10	6	3	6	3
That he was a student	3	1	6	1	6
That he was dissuaded from following his own vocational preference	0	4	9	4	9
That he had a very good work record	14	7	11	7	11
That he had a very poor and erratic work record	3	13	6	13	6

8. Regarding his interests

	C	S	N	S'	N'
That these included reading	5	9	8	9	8
" " " sport	8	10	12	10	12
" " " crafts	5	2	4	2	4
" " " arts	4	9	9	9	9
" " " entertainment	4	10	11	10	11
" " " membership of social groups	13	3	5	3	5
That he is particularly interested in religious matters	1	3	7	3	7
That his interests are very wide	11	2	9	2	9
That his interests are very limited and narrow	2	11	5	11	5

9. Regarding his relations with his siblings

	C	S	N	S'	N'
That he got on well with his siblings	16	9	13	9	13
That he was quieter and more dependent than his siblings	5	10	4	10	4
That he reacted adversely to the birth of a sibling	0	4	0	4	0

	1 C	1 S	1 N	2 S'	3 N'
10. Regarding his relations with his parents					
That he is very close to his father	5	5	8	5	8
That he is like his father in nature	4	4	2	4	2
That he is closer to his mother	5	3	5	3	5
That he is like his mother in nature	3	3	4	3	4
That he is over-dependent upon his mother	2	3	8	3	8
That the father openly prefers a sibling	3	2	7	2	7
That he seldom confides in his parents	8	7	3	7	3
That he is very open and confides in his parents a great deal	5	10	11	10	11
That he was very affectionate as a child	7	2	10	2	10
That he is unaffectionate	0	6	1	6	1
That the informant describes herself as undemonstrative and unaffectionate	1	6	2	6	2
11. Regarding his relations with others					
That he got on well with others (good mixer, popular)	16	7	11	7	11
That he was very shy and self-conscious in company	2	8	7	8	7
That he had one close friend rather than mixing with many	2	5	3	5	3
In his relations with others he took an assertive 'leader' role	8	3	1	3	1
In his relations with others he took a very submissive role	1	9	3	9	3
12. Regarding his relations with the opposite sex					
That he had a number of friends of the opposite sex and enjoyed their company	9	2	11	2	11
That he had no interest in the opposite sex	4	12	6	12	6
That his mother approved of his lack of interest in the opposite sex	1	8	1	8	1
That he had only one companion of the opposite sex	7	3	3	3	3

	C	1 S	1 N	2 S'	3 N'
That he married the only girl friend	6	1	1	1	1
That he did marry	13	3	7	3	7
That he did not marry	7	17	13	17	13
That his mother disapproved of the marriage	1	3	4	3	4
That she disapproved of the marriage partner	2	3	4	3	4
That he was cold and sexually frigid	2	9	4	9	4
That he was repeatedly disappointed in love	2	4	8	4	8

C. THE INFORMANT SAID OF THE PATIENT'S ILLNESS

	C	1 S	1 N	2 S'	3 N'
1. That the patient was regarded as 'normal' until his illness	-	15	7	15	7
2. That the first signs of the illness included:					
Phobic behaviour	-	0	8	0	8
Obsessional behaviour	-	0	2	0	2
General depression	-	8	3	8	3
Somatic symptoms	-	0	7	0	7
Loss of appetite amounting to anorexic symptoms	-	6	8	6	8
Aggression (particularly against the mother)	-	4	1	4	1
Expression of paranoid ideas	-	5	0	5	0
Withdrawal from environment	-	5	1	5	1
Confusional symptoms	-	2	1	2	1
Increased psychomotor activity	-	1	1	1	1
Acute anxiety, panic attacks	-	2	5	2	5
General retardation	-	11	2	11	2
3. That the first symptoms were coincidental in time with:					
Leaving home for the first time	-	8	1	8	1
A physical illness	-	2	4	2	4
Object loss (brother, friend, etc.)	-	5	2	5	2

	C	1 S	1 N	2 S'	3 N'
Worry over work or studies	-	3	7	3	7
No particular event	-	2	4	2	4
4. That the mother considered the illness to be directly due to:					
Loneliness caused by absence from home	-	6	0	6	0
Sexual matters	-	8	0	8	0
Father's ill treatment of mother	-	3	1	3	1
Worry over work or studies	-	2	4	2	4
Early severe physical illness	-	0	6	0	6
Object loss	-	1	4	1	4
Childhood trauma	-	0	2	0	2
No opinion expressed	-	0	3	0	3
5. That she considered the illness to be the development of lifelong difficulties	-	3	13	3	13
D. THE INFORMANT SAID OF HERSELF					
1. Regarding her parents' marriage					
That it was on the whole happy	16	8	13	8	13
That it was on the whole unhappy	4	12	7	12	7
That it was disrupted through the separation, divorce or death of one parent	0	13	5	13	5
2. Regarding her own mother					
That she was a kindly and warmhearted person	9	7	13	7	13
That she was inclined to be strict and domineering	4	3	4	3	4
That she was very sociable and popular with others	6	2	8	2	8

	C	1 S	1 N	2 S'	3 N'
That she was detached and unapproachable	0	1	2	1	2
That she was very hypochondriacal and difficult	1	0	1	0	1
That she neglected the family	0	0	2	0	2
That she made the major decisions in the home	8	2	4	2	4
That she died when the informant was young	0	2	0	2	0
3. Regarding her own father					
That he was warmhearted and affectionate	12	2	7	2	7
That he was placid and easy going in nature	9	3	4	3	4
That he was inclined to be very severe and strict	4	5	6	5	6
That he had a strong character	6	1	4	1	4
That he had a very weak character	2	7	1	7	1
That he was unapproachable and distant	3	12	4	12	4
That he died when the informant was young	0	7	5	7	5
That the informant was more attached to her father than her mother	3	3	8	3	8
That her father and mother had a very close relationship	10	3	9	3	9
4. Regarding her own childhood					
That she was, as a child, wilful and active	9	1	6	1	6
That she was sensitive and shy	5	11	4	11	4
That she was nervous and easily frightened	1	2	7	2	7
That she had specific fears or phobias	0	1	6	1	6
That her childhood was on the whole happy	14	7	16	7	16
That she was on the whole unhappy	2	13	4	13	4
5. Regarding her occupation					
That she worked only in the home	3	9	2	9	2
That she was happy at her work	16	10	16	10	16
She expressed regret at not continuing her career	1	8	0	8	0

	1 C	1 S	1 N	2 S'	3 N'
6. Regarding her relations with others					
That she had always enjoyed company	14	1	13	1	13
That she enjoyed company but sometimes prefers to be alone	6	5	2	5	2
That she has never enjoyed company, has few social interests and prefers to be alone	0	14	4	14	4
That in adult life she has been rather shy	8	1	5	1	5
That she leads a very active life, with wide social interests	8	0	12	0	12
That her interests centre narrowly on her family and the home	6	12	5	12	5
7. Regarding her relations with the opposite sex before marriage					
That she had many boyfriends	13	4	14	4	14
That her husband was her first boyfriend	7	14	4	14	4
That she was particularly shy with boys	3	6	2	6	2
That she was regarded as being emotionally cold with the opposite sex	2	10	5	10	5
8. Regarding her husband					
That he is very placid, easy going and good natured	8	4	13	4	13
That he is badtempered and aggressive	3	5	3	5	3
That he is very active, sociable and enjoys company	5	2	5	2	5
That he has a domineering and forceful manner	2	3	3	3	3
That he avoids responsibility in the home	5	12	4	12	4
That he is lacking in ambition and drive	3	9	2	9	2
That he is rather shy, unsociable and a poor mixer	11	9	6	9	6
That he drinks heavily	1	5	7	5	7
That he has fewer outside social interests than his wife	7	0	6	0	6
That he is considerably older than his wife (9 Yrs. +)	2	7	2	7	2
That the informant married to get away from an unhappy home life	1	8	4	8	4

	1 C	1 S	1 N	2 S'	3 N'
That the marriage was frankly unhappy	2	11	5	11	5
That the marriage has been broken (separation or divorce)	0	6	1	6	1
9. Regarding the physical side of their marriage					
It has been considered to be a satisfactory and important part of their relationship	14	3	7	3	7
It has been considered to be of minor importance giving only limited satisfaction	6	6	12	6	12
That she has found their sexual relations frankly repellent	0	10	1	10	1
That their relationship was devoid of sentiment and feeling	1	9	3	9	3
10. Regarding the informant's attitude to her other children					
That she was particularly attached to one of the other children	0	6	2	6	2
That she was very critical about the marriage made by her other children	1	6	1	6	1
11. Regarding her own health					
That her physical health has been very unsatisfactory	1	10	2	10	2
That she has enjoyed good physical health	14	3	13	3	13
That she complained of nervous symptoms and disorders	1	5	7	5	7
That the involutional period had created difficulties	4	3	8	3	8

RANK CORRELATION OF INTERVIEW SCORES (SECTIONS B and D)

SUBJECT	SECTION B SCORE	SECTION D SCORE	R_B	R_D	d $(R_D - R_B)$	d^2
1	67	129	6	8	2	4
2	48	114	13.5	12	- 1.5	2.25
3	70	136	5	6	1	1
4	60	110	9	13	4	16
5	48	109	13.5	14	0.5	0.25
6.	34	95	16	18	2	4
7	79	169	2	2	0	0
8	66	121	7	10	3	9
9	29	86	18	20	2	4
10	29	104	18	16	- 2	4
11	49	122	11.5	9	- 2.5	6.25
12	79	140	2	4	2	4
13	42	99	15	17	2	4
14	63	132	8	8	0	0
15	49	107	11.5	15	3.5	12.25
16	58	92	10	19	9	81
17	26	119	20	11	-9	81
18	76	156	4	3	- 1	1
19	79	171	2	1	- 1	1
20	29	139	18	5	- 13	169
					Sum d^2 = 404	

$$p = 1 - \frac{6 \times \text{sum } d^2}{n\,(n^2 - 1)}$$

$$= 1 - \frac{2424}{7980}$$

$$= + \underline{0 : 70}$$

APPENDIX B

CHILD REARING QUESTIONNAIRE

CHILD REARING QUESTIONNAIRE

(Subjects are requested to state either their agreement or disagreement with each item. The total score represents the total number of agreements.)

1. Children should be taken to and from school until the age of eight just to make sure there are no accidents.
2. A mother should make it her business to know everything her children are thinking.
3. A devoted mother has no time for social life.
4. Children should not annoy their parents with their unimportant problems.
5. Playing too much with a child will spoil him.
6. Parents should sacrifice everything for the children.
7. A mother has to suffer much and say little.
8. Children who take part in sex play become sex criminals when they grow up.
9. A child should not plan to enter any occupation of which his parents do not approve.
10. Too much affection will make a child a "softie".
11. It is all right for the mother to sleep with a child because it gives him a feeling of being loved and wanted.
12. A good way to get children to obey is by promising them presents or treats.
13. There is little thanks or pleasure in raising children.
14. It is not the duty of the parent to teach the child about sex.
15. One reason that it is sad to see children grow up is that they need you more when they are babies.

16. Some children are just naturally bad.

17. A child should never keep a secret from his parents.

18. A good mother should shelter her child from life's little difficulties.

19. Punishing a child is a father's job.

20. A mother should never be separated from her child.

21. Every parent has a favourite child.

22. It is better for children to play at home than to visit other children.

23. A child will develop a better character if he works after school instead of playing.

24. Most children should have more discipline than they get.

25. If children are to grow up and get somewhere they must be continuously kept after.

26. A young child should be protected from hearing about sex.

27. A mother should shower her child with praise at all times.

28. When a child won't eat you should tell him how nicely other children eat.

29. Quiet children are much nicer than little chatterboxes.

30. A good child doesn't fight with other children.

31. A child's friends usually do more harm than good.

32. No person should get married before the age of 25.

33. It is best to give children the idea that their parents have no faults.

34. A child should not be allowed to see his parents completely undressed.

35. A child should be weaned away from the bottle or breast as soon as possible.

36. Too much freedom will make a child wild.

37. Children who always obey grow up to be the best adults.

38. Strict discipline will develop a fine strong character.

39. The least a child can do for his parents when he grown up is to take care of them in their old age.

40. The father's influence on a child's life is of little importance in comparison with the influence exerted by the mother.

SIGNIFICANCE OF DIFFERENCE BETWEEN MEANS

(C and S Groups)

Mean C = 11.55 Mean S = 20.95

σ_c = 7.21 σ_s = 7.76

$$\sigma_D = \sqrt{\frac{51.95 + 60.15}{19}}$$

$$= \sqrt{\frac{112.10}{19}}$$

$$= 2.43$$

$$t = \frac{9.40}{2.43}$$

$$= \underline{3.87}$$

P is greater than 0.01 (Degrees of freedom = 38)

The difference between the means of the two groups (C group and S group) is thus significant at the 0.01 level. As the difference between the means of S and N group is greater, it can also be accepted as being significant.

The mean of the S group is thus significantly higher than either of the other two groups.

ITEM ANALYSIS

In constructing these 2 x 2 contingency tables, the S group is compared with the one of the other two groups yielding the higher incidence of responses. Where the difference is found to be significantly higher for S group responses it can thus be concluded that the item significantly differentiates the responses of S group from both C group and N group. Due to the small size of the table entries, Yates correction for continuity has been applied in each case. For reasons explained in the text, only items reaching the 2% level are accepted as significant.

ITEM 1

	S GROUP	C GROUP	
No. Agreeing	14.5	5.5	20
No. Disagreeing	5.5	14.5	20
	20	20	40

$\chi^2 = 8.10$ P is greater than 0.01 SIGNIFICANT

ITEM 2/

ITEM 2

	C GROUP	S GROUP	
No. Agreeing	8.5	14.5	23
No. Disagreeing	11.5	4.5	17
	20	20	40

$X_c^2 = 3.69$ P = 0.05 NOT SIGNIFICANT

ITEM 8

	C GROUP	S GROUP	
No. Agreeing	2.5	9.5	12
No. Disagreeing	17.5	10.5	28
	20	20	40

$X_c^2 = 5.84$ P = 0.02 SIGNIFICANT

ITEM 9

	C GROUP	S GROUP	
No. Agreeing	4.5	13.5	18
No. Disagreeing	15.5	6.5	22
	20	20	40

$X^2 = 8.18$ P is greater than 0.01 SIGNIFICANT

ITEM 10

	C GROUP	S GROUP	
No. Agreeing	4.5	14.5	19
No. Disagreeing	15.5	5.5	21
	20	20	40

χ^2 = 10.17 P is greater than 0.01 SIGNIFICANT

ITEM 12

	C GROUP	S GROUP	
No. Agreeing	0.5	4.5	5
No. Disagreeing	19.5	15.5	35
	20	20	40

χ^2 = 3.66 P = 0.05 NOT SIGNIFICANT

ITEM 14

	N GROUP	S GROUP	
No. Agreeing	6.5	17.5	24
No. Disagreeing	13.5	2.5	16
	20	20	40

χ^2 = 12.59 P is greater than 0.01 SIGNIFICANT

ITEM 18

	C GROUP	S GROUP	
No. Agreeing	3.5	12.5	16
No. Disagreeing	16.5	7.5	24
	20	20	40

χ^2 = 8.44 P is greater than 0.01 SIGNIFICANT

ITEM 23

	C GROUP	S GROUP	
No. Agreeing	5.5	10.5	16
No. Disagreeing	14.5	9.5	24
	20	20	40

χ^2 = 2.60 P = 0.20 NOT SIGNIFICANT

ITEM 25

	C GROUP	S GROUP	
No. Agreeing	5.5	15.5	21
No. Disagreeing	14.5	4.5	19
	20	20	40

χ^2_c = 10.02 P is greater than 0.01 SIGNIFICANT

ITEM 33

	C GROUP	S GROUP	
No. Agreeing	2.5	12.5	15
No. Disagreeing	17.5	7.5	25
	20	20	40

χ^2_c = 6.67 P is greater than 0.01 SIGNIFICANT

ITEM 34

	N GROUP	S GROUP	
No. Agreeing	9.5	15.5	25
No. Disagreeing	10.5	4.5	15
	20	20	40

χ^2_c = 3.84 P = 0.05 NOT SIGNIFICANT

ITEM 37

	C GROUP	S GROUP	
No. Agreeing	6.5	14.5	21
No. Disagreeing	13.5	5.5	19
	20	20	40

χ^2_c = 6.51 P = 0.01 SIGNIFICANT

ITEM 40

	N GROUP	S GROUP	
No. Agreeing	7.5	15.5	23
No. Disagreeing	12.5	4.5	17
	20	20	40

$\chi^2_c = 6.54$ P = 0.01   SIGNIFICANT

The following contingency tables represent the items in which the distribution of responses seems likely to differentiate both patient groups (S and N groups) from the normal control group although not from each other. In testing the significance of these items the two patient groups are combined as group P.

ITEM 6

	C GROUP	P GROUP	
No. Agreeing	3	20	23
No. Disagreeing	17	20	37
	20	40	60

$$\chi^2_c = \frac{(3.5 \times 20.5 - 16.5 \times 19.5)^2 \times 60}{20 \times 40 \times 23 \times 37}$$

$= 5.58$ P = 0.02   SIGNIFICANT

ITEM 16

	C GROUP	P GROUP	
No. Agreeing	11	10	21
No. Disagreeing	9	30	39
	20	40	60

$$\chi^2_c = \frac{(10.5 \times 29.5 - 10.5 \times 9.5)^2 \times 60}{20 \times 40 \times 21 \times 39}$$

$= 4.01$ P = 0.05 NOT SIGNIFICANT

ITEM 26

	C GROUP	P GROUP	
No. Agreeing	5	27	32
No. Disagreeing	15	13	28
	20	40	60

$$\chi^2_c = \frac{(5.5 \times 13.5 - 26.5 \times 14.5)^2 \times 60}{20 \times 40 \times 32 \times 28}$$

$= 8.14$ P is greater than 0.01 SIGNIFICANT

ITEM 35

	C GROUP	P GROUP	
No. Agreeing	8	28	36
No. Disagreeing	12	12	24
	20	40	60

$$\chi^2_c = \frac{(8.5 \times 12.5 - 27.5 \times 11.5)^2 \times 60}{20 \times 40 \times 36 \times 24}$$

$= 3.83$ P = 0.05 NOT SIGNIFICANT

APPENDIX C

SELF ASSESSMENT SCALE

SELF ASSESSMENT SCALE

1. Lazy
2. Exciteable
3. Sociable
4. Moody
5. Dominating
6. Generous
7. Impulsive
8. Callous
9. Fussy
10. Dependable
11. Attractive
12. Talkative
13. Stupid
14. Quick-tempered
15. Over-serious
16. Unselfish
17. A worrier
18. Irritable
19. Ambitious
20. Cheerful
21. Affectionate
22. Energetic
23. Selfish
24. Easily persuaded
25. Bad-tempered
26. Sympathetic
27. Popular
28. Contented
29. Snobbish
30. Shy
31. Lovable
32. Trusting
33. Cautious
34. Aggressive
35. Extravagant
36. Loyal
37. Clever
38. Determined
39. Ungrateful
40. Conscientious
41. Emotional
42. Jealous
43. Optimistic
44. Suspicious
45. Truthful

ITEM ANALYSIS

Under Block A are listed the contingency tables for items which appear on inspection to significantly differentiate the schizophrenic group from both the neurotis and normal control groups. Block B contains items which in the same way appear to uniquely differentiate the responses of the neurotic group. A number of items, while not differentiating between the neurotic and schizophrenic groups, do, however, show significant differences between the patient groups considered together as opposed to the normal controls. These items are tested for significance in Block C where the two patient groups (S and N) are combined under Group P.

A

First Rating

ITEM 5

	S GROUP	N GROUP	
No. Agreeing	10.5	2.5	14
No. Disagreeing	9.5	16.5	26
	20	20	40

$X^2_c = 5.39$ P = 0.02 SIGNIFICANT

ITEM 8

	S GROUP	C GROUP	
No. Agreeing	14.5	5.5	20
No. Disagreeing	5.5	14.5	20
	20	20	40

X^2_c = 8.10 P is greater than 0.01 **SIGNIFICANT**

ITEM 20

	S GROUP	C GROUP	
No. Agreeing	7.5	14.5	22
No. Disagreeing	12.5	5.5	18
	20	20	40

X^2_c = 4.95 P = 0.03 **NOT SIGNIFICANT**

ITEM 21

	S GROUP	C GROUP	
No. Agreeing	6.5	18.5	25
No. Disagreeing	13.5	1.5	15
	20	20	40

X^2_c = 15.36 P is greater than 0.01 **SIGNIFICANT**

ITEM 27

	S GROUP	N GROUP	
No. Agreeing	6.5	11.5	18
No. Disagreeing	13.5	8.5	22
	20	20	40

X^2_c = 2.52   P = 0.20   NOT SIGNIFICANT

ITEM 41

	S GROUP	N GROUP	
No. Agreeing	5.5	12.5	18
No. Disagreeing	14.5	7.5	22
	20	20	40

X^2_c = 4.95   P = 0.03   NOT SIGNIFICANT

Second Rating

ITEM 2

	S GROUP	N GROUP	
No. Agreeing	16.5	8.5	25
No. Disagreeing	3.5	11.5	15
	20	20	40

X^2_c = 6.83   P is greater than 0.01   SIGNIFICANT

ITEM 3

	S GROUP	N GROUP	
No. Agreeing	7.5	13.5	21
No. Disagreeing	12.5	6.5	19
	20	20	40

$\chi^2_c = 3.60$ P = 0.05 NOT SIGNIFICANT

ITEM 19

	S GROUP	N GROUP	
No. Agreeing	16.5	8.5	25
No. Disagreeing	3.5	11.5	15
	20	20	40

$\chi^2_c = 6.82$ P = 0.01 SIGNIFICANT

ITEM 33

	S GROUP	N GROUP	
No. Agreeing	1.5	9.5	10
No. Disagreeing	18.5	10.5	30
	20	20	40

$\chi^2_c = 6.53$ P = 0.01 SIGNIFICANT

B

First Rating

ITEM 17

	N GROUP	C GROUP	
No. Agreeing	17.5	10.5	28
No. Disagreeing	2.5	9.5	12
	20	20	40

X^2_c = 5.83 P = 0.02 SIGNIFICANT

ITEM 31

	N GROUP	C GROUP	
No. Agreeing	15.5	7.5	23
No. Disagreeing	4.5	12.5	17
	20	20	40

X^2_c = 6.55 P = 0.01 SIGNIFICANT

Second Rating

ITEM 31

	N GROUP	C GROUP	
No. Agreeing	17.5	6.5	24
No. Disagreeing	2.5	13.5	16
	20	20	40

X^2_c = 12.60 P is greater than 0.01 SIGNIFICANT

ITEM 41

	N GROUP	C GROUP	
No. Agreeing	9.5	5.5	15
No. Disagreeing	10.5	14.5	25
	20	20	40

$\chi^2_c = 1.70$ P = 0.20 NOT SIGNIFICANT

C

First Rating

ITEM 9

	C GROUP	P GROUP	
No. Agreeing	14.5	11.5	26
No. Disagreeing	5.5	28.5	34
	20	40	60

$$\chi^2_c = \frac{(14.5 \times 28.5 - 11.5 \times 5.5)^2 \times 60}{20 \times 40 \times 26 \times 34}$$

$= 10.39$ P is greater than 0.01 SIGNIFICANT

ITEM 18

	C GROUP	P GROUP	
No. Agreeing	6.5	32.5	39
No. Disagreeing	13.5	7.5	21
	20	40	60

$$\chi^2_c = \frac{(13.5 \times 32.5 - 7.5 \times 6.5)^2 \times 60}{20 \times 40 \times 39 \times 21}$$

$= 13.93$ P is greater than 0.01 SIGNIFICANT

ITEM 22

	C GROUP	P GROUP	
No. Agreeing	4.5	29.5	34
No. Disagreeing	15.5	10.5	26
	20	40	60

$$\chi^2_c = \frac{(29.5 \times 15.5 - 4.5 \times 10.5)^2 \times 60}{20 \times 40 \times 34 \times 26}$$

$= 14.26$ P is greater than 0.01 SIGNIFICANT

ITEM 40

	C GROUP	P GROUP	
No. Agreeing	18.5	18.5	37
No. Disagreeing	1.5	21.5	23
	20	40	60

$$\chi^2_c = \frac{(18.5 \times 21.5 - 1.5 \times 18.5)^2 \times 60}{20 \times 40 \times 37 \times 23}$$

$= 12.06$ P is greater than 0.01 SIGNIFICANT

ITEM 42

	C GROUP	P GROUP	
No. Agreeing	7.5	2.5	10
No. Disagreeing	12.5	37.5	50
	20	40	60

$$\chi^2_c = \frac{(7.5 \times 37.5 - 12.5 \times 2.5)^2 \times 60}{20 \times 40 \times 10 \times 50}$$

$= 9.27$ P is greater than 0.01 SIGNIFICANT

ITEM 43

	C GROUP	P GROUP	
No. Agreeing	17.5	16.5	34
No. Disagreeing	2.5	23.5	26
	20	40	60

$$\chi^2_c = \frac{(17.5 \times 23.5 - 16.5 \times 2.5)^2 \times 60}{20 \times 40 \times 34 \times 26}$$

$= 11.61$ P is greater than 0.01 SIGNIFICANT

Second Rating

ITEM 12

	C GROUP	P GROUP	
No. A greeing	13.5	15.5	29
No. Disagreeing	6.5	24.5	31
	20	40	60

$$\chi^2_c = \frac{(13.5 \times 24.5 - 15.5 \times 6.5)^2 \times 60}{20 \times 40 \times 29 \times 31}$$

$= 4.41$ $P = 0.03$ NOT SIGNIFICANT

ITEM 17

	C GROUP	P GROUP	
No. Agreeing	9.5	31.5	41
No. Disagreeing	10.5	8.5	19
	20	40	60

$$\chi^2_c = \frac{(10.5 \times 31.5 - 9.5 \times 8.5)^2 \times 60}{20 \times 40 \times 41 \times 19}$$

$= 6.01$ P $= 0.02$ SIGNIFICANT

ITEM 43

	C GROUP	P GROUP	
No. Agreeing	10.5	8.5	19
No. Disagreeing	9.5	31.5	41
	20	40	60

$$\chi^2_c = \frac{(31.5 \times 10.5 - 8.5 \times 9.5)^2 \times 60}{20 \times 40 \times 19 \times 41}$$

$= 6.01$ P $= 0.02$ SIGNIFICANT

APPENDIX D

SENTENCE COMPLETION TEST

SENTENCE COMPLETION TEST

1. I like
2. The happiest time
3. I wish I had more
4. I want to know
5. When I'm alone
6. Back home
7. I regret
8. At bedtime
9. Boys
10. The best
11. What annoys me
12. People
13. A mother
14. I feel
15. My greatest fear
16. In school
17. I can't
18. My stomach
19. When I was a child
20. My nerves
21. Other people
22. I suffer
23. I failed
24. The most dangerous
25. My mind
26. The future
27. I need
28. My husband
29. I am best when
30. Sometimes
31. What pains me
32. I hate
33. I am very
34. The only trouble
35. I wish
36. By myself
37. My father
38. My ambition is
39. I secretly
40. I
41. Dancing
42. My greatest worry
43. Most men

DIFFERENCE BETWEEN MEAN SCORES

1. S : N Groups

SUBJECT	S GROUP	N GROUP
1	+ 30	- 14
2	+ 26	- 19
3	+ 24	- 14
4	+ 15	+ 17
5	+ 9	+ 48
6	+ 24	+ 9
7	+ 20	- 15
8	+ 21	- 7
9	+ 20	+ 25
10	+ 17	+ 8
11	+ 38	+ 5
12	+ 11	+ 13
13	- 2	+ 24
14	- 2	+ 20
15	+ 4	+ 5
16	+ 27	- 16
17	+ 5	- 10
18	- 9	- 7
19	+ 13	- 15
20	+ 13	+ 26
TOTAL	+ 304	+ 83
MEANS	+ 15.20	+ 4.15

$\sigma_S = 11.63 \qquad \sigma_N = 18.09$

$$\sigma_D = \sqrt{\frac{(11.63)^2 + (18.09)^2}{19}}$$

$$= 5.13$$

$$t = \frac{11.05}{5.13}$$

$$= 2.13$$

$P = 0.05$ SIGNIFICANT

The difference between the S and C group means is considerably larger. The S group mean may then be regarded as being significantly different from that of either of the other two groups.

2. N : C Groups

SUBJECT	N GROUP	C GROUP
1	- 14	- 8
2	- 19	- 24
3	- 14	+ 11
4	+ 17	- 27
5	+ 48	- 11
6	+ 9	- 8
7	- 15	- 17
8	- 7	- 29
9	+ 25	- 12
10	+ 8	- 13
11	+ 5	- 15
12	+ 13	- 7
13	+ 24	- 11
14	+ 20	+ 10
15	+ 5	- 6
16	- 16	- 27
17	- 10	- 14
18	- 7	+ 15
19	- 15	- 9
20	+ 26	- 12
TOTAL	+ 83	- 214
MEANS	+ 4.15	- 10.70

$\sigma_N = 18.09 \quad \sigma_C = 11.69$

$$\sigma_D = \sqrt{\frac{(18.09)^2 + (11.69)^2}{19}}$$

$$= 4.94$$

$$t = \frac{14.85}{4.94}$$

$$= 3.00$$

P is greater than 0.01 SIGNIFICANT

ITEM ANALYSIS

The item analysis is carried out as in the previous tests. Under Block A these items are tested for significance which appear on inspection to uniquely differentiate the schizophrenic group. Block B deals with the items which uniquely differentiate the neurotic group, while under Block C items are considered which appear to differentiate both patient groups together (combined as Group P) from the normal control group.

As before, due to the number of Chi-^{2} tests carried out or rejected on inspection, only those reaching the 2% level are considered as significant.

A

ITEM 4

	S GROUP	N GROUP	
Incidence of Positive (+) Scores	11.5	3.5	15
Incidence of other (neutral or negative) scores	8.5	16.5	25
	20	20	40

$X^2_c = 6.93$ P is greater than 0.01 SIGNIFICANT

ITEM 5

	S GROUP	N GROUP	
Incidence of Positive (+) Scores	9.5	4.5	14
Incidence of other (neutral or negative) scores	10.5	15.5	26
	20	20	40

X^2_c = 2.75   P = 0.10   NOT SIGNIFICANT

ITEM 6

	S GROUP	N GROUP	
Incidence of Positive (+) Scores	8.5	1.5	9
Incidence of other (neutral or negative) scores	11.5	18.5	31
	20	20	40

X^2_c = 5.16   P = 0.02   SIGNIFICANT

ITEM 8

	S GROUP	C GROUP	
Incidence of Positive (+) Scores	9.5	2.5	11
Incidence of other (neutral or negative) scores	10.5	17.5	29
	20	20	40

X^2_c = 4.51   P = 0.04   NOT SIGNIFICANT

ITEM 11

	S GROUP	C GROUP	
Incidence of Positive (+) Scores	11.5	6.5	18
Incidence of other (neutral or negative) scores	8.5	13.5	22
	20	20	40

X^2_c = 2.52 P = 0.10 NOT SIGNIFICANT

ITEM 12

	S GROUP	N GROUP	
Incidence of Positive (+) Scores	12.5	5.5	18
Incidence of other (neutral or negative) scores	7.5	14.5	22
	20	20	40

X^2_c = 4.95 P = 0.03 NOT SIGNIFICANT

ITEM 17

	S GROUP	C GROUP	
Incidence of Positive (+) Scores	15.5	7.5	23
Incidence of other (neutral or negative) scores	4.5	12.5	17
	20	20	40

X^2_c = 6.58 P = 0.01 SIGNIFICANT

ITEM 21

	S GROUP	C GROUP	
Incidence of positive (+) scores	17.5	5.5	23
Incidence of other (neutral or negative) scores	2.5	14.5	17
	20	20	40

X^2_c = 14.76   P is greater than 0.01   SIGNIFICANT

ITEM 27

	S GROUP	N GROUP	
Incidence of positive (+) scores	16.5	7.5	24
Incidence of other (neutral or negative) scores	3.5	12.5	16
	20	20	40

X^2_c = 8.44   P is greater than 0.01   SIGNIFICANT

ITEM 28

	S GROUP	C GROUP	
Incidence of positive (+) scores	10.5	1.5	12
Incidence of other (neutral or negative) scores	9.5	18.5	28
	20	20	40

X^2_c = 9.64   P is greater than 0.01   SIGNIFICANT

ITEM 34

	S GROUP	N GROUP	
Incidence of Positive (+) Scores	15.5	10.5	26
Incidence of other (neutral or negative) scores	4.5	9.5	14
	20	20	40

X^2_c = 2.75 P = 0.10 NOT SIGNIFICANT

ITEM 43

	S GROUP	C GROUP	
Incidence of positive (+) scores	15.5	5.5	21
Incidence of other (neutral or negative) scores	4.5	14.5	19
	20	20	40

X^2_c = 10.05 P is greater than 0.01 SIGNIFICANT

B

ITEM 1

	N GROUP	S GROUP	
Incidence of positive (+) scores	7.5	2.5	9
Incidence of other (neutral or negative) scores	12.5	17.5	31
	20	20	40

X^2_c = 2.28 P = 0.20 NOT SIGNIFICANT

ITEM 26

	N GROUP	C GROUP	
Incidence of positive (+) scores	16.5	4.5	21
Incidence of other (neutral or negative) scores	3.5	15.5	19
	20	20	40

X^2_c = 14.44 P is greater than 0.01 SIGNIFICANT

ITEM 29

	N GROUP	S GROUP	
Incidence of positive (+) scores	13.5	5.5	19
Incidence of other (neutral or negative) scores	6.5	14.5	21
	20	20	40

X^2_c = 6.42 P = 0.01 SIGNIFICANT

ITEM 32

	N GROUP	S GROUP	
Incidence of Positive (+) scores	15.5	6.5	22
Incidence of other (neutral or negative) scores	4.5	13.5	18
	20	20	40

X^2_c = 8.18 P is greater than 0.01 SIGNIFICANT

C

ITEM 20

	C GROUP	P GROUP	
Incidence of positive (+) scores	3.5	31.5	35
Incidence of other (neutral or negative) scores	16.5	8.5	25
	20	40	60

$$X^2_c = \frac{(16.5 \times 31.5 - 3.5 \times 8.5)^2 \times 60}{20 \times 40 \times 35 \times 25}$$

= 23.44 P is greater than 0.01 SIGNIFICANT

ITEM 22

	C GROUP	P GROUP	
Incidence of positive (+) scores	4.5	24.5	29
Incidence of other (neutral or negative) scores	15.5	15.5	31
	20	40	60

$$X^2_c = \frac{(15.5 \times 24.5 - 4.5 \times 15.5)^2 \times 60}{20 \times 40 \times 29 \times 31}$$

= 8.01 P is greater than 0.01 SIGNIFICANT

ITEM 23

	C GROUP	P GROUP	
Incidence of positive (+) scores	11.5	36.5	48
Incidence of other (neutral or negative) scores	8.5	3.5	12
	20	40	60

$$X^2_c = \frac{(36.5 \times 8.5 - 11.5 \times 3.5)^2 \times 60}{20 \times 40 \times 48 \times 12}$$

$= 10.27$ P is greater than 0.01 SIGNIFICANT

ITEM 31

	C GROUP	P GROUP	
Incidence of positive (+) scores	7.5	31.5	39
Incidence of other (neutral or negative) scores	12.5	8.5	21
	20	40	60

$$X^2_c = \frac{(31.5 \times 12.5 - 7.5 \times 8.5)^2 \times 60}{20 \times 40 \times 39 \times 21}$$

$= 9.81$ P is greater than 0.01 SIGNIFICANT

ITEM 33

	C GROUP	P GROUP	
Incidence of positive (+) scores	5.5	19.5	25
Incidence of other (neutral or negative) scores	14.5	20.5	35
	20	40	60

$$\chi^2_c = \frac{(19.5 \times 14.5 - 5.5 \times 20.5)^2 \times 60}{20 \times 40 \times 25 \times 35}$$

$= 2.48$ $P = 0.10$ NOT SIGNIFICANT

ITEM 36

	C GROUP	P GROUP	
Incidence of positive (+) scores	3.5	22.5	26
Incidence of other (neutral or negative) scores	16.5	17.5	34
	20	40	60

$$\chi^2_c = \frac{(16.5 \times 22.5 - 3.5 \times 17.5)^2 \times 60}{20 \times 40 \times 26 \times 34}$$

$= 10.54$ P is greater than 0.01 SIGNIFICANT

ITEM 40

	C GROUP	P GROUP	
Incidence of positive (+) scores	3.5	29.5	33
Incidence of other (neutral or negative) scores	16.5	10.5	27
	20	40	60

$$X^2_c = \frac{(29.5 \times 16.5 - 3.5 \times 10.5)^2 \times 60}{20 \times 40 \times 33 \times 27}$$

$= 17.04$ P is greater than 0.01 SIGNIFICANT

APPENDIX E

WORD CONNECTION LIST

Below you will find a list of familiar words printed in capital letters, each followed by two words in small letters. Look at the word SINK in the example below. Now glance at the two other words. Does the word SINK make you think of "wash" or of "drown"? Draw a line under whichever word is more connected in your mind with SINK.

EXAMPLE: SINK wash drown

SCISSORS	nurse	cut	WEIGHT	scale	losing
HANDS	feet	moist	DIGNIFIED	snobbish	poised
LOUD	yell	soft	TALKED	spoke	about
WOMAN	girl	trouble	SLEEP	nightmares	bed
LION	eat	tiger	RIVER	lake	danger
LIGHT	dark	sentence	BABY	foundling	little
BLUE	sad	sky	LOSE	find	mind
STOMACH	food	ache	SALMON	dislike	like
LEFT	home	right	HUNGRY	thirsty	heart
THOUGHTS	ideas	strange	MAN	hard	boy
SLOW	beware	fast	MUTTON	eat	flesh
BOY	girl	mischief	SWIFT	hurricane	slow
SHORT	little	tall	BRING	take	disaster
CONTENTED	happy	discontented	SWEET	affected	bitter
FAIRY	shameful	wand	FOOD	stomach	poisoned
UNHAPPY	no	yes	RAW	deal	meat
THIRSTY	dry	drink	PARTY	crowd	myself
EATING	drinking	fasting	BITTER	medicine	sweet
FEEL	useless	good	GRAVE	serious	funeral
HEAVY	weight	heart	WOMAN	excitement	man
TROUBLE	lawyer	sorrow	SOUR	lemon	stomach
DEEP	ocean	hurt	CAN'T	concentrate	fly
FRIEND	double-crossed	close	PINT	quart	whisky
FOOT	hand	tingle	NEEDLE	drug	sharp
MAN	work	woman	WOUND	bandages	feelings

DIFFERENCE BETWEEN MEAN SCORES

1. S : N Groups

SUBJECT	S GROUP	N GROUP
1	22	15
2	5	22
3	22	19
4	7	4
5	9	14
6	3	29
7	9	16
8	23	20
9	0	26
10	23	15
11	17	18
12	11	6
13	18	13
14	18	21
15	9	14
16	7	20
17	10	18
18	5	22
19	21	15
20	18	19
TOTAL	257	346
MEANS	12.85	17.30

$\sigma_S = 7.23 \qquad \sigma_N = 5.73$

$$\sigma_D = \sqrt{\frac{(52.23 + 32.71)}{19}}$$

$$= 2.11$$

$$t = \frac{4.45}{2.11}$$

$$= 2.11$$

2. C : N Groups

SUBJECT	C GROUP	N GROUP
1	12	15
2	11	22
3	18	19
4	18	4
5	20	14
6	7	29
7	9	16
8	16	20
9	1	26
10	6	15
11	5	18
12	6	6
13	6	13
14	9	21
15	9	14
16	14	20
17	18	18
18	10	22
19	18	15
20	16	19
TOTAL	229	346
MEANS	11.45	17.30

$\sigma_C = 5.35 \quad \sigma_N = 5.73$

$$\sigma_D = \sqrt{\frac{28.65 + 32.71}{19}}$$

$$= 1.79$$

$$t = \frac{5.85}{1.79}$$

$$= 3.27$$

APPENDIX F

RORSCHACH TEST

RORSCHACH TEST - SCHIZOPHRENIC GROUP

Subject	R	AvT	AvRT	F%	F+%	F-%	M	FM	m	FC	CF	C	ΣC	Σc	ΣK+k	A%	H%	W%	D%	d%	Dd + S%
1	27	53.2	27.5	47	31	-	1	4	-	4	1	-	3	2	-	66	11	15	80	5	-
2	34	65.5	14.0	55	56	15	1	8	-	-	1	-	1	2	-	55	12	23	63	11	3
3	21	45.8	13.0	71	46	20	-	-	-	3	3	-	4	1	-	36	5	29	62	-	9
4	21	44.0	47.5	33	42	-	1	1	1	-	1	-	1	4	-	33	18	28	61	-	11
5	24	56.2	34.0	42	42	-	-	1	-	3	2	-	3.5	1	1	83	-	19	79	-	4
6	44	40.7	23.5	56	52	6	5	1	1	2	1	1	3.5	4	-	27	40	14	44	42	-
7	33	63.0	30.5	66	56	17	1	3	-	2	-	-	1	3	-	64	15	41	46	13	-
8	43	30.6	15.0	44	80	8	1	1	1	8	5	-	9	2	-	40	20	13	80	-	7
9	20	41.2	22.5	25	-	-	1	5	1	1	-	-	0.5	1	1	35	-	55	20	15	10
10	12	48.5	48.0	50	-	66	-	2	-	-	-	-	-	3	-	59	-	92	8	-	-
11	22	33.2	19.0	64	29	9	1	3	-	1	1	-	1	2	-	59	18	14	78	8	-
12	28	42.3	7.0	37	36	-	1	2	-	4	1	1	4.5	3	1	43	4	45	50	-	5
13	30	49.9	13.5	52	72	14	1	5	2	4	2	-	5	3	-	45	5	25	49	10	16
14	18	39.7	27.0	83	27	33	1	-	-	0	1	1	1.5	2	-	11	39	22	71	7	-
15	20	52.6	22.5	45	75	-	-	2	2	-	2	1	3.5	1	-	30	5	45	35	5	15
16	37	52.5	10.5	46	83	-	1	4	-	2	1	-	2	3	1	42	8	40	52	4	4
17	35	60.5	7.0	35	100	-	1	2	-	5	4	-	6.5	3	-	50	-	25	53	12	-
18	40	49.2	11.5	41	62	-	1	5	2	1	3	-	3.5	4	1	40	-	25	45	10	20
19	35	48.4	7.0	57	80	-	1	1	-	2	2	-	3.5	2	1	30	27	17	67	3	13
20	31	38.2	11.0	54	63	16	3	2	-	3	2	-	3.5	1	-	45	15	23	61	-	16
T	575	955.2	391.5	1,003	1,032	204	22	52	10	45	33	4	61	47	6	893	242	610	1,104	145	133
M	28.75	47.76	19.58	50.15	51.60	10.20	1.20	2.60	0.5	2.25	1.65	0.20	3.05	2.35	0.30	44.65	12.10	30.50	55.20	7.25	6.65

RORSCHACH TEST - NEUROTIC GROUP

Subject	R	AvT	AvRT	F%	F+%	F-%	M	FM	m	FC	CF	C	ΣC	Σc	$\Sigma K+k$	A%	H%	W%	D%	d%	Dd + S%
1	30	36.2	17.5	46	85	-	2	1	-	3	3	2	7	1	-	37	10	33	50	17	-
2	30	43.8	20.5	17	100	-	3	8	-	4	2	2	7	3	1	43	17	30	67	3	-
3	23	40.5	5.5	58	87	-	-	4	-	1	-	-	0.5	1	-	92	-	22	67	7	4
4	24	52.3	7.5	58	46	-	-	1	-	2	1	-	1.5	2	1	68	10	33	67	-	-
5	16	37.6	9.5	50	75	-	-	1	-	1	2	-	2.5	-	1	45	18	50	37	13	-
6	15	32.9	14.5	47	44	-	1	3	-	2	-	-	1	-	-	66	13	44	56	-	-
7	32	54.8	13.5	37	75	-	2	5	2	2	-	-	1	1	2	54	18	30	45	9	6
8	20	40.0	18.0	55	60	10	1	3	8	1	3	-	3.5	-	2	65	15	40	50	10	-
9	18	49.3	10.5	50	55	-	-	2	1	-	2	1	3.5	-	3	83	17	33	67	-	-
10	25	38.7	6.5	72	66	-	1	1	-	1	2	-	2.5	1	2	76	4	36	56	8	-
11	16	39.2	12.5	66	50	-	1	1	-	2	3	-	4	-	-	56	19	50	45	5	-
12	22	54.6	12.5	55	55	5	2	2	-	-	1	1	2.5	-	3	55	9	45	55	-	-
13	25	50.2	8.0	64	75	-	1	3	-	-	1	-	1	1	3	44	20	40	48	8	4
14	15	55.7	9.0	45	57	-	-	1	-	1	4	-	4.5	1	2	60	20	40	60	-	-
15	21	33.3	13.5	57	63	5	-	1	1	1	2	-	2.5	1	3	52	14	47	40	9	4
16	20	60.5	16.0	65	45	-	2	4	-	-	1	-	1	-	-	60	10	35	60	5	-
17	24	39.6	9.5	42	58	-	1	4	1	2	3	1	5.5	-	2	30	22	50	42	8	-
18	17	48.0	22.0	46	53	-	-	2	-	2	3	-	4	1	-	55	23	28	72	-	-
19	30	42.7	18.5	50	60	3	1	-	2	3	1	-	2.5	-	3	47	13	40	53	7	-
20	18	52.7	10.0	50	60	9	1	-	2	1	2	2	5.5	-	3	56	11	33	51	16	-
T	441	902.6	255.0	1,030	1,269	32	19	47	17	29	36	9	63	13	31	1,144	283	759	1,058	125	18
M	22.05	45.13	12.75	51.50	63.45	1.60	0.95	2.35	0.85	1.45	1.80	0.45	3.15	0.65	1.55	57.20	14.15	37.95	54.40	6.25	0.90

RORSCHACH TEST - CONTROL GROUP

Subject	R	AvT	AvRT	F%	F+%	F-%	M	FM	m	FC	CF	C	ΣC	Σc	ΣK+k	A%	H %	W%	D%	d%	Dd + S%
1	20	45.0	13.0	55	63	18	3	1	-	1	-	-	0.5	-	1	70	15	50	45	5	-
2	20	54.5	7.0	40	86	-	3	5	1	1	-	-	0.5	2	-	45	10	30	70	-	-
3	18	25.8	12.5	33	50	-	2	-	-	3	1	-	2.5	2	-	44	17	22	78	-	-
4	21	53.6	9.5	57	100	-	1	1	-	5	-	-	2.5	1	-	48	5	28	72	-	-
5	18	48.5	13.5	78	57	6	1	-	-	-	1	-	1	1	-	50	9	33	62	5	-
6	16	52.4	9.5	25	25	-	2	4	-	2	2	-	3	1	1	50	6	63	37	-	-
7	18	61.8	9.5	35	22	-	-	3	-	3	1	-	2.5	-	1	55	-	57	43	-	-
8	25	45.3	9.0	40	44	-	3	1	-	4	-	-	2	-	-	36	20	20	72	8	-
9	20	44.6	6.0	10	50	-	3	6	-	2	3	1	5.5	1	1	40	15	65	35	-	-
10	21	38.6	5.0	35	50	-	3	2	-	1	3	1	5	2	-	43	20	57	43	-	-
11	17	52.7	6.5	41	70	-	1	2	-	3	1	-	2.5	1	-	58	6	58	30	6	6
12	20	48.6	6.5	35	100	-	3	1	1	2	2	-	3	2	-	40	20	35	45	15	5
13	30	46.0	5.5	63	64	7	-	1	-	3	-	-	1.5	4	3	40	10	40	52	8	-
14	16	55.5	7.0	50	25	-	2	1	1	1	-	-	0.5	2	-	55	13	50	44	6	-
15	30	50.2	8.5	50	62	-	3	1	-	2	-	-	1	1	-	20	15	44	49	7	-
16	49	53.8	6.0	48	81	-	2	8	-	7	1	-	4.5	3	-	68	10	21	63	14	2
17	40	47.6	8.5	40	63	-	3	2	-	5	1	-	3.5	2	1	20	17	25	50	20	5
18	45	64.8	10.0	45	65	-	2	1	-	6	-	-	3	-	-	18	24	33	60	7	-
19	25	38.0	10.5	28	44	-	3	-	1	6	1	-	4	1	1	20	16	28	72	-	-
20	49	40.5	13.0	24	75	2	3	2	-	5	2	1	6	2	2	14	20	40	48	10	2
T	518	967.9	176.5	832	1,196	33	43	42	4	62	19	3	54.5	28	11	834	268	799	1,070	111	20
M	25.90	48.39	8.83	41.60	59.80	1.65	2.15	2.10	0.20	3.10	0.95	0.15	2.73	1.40	0.55	41.70	13.4	39.45	53.50	5.55	1.00

RORSCHACH TEST - CONTINGENCY TABLES

As in previous tests the two patient groups are combined under Group P in the case of items which appear to differentiate both patient groups together from the normal controls but not from each other. As usual the total entries have been corrected for continuity.

ITEM 6 - HIGH F%

C GROUP	P GROUP	
4.5	17.5	22
15.5	22.5	38
20	40	60

X^2_c = 2.53 P = 0.10 NOT SIGNIFICANT

ITEM 7 - HIGH F-%

C GROUP	S GROUP	
1.5	6.5	8
18.5	13.5	32
20	20	40

X^2_c = 3.90 P = 0.05 SIGNIFICANT

ITEM 8 - M < 2

C GROUP	P GROUP	
10.5 9.5	36.5 3.5	47 13
20	40	60

X^2_c = 11.98   P is greater than 0.01   SIGNIFICANT

ITEM 9 - CF + C > FC

S GROUP	N GROUP	
5.5 14.5	12.5 7.5	18 22
20	20	40

X^2_c = 4.95   P = 0.02   SIGNIFICANT

ITEM 10 - Sum c > Sum C

C GROUP	S GROUP	
3.5 16.5	9.5 10.5	13 27
20	20	40

X^2_c = 4.09   P = 0.05   SIGNIFICANT

ITEM 12 - Sum C > 2 x M

C GROUP	P GROUP	
5.5	23.5	29
14.5	16.5	31
20	40	60

X^2_c = 5.21 P = 0.02 SIGNIFICANT

ITEM 13 - HIGH A%

S GROUP	N GROUP	
6.5	13.5	20
13.5	6.5	20
20	20	40

X^2_c = 4.90 P = 0.02 SIGNIFICANT

ITEM 14 - K + k Responses

C GROUP	N GROUP	
4.5	13.5	18
15.5	6.5	22
20	20	40

X^2_c = 8.18 P is greater than 0.01 SIGNIFICANT

ITEM 15 - LOW W%

C GROUP	S GROUP	
0.5 19.5	5.5 14.5	6 34
20	20	40

$X^2_c = 4.91$ P = 0.02 SIGNIFICANT

ITEM 21 - HIGH Dd + S%

C GROUP	S GROUP	
0.5 19.5	5.5 14.5	6 34
20	20	40

$X^2_c = 4.91$ P = 0.02 SIGNIFICANT

ITEM 22 - COLOUR SHOCK

C GROUP	N GROUP	
4.5 15.5	10.5 9.5	15 25
20	20	40

$X^2_c = 3.84$ P = 0.05 SIGNIFICANT

ITEM 23 - REJECTIONS

N GROUP	S GROUP	
8.5	2.5	11
11.5	17.5	29
20	20	40

χ^2_c = 4.52 P = 0.04 SIGNIFICANT

ITEM 24 - CONFABULATION

S GROUP	N GROUP	
10.5	2.5	13
9.5	17.5	27
20	20	40

χ^2_c = 7.27 P is greater than 0.01 SIGNIFICANT

ITEM 25 - PERSONAL REFERENCES

S GROUP	C GROUP	
6.5	1.5	8
13.5	18.5	32
20	20	40

χ^2_c = 3.91 P = 0.05 SIGNIFICANT

ITEM 26 - MORBID OR BIZARRE RESPONSES

S GROUP	N GROUP	
8.5 11.5	2.5 17.5	11 29
20	20	40

$X^2_c = 4.52$ $P = 0.04$ SIGNIFICANT

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