THE INTERPERSONAL BEHAVIOR OF NORMAL AND CLINIC FAMILY MEMBERS

> Thesis for the Degree of Ph. D. MICHIGAN STATE UNIVERSITY Marilyn H. MacKenzie



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#### ABSTRACT

### THE INTERPERSONAL BEHAVIOR OF NORMAL AND CLINIC FAMILY MEMBERS

### by Marilyn H. MacKenzie

This study compared the behavior of normal and clinic family members as manifested during family interaction. Ten normal and ten clinic families were observed as they discussed a predetermined topic. Each family member talked with each other family member for fifteen minutes in the following standard sequence: mother-father, mother-son, father-son. These sessions were observed and tape recorded to be later rated using Leary's (1957) circumplex model of interpersonal behavior.

The first comparison that was made concerned the patterning of behavior in normal and clinic groups. In this regard, it was predicted that participants in clinic families would display a narrower band of interpersonal behavior than would participants of normal families. This prediction was not supported, although there was a trend for clinic sons to manifest more repetitive behavior with mothers than did normal sons in this interaction. Similarly, it was hypothesized that the interaction sequences (sender-receiver combinations) would be more repetitive in the clinic than in the normal group and

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that clinic family members would behave in more consistent ways with different family members. These hypotheses were not confirmed. In fact, there was a trend in the opposite than predicted direction for normal fathers to be more consistent (dominant) with mothers and sons than were clinic fathers.

The study also explored the <u>kinds</u> of behavior that were typically sent by normal and clinic family members. Characteristic behaviors were found to differ in the two groups as follows:

(1) Normal family members expressed significantly more friendly behavior in their interactions with one another than did clinic family members.

(2) There was a greater discrepancy between the amount of positive affect sent and received by clinic mothers and sons than between normal mothers and sons. Typically, clinic mothers expressed more positive affect than was returned by their sons.

(3) Both normal and clinic mothers manifested dominant behavior with fathers and sons. However, clinic mothers were significantly <u>more</u> dominant than normal mothers in these two interactions. Also, normal and clinic mothers were dominant in different ways; clinic mothers primarily dominated in aggressive ways, while normal mothers dominated in a more "friendly" manner.

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(4) Generally, different types of interpersonal behavior were manifested by participants of normal and clinic families. Clinic mothers were significantly more narcissistic and demanding with fathers and sons than were normal mothers who primarily displayed friendly dominant behavior in these interactions. Both normal and clinic fathers manifested a considerable amount of directing-informing behavior with other family members, but normal fathers also expressed behavior which reflected more emotional involvement and warmth. In contrast to normal boys who were cooperative and affiliated with mothers and fathers, clinic sons often behaved in passive aggressive and rebellious ways which were likely to elicit further aggression from parents.

Finally, in keeping with the expectation that clinic family members would manifest more polarized behavior, normal mothers and fathers were found to be significantly more similar to one another than were clinic parents.

Approved: <u>Lucy</u> R. <u>Lucgusun</u> Committee Chairman Date: Jan. 17, 19:68

# THE INTERPERSONAL BEHAVIOR OF NORMAL

### AND CLINIC FAMILY MEMBERS

Ву

Marilyn H. MacKenzie

A THESIS

Submitted to Michigan State University in partial fulfillment of the requirements for the degree of

DOCTOR OF PHILOSOPHY

Department of Psychology

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To My Friend Nancy

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#### CHAPTER I

#### INTRODUCTION

The present paper will compare the interpersonal behavior of clinic and normal family members as manifested during family interaction. Ten normal and ten clinic families were observed as they discussed a predetermined topic. Each family member talked with each other family member for fifteen minutes and the following standard sequence was used: motherfather, mother-son, father-son. These sessions were observed and tape recorded to be later rated using Leary's (1957) circumplex model of interpersonal behavior.

The first comparison that was made concerned the patterning of behavior in normal and clinic groups. In this regard, it was predicted that participants in clinic families would display a narrower band of interpersonal behavior than would participants of normal families. Similarly, it was hypothesized that the interaction sequences (sender-receiver combinations) would be more repetitive in clinic than in normal groups.

This study also explored the <u>kinds</u> of behavior that were typically sent by normal and clinic family members; certain specific predictions were made about how these characteristic behaviors would differ in the two groups.

For example, it was hypothesized that clinic family members would manifest more hostile behavior than normal family members.

In recent years, the emphasis in psychology and psychiatry has shifted from the study of the individual and intrapsychic phenomena to a consideration of interpersonal processes and the "systematic patterns of behavior men develop in dealing with their intimates." (Haley, 1967a, p. 12). In this context, it is apparent that the study of the family becomes an important topic for research not only as a means for understanding individual dynamics, but as an object of interest in its own right.

It is believed that interpersonal behavior can be described in terms of eliciting behavior (behavior that consistently and predictably pulls or elicits certain responses from others) and reciprocal behavior (predictable and consistent behavior that occurs in response to another's eliciting behavior). In this regard, family interaction can be viewed as a system of eliciting and reciprocal behaviors.

It is assumed that more extreme behaviors pull more extreme responses and that individual participants in disturbed relationships often maintain relatively extreme, polarized behavior centered on a particular dimension of behavior or individual conflict. (The two participants represent relatively extreme sides of a particular dimension

of interpersonal behavior where they are often stuck on different sides of the same conflict). The total pattern that emerges from such a dyad can be characterized in terms of an interaction theme. An example of this process would be a marriage between two individuals who are concerned or conflicted about impulse control. In the marriage, one partner manifests highly controlled, rigid, but also explosive behavior, while the other partner tends to be passive, non-assertive, perfectionistic and has difficulty exercising any control over others, e.g. making demands on others. The child who emerges from this interaction often manifests one side of the behavioral continuum of impulse control, e.g. has difficulty controlling impulses, and the family theme is likely to revolve around the dimension of punishment-control. Because of the extreme nature of the individual behavior of the participants neither partner finds it necessary to modify his behavior, since the other side of the continuum is already being played and the system becomes self perpetuating. (As long as the partner plays out the reciprocal role, there is no need to assimilate new behavior or move to a more balanced point on the behavioral continuum.) Furthermore, this family theme becomes stuck in time.

In contrast, the participants in a more "normal" family have a more complete and varied individual repertoire representing less polarized behavior (which pulls less

extreme responses from the partner). Although family interaction may revolve around a particular theme, this theme will vary in time as a function of resolution of conflict due to the relative fluidity of the participants in the interaction. It is also expected that in deviant families, the participants will respond to one another in more stereotyped ways and will discriminate less (than normals) between the attributes of different family members.

In the process of development and in relationship to significant others, the child evolves a series of behaviors which may be viewed as both eliciting and reciprocal in relationship to each parent. These behaviors are often reinforced in subsequent interactions with others because the assimilated behaviors often pull the same responses as they did in earlier relationships. Furthermore, the individual is likely to get involved in interactions which model the early interpersonal learning situation. (However, the child also has his own set of eliciting behaviors and from the very beginning is eliciting certain responses from his interpersonal environment, e.g. the activity level of the infant will tend to pull certain responses from others. Similarly, there is an interaction between the child's eliciting and reciprocal behaviors and those of the significant others in his environment.)

Children who get caught between the extreme eliciting behaviors of their parents are also likely to manifest

relatively extreme behavior and a limited interpersonal repertoire (because of the narrow band of interpersonal behavior which is displayed in family interaction). When the child displays the eliciting behavior of one parent, that behavior will be reinforced by the reciprocal behavior of the other parent. Therefore, the child's own eliciting behavior often helps to keep the family cycle going. Furthermore, the family patterns persists and influences the child's expectations of behavior from others. The eliciting behavior of each parent "pulls" very different reciprocal behavior from the child who may minimize conflict within himself by modeling his behavior after one parent to the exclusion of the behavior manifested by the other parent. In less conflicted interactions, it is easier for the child to share the eliciting behavior of both parents and, therefore, to assimilate a broader range of interpersonal behavior.

### Theoretical Background

Similar theoretical positions have been presented by others. For instance, Leary (1957) maintained that the most important single aspect of personality is "the reflex manner in which human beings react to others and train others to respond to them in select ways." In this regard, he posits a principle of reciprocal relations, a general probability principle which holds that "interpersonal reflexes tend with a probability greater than chance to initiate or

invite reciprocal interpersonal responses from the other person in the interaction that leads to a repetition of the original reflex" (p. 123). In general, dominant behavior is said to pull submissive behavior (vice versa for submissive behavior) and friendly behavior and hostile behavior tend to pull responses of the same kind. In support of this principle, Raush, Dittman and Taylor (1959) observed that in groups of aggressive and normal boys that aggressive behavior seemed to elicit friendly responses. However, there was a discrepancy between the number of hostile responses sent and received by aggressive boys in their interaction with adults; these adults generally sent more friendly responses to the boys than they received.

Leary (1957) has emphasized the "surprising ease and facility with which human beings can get others to respond to them in uniform and repetitive ways." Framo (1965) also observed that individuals "train others into relating to them in ways that enable them to continue their internal relationships" (p. 447). This has been expressed in a slightly different manner by Henry (1951) who stated, ". . . individuals learn relatively rigid patterns of interaction which they tend to project upon the world in such a way as to expect reciprocal patterns from others" (p. 800). In this regard, Henry (1951), an anthropologist, observed that in his visit to primitive cultures "the natives seek in

interaction with the anthropologist those responses to which they have been habituated." This idea is similar to Kell and Mueller's (1967) "eliciting theory" which describes the interpersonal maneuvers a client may use to get the therapist to respond to him in the same way as have significant persons in the past. Furthermore, these authors view client change as being a function of the therapist responding in ways that are different from the behavior the patient has experienced in these past relationships.

Consistent with these observations, Leary (1957) has suggested that disturbed persons manifest a narrow range of interpersonal behavior. "Even though all individuals consistently prefer certain interpersonal reflexes, maladaptive individuals restrict themselves to a most narrow sector of the interpersonal spectrum." In attempting to explain this phenomenon, Leary suggested that repeating the same behavior is a way of avoiding anxiety and that repetition tends to minimize conflict and provides the security of continuity and However, the price paid for this security is a sameness. restricted social environment where there is little opportunity for growth or change. Leary also observed that although a sick person has few reflexes these are most powerful in their effect so that in a relationship between a "sick" and a "healthy" person, the sick person often determines the relationship. Leary concluded that each person is presented with the problem of working out an arrangement between "the double threats of rigidity and chaotic flexibility."

Freud (1920) also observed that certain individuals repeated the same experiences over and over again in their lifetime. He referred to this phenomenon as a "repetition compulsion" and attributed it to the repression of early material (often oedipal in nature) which was then repeated in contemporary experience. In describing this "repetition compulsion," Freud stated: "Thus we have come across people all of whose human relationships have the same outcome: such as the benefactor who is abandoned in anger after a time by each of his 'proteges,' however much they may otherwise differ from one another, and who thus seems doomed to taste all the bitterness of ungratitude; or the man whose friendships all end in betrayal by his friends; or the man who time after time in the course of his life raises someone else into a position of great private or public authority and then, after a certain interval, himself upsets that authority and replaces him by a new one; or, again, the lover each of whose love affairs with a woman passes through the same phases and reaches the same conclusion." (pp. 44-45)

In many ways, Freud's (1920) repetition compulsion is similar to Berne's (1961) scripts, which are "repetitive sets of social maneuvers based upon an unconscious life plan." In this regard, Berne (1961) observed that persons may constantly play the same role with others, e.g. consistently either behave as the Parent, the Child, or the Adult, to the exclusion of one or more of the other possible roles.

In contrast to Freud, Berne would maintain that the same script may take a life time to play out, so the same specific events would not necessarily recur. In addition, Berne noted that "Neurotic, psychotic and psychopathic scripts are almost always tragic and follow the Aristotelian principles of dramaturgy with remarkable fidelity" (p. 117). Like Leary (1957), Berne also observed that individuals go about getting others to play the right counter roles. However, rather than viewing "scripts" as originating as a way of avoiding anxiety (Leary, 1957), or as a derivative of the oedipal conflict (Freud, 1920), Berne believes that the motivation for the patient's behavior is his ". . . need to recapture or augment the gains of the original experience. He may seek to bring about a repetition of the original catastrophe . . . or he may try to attain a happy ending."

This is similar to Framo's (1965) description of what motivates individuals to maintain past familial relationships in present relationships. According to Framo (1965), ". . . they try to reduplicate the original family situation in their attempts at mastery, settling of old scores or pains or getging the love in unalloyed form without the disturbing elements." Similarly, Kell and Mueller (1967) observed that clients often continued to maintain inappropriate behavior based upon the "irrational premise" that the client could only change himself after the significant persons have been changed by his or someone else's efforts. Elles (1967) pointed

out the futility of this kind of behavior in what he referred to as the "closed circuit" in a case study of a delinquent family. This author observed that the family would repeat certain previous experiences in an apparent attempt to make up for things missed in the past and, in this way, try somehow to separate the past from the present. However, paradoxically this behavior tied them even further to these same childhood experiences from which they were attempting to escape.

According to Jackson (1965) since the family is a rule-governed system, all family interaction can be characterized by certain repetitive sequences or patterns. Haley (1967b) has extended this idea by proposing that although "organization means limitation, the more pathological, the more limited" (p. 51). Haley's (1967b) model for differentiating families concludes the cybernetic idea of the selfcorrective governing system. An important part of this idea is the suggestion that since no outside governor requires family members to behave in their habitual pattern, the governing process must exist within the family. In discussing the disturbed family system, Haley (1967a) said, "The tightness and rigidity of family networks becomes particularly evident to the therapist attempting to bring about a change in whole families. As with individuals, family studies indicate flexibility is synonymous with normality and rigidity with pathology."

Many authors (Lidz et al., 1958; Rychoff et al., 1959) Wynne, 1959; Brody, 1959; Haley, 1959, 1962; Rosenbaum, 1961; Bowen, 1961; Stabeneau et al., 1965) have reported that a rigid and inflexible role structure seems to exist in families of schizophrenics. Brody (1959) has characterized these stereotyped roles as being like a morality play of medieval times where "Actors take allegorical roles, positions that are stereotyped and confined--one is Good, another Evil and a third Temptation" (p. 380). According to Wynne et al. (1958), "The social organization in these families is shaped by a pervasive family subculture of myths, legends, ideology which stress the dire consequences of openly recognized divergence from a relatively limited number of fixed engulfing family roles" (p. 220). In fact, Rosenbaum (1961) has characterized the behavior of the individual schizophrenic as a ". . . caricature of the inconsistencies and distortion of the parents . . . the argumentum ad extremum et absurdum . . ." (p. 124).

Not only are individual roles rigidly defined, but the family itself seems to be surrounded by a type of impermeable boundary. In this regard, Haley (1959) noted that members of schizophrenic families have difficulty forming alliances with people outside of the family and as a result they become even further confined to the interpersonal behavior in their own family system. This observation is similar to Wynne's (1958) conceptualization of the schizophrenic family as being surrounded by a "rubber fence . . . a

continuous but elastic boundary encompassing the family's role structure" or to Lidz's (1957) "procrustean environment . . . in which events are distorted to fit the mold."

This rigid role structure that is said to characterize the family of the schizophrenic has also been observed in non-psychotic families. In fact, Henry (1951) has gone so far as to define neurosis as a "rigid intrafamilial interaction pattern that is pathogenic in quality." In this regard, there are indications that disturbed marital pairs often share the same conflict while on the surface they appear to be the complete opposite from one another. Furthermore, these polarized roles are maintained in a most rigid fashion. This phenomenon has been reported by Vogel (1960) and Virginia Satir (1964) who described this process as follows: "Each (parent) can project his dislikes of attitudes or behavior representing one half of the conflict onto the other parent or onto the child and fight it there . . . " (p. 31). In a similar way, Bell and Vogel (1960) have suggested that the child may serve as a family scapegoat for the tensions between the parents.

There is a suggestion that nuclear families may not only be characterized by certain "themes" (Hess and Handel, 1959), but that these patterns may be imparted from generation to generation. For example, Fisher and Mendell (1956) demonstrated, on the basis of interview and projective data, that seven members of a family extending three generations

were preoccupied with exhibitionism. They explained this finding by suggesting that spouses choose each other "in an attempt to perpetuate their past experience" and the child learned the pattern from his parents.

Henry (1951) also found that disturbed behavior patterns were transmitted from generation to generation so that families were characterized by a "core family neurosis." Henry reached this conclusion on the basis of a careful study of psychiatric social workers' records of therapy interviews with mothers and boys referred to a child guidance In this investigation, he was interested in the clinic. mother's descriptions of her interaction with immediate and extended family which he classified in terms of a rating system which he devised especially for the analysis of these This classification system included the following data. provocation, dominance, distrust, clingingness, categories: love-hate themes, primitive hostility, communication. On the basis of the findings from this study, Henry (1951) concluded, "Given the psychobiological conditions for the development of pathological forms of interaction, patterns become fixed in such a way that individuals tend to seek in interaction with others the types of responses to which they have been conditioned--to transmit to succeeding generations relatively stereotyped patterns of interaction" (p. 815).

Framo (1965) referred to an "unconscious exchange" between people who are deeply related which appears in the

form of family themes or recurrent problems. In a similar way, Ehrenwald (1958, 1960, 1963) speaks of "pseudo-heredity" to refer to the way neurotic patterns of interaction are transmitted from generation to generation and "psychological catagion" as the transmission of symptoms from parent to child. In this regard, Meerloo (1959) predicted that as communication approaches more primitive forms, the more contagious is the meaning it conveys. Ehrenwald (1960) suggested that maladaptive attitudes are psychologically contagious and that this contagion is directly proportional to duration of exposure and inversely proportional to the age of exposure.

### Family Interaction Studies

The earliest investigations involving observation of family members were centered on the mother-child dyad, primarily in a free play situation. Papers by Bishop (1946, 1951) and Moustakas, Siegel and Schalock (1956) are representative of research in which this approach was used. Although these studies contributed schedules for categorizing motherchild interaction, they often ignored the contribution of the child's behavior to the ongoing interaction. Furthermore, they seemed to discount the importance of other family members by omitting them from the interaction. However, by bringing family members together and observing their behavior, these studies can be considered the forerunner of family interaction research.

The earliest study to use a conjoint approach with marital pairs was provided by Strodtbeck (1951) who presented a "Revealed Differences Technique" which has been subsequently used by many investigators to study family interaction. According to Strodtbeck (1951), the essence of this technique is to "Ask subjects who have shared experiences to make individual evaluations of them; and then have the subjects reconcile any differences in interpretation which may have occurred." (p. 473). For the study in question, couples were asked to nominate three families with whom they were familiar; the husband and wife were then separated and were told to specify which of these families best met a series of conditions, e.g. which family was the most ambitious, had the happiest children. After Strodtbeck had revealed the differences to the husband and wife pairs, he classified their discussion using Bales (1950) interaction categories and found that the spouse who talked the most won the most decisions.

The Revealed Differences Technique has been used by investigators to study a variety of problems. For instance, March (1953) examined husband-wife interaction around political issues and Kenkel and Hoffman (1956) used it to study the accuracy of predictions made by marital pairs about their own and spouse's role in a session where they would decide how to spend \$300. In another investigation involving married Couples, Vidich (1956) modified the Strodtbeck Technique by

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presenting subjects with their differences during the discussion rather than <u>ipso facto</u>, as is the case in the Strodtbeck procedure. The usual procedure was also changed by having the experimenter remain in the room during the couple's discussion. In this study, Vidich concluded that the experimenter's presence interferred with the interaction as the couples often directed their comments to him rather than to each other. In addition, he felt that the presence of the tape recorder and the uniqueness of the situation often made the interaction "artificial."

A classical study by Mills (1953) provided the impetus for Strodtbeck's later investigation (1954) of coalitions within family triads. Mills (1953) had reported that three person groups tend to break into a two personone person coalition, with the one garson often becoming a scapegoat for the anxieties in the dyadic relationship. As suggested by Mills, Strodtbeck (1954) repeated this experiment using the family triad as the experimental group. Strodtbeck visited the family at home and asked each family member to select independently one of two alternatives on a 47 item questionnaire. He then selected items representing different types of coalitions, and presented families with their disagreements, rotating the isolate role. The family discussion was tape recorded and analyzed using Bales' (1950) interaction categories. In this study, Strodtbeck (1954) found fewer coalitions in families than had been reported by

Mills for <u>ad hoc</u> groups and he attributed this difference to the fact that family members tend to support one another and "no member can easily withdraw from the relationship" (p. 28). Framo (1965) has also suggested that crucial differences exist between "groups without a history" and family groups, where members have to live with each other after the experiment.

Leadership was a popular topic in small group research (Cartwright and Zander, 1962) and many of the early family interaction studies focused upon the "locus of authority" in the family. These studies were often based upon Parsons' (1955) suggestion that roles in the nuclear family can be differentiated on two dimensions: expressive and instrumental. The mother was said to fill the expressive role (sensitive and concerned with social-emotional behaviors) and the father the instrumental role (goal directed, practical and realistic).

Bachove and Zubaly (1959) studied role differentiation  $\star$ in a group of nineteen normal families, consisting of mother, father and sixth grade boy. Each family triad carried out standardized tasks consisting of problem situations and joint TAT stories upon which the members were requested to agree. These investigators found that in the family discussion, children expressed most of the negative behavior and roles appeared to be typically differentiated by having the father as the task leader and mother as the social-emotional leader, as was suggested by Parsons (1955). However, these

investigators noted that whereas the father was generally the dominant figures, mother dominance was of a "subtle, manipulative nature, whereby she asserted control by delaying decisions rather than persuading other members into decisions" (Framo, p. 427). Bachove and Zubaly (1959) compared their data with Bales' (1958) findings for peer groups. Like Strodtbeck (1954), Bachove and Zubaly found that differences existed between the patterns found in the family and those in <u>ad hoc</u> groups. In this case, the peer groups seemed to agree and disagree overtly far more than the families.

Levinger (1959) compared Bachove and Zubaly's (1959) normal families with a group of clinic families and found that clinic mothers exhibited significantly more negative emotional behavior than normal mothers and that mothers in the clinic families participated most often in the family discussion. This latter finding was considered to be indicative of a dominant mother (passive father) in the clinic families and Levinger (1959) concluded that parental role reversal was a "disturbing influence on children."

Farina (1960) used a procedure somewhat similar to Strodtbeck's (1951) Revealed Differences Technique to study role dominance and conflict in parents of schizophrenic patients as compared with parents of normal children. This study was based upon preliminary evidence by Rodnick and Garmezy (1957) that maternal dominance was associated with poor premorbid adjustment and father dominance was related to

good premorbid adjustment in male schizophrenics. Farina (1960) subjected this finding to further experimental test by comparing the parents of 12 good premorbid schizophrenics, 12 poor premorbid schizophrenics with the parents of 12 children hospitalized for tuberculosis. These parents were interviewed separately and presented with a guestionnaire. Parent Attitude Research Instrument (PARI), which had items dealing with hypothetical parent-child problem situations. After completing the questionnaire, parents were brought together and asked to reconcile their differences. The session was tape recorded and later evaluated using various indices of conflict (interruptions, frequency of simultaneous speeches, disagreements and aggressions) and dominance (total speaking time, yielding to ones spouse, who spoke first and last). This study confirmed Farina's earlier findings that paternal dominance was associated with good premorbid adjustment and that maternal dominance was associated with poor premorbid adjustment. In discussing these results, Farina (1960) suggested that it was easier for good premorbid patients to learn appropriate male behavior and, therefore, to achieve a higher level of maturity. In addition to finding parental role reversal in the schizophrenic families, this author also discovered that parents of schizophrenic patients displayed more conflict than the normal parents, and that within the schizophrenic group, the poor premorbid parents diaplayed more conflict than the good premorbid parents.

In a later study, Farina and Durnham (1963) obtained the same results by including the schizophrenic son in the above design.

Caputo (1963) also investigated parental role reversal in families with a schizophrenic member. Parents of 20 chronic male schizophrenics and parents of 20 normal sons were administered the Parent Attitude Inventory (PAI) consisting of true-false opinion items and the Osgood Semantic Differential where they rated "myself," "my marriage," "my son," etc. Later, parents discussed disagreements on the PAI and their interaction was tape recorded and then analyzed using the Bales Method. A marked discrepancy was found between the results on the paper pencil task (which revealed a relatively benign picture of the pathological families) and the analysis of the ongoing interaction in which the parents of the schizophrenic manifested considerable antagonism and hostility.

Contrary to Caputo's predictions, the various indices of role dominance did not discriminate between the two groups. However, Caputo did find that there was more <u>sharing</u> of authority in the normal families than in the schizophrenic group. This author emphasized that both parents contribute to the schizophrenogenic character of the home and that patterns of hostility are bilateral, rather than unilateral, from wife to husband (as he had originally predicted).

Like Caputo (1963), Cheek (1964) noted a discrepancy between what mothers reported about parental behavior (on a

questionnaire) and what could be observed in family interaction. Cheek included the schizophrenic patient in a study comparing 67 families triads with a schizophrenic offspring and 56 normal family triads. A revealed differences technique was used to elicit family interaction and this discussion was tape recorded to be later scored with a modified Bales system. Cheek found less activity in schizophrenic families than in normal family interaction and also observed higher mother-son agreement (than father-son agreement) in schizophrenic families.

One of the earliest studies of parental interaction was done by Fisher, Boyd, Walker and Sheer (1959) who compared the parents of 20 male schizophrenic patients with the parents of 20 male neurotics and the parents of 20 normal males. Both individual and interactional measures were used to assess parental functioning. Each parent was given the Rorschach which was scored using the Fisher Rigidity Score, assumed to measure "personality rigidity." On this measure, parents of neurotics and parents of schizophrenics were significantly more rigid than the parents of normals.

Although the various individual tests (like the Rorschach) were able to differentiate between the normal and pathological groups, they did not discriminate between the neurotic and schizophrenic families (the two pathological subgroups). In this study, the interactional measure proved to be more sensitive than the tests of individual functioning.
During the family discussion, parents of neurotics disagreed less, talked more and communicated with more clarity than did the parents of the schizophrenic. Fisher <u>et al</u>. (1959) noted that "the combined maladjustment of both parents as they interact with the child contributes to the production of schizophrenia." This observation was also made by Caputo (1963) who concluded that both parents are involved in the development of schizophrenia. In this report, Fisher <u>et al</u>. (1959) stressed the value of using direct measures to assess family functioning. This position has been subsequently emphasized by others (Farina, 1960; Drechsler and Shapiro, 1961; Caputo, 1963; Cheek, 1964).

Stabeneau, Tupin, Weiner and Pollin (1965) used both direct and indirect measures of family functioning to compare the interaction patterns of 5 families with a schizophrenic child, 4 families with a delinquent member and 5 normal families. These were four member families; one child was the patient and the other child served as a control. Family members were tested and interviewed individually, as well as being observed during a semi-structured family interview. In contrast to the difficulty reported by others using individual measures, the present authors found that on the basis of parent-child interaction themes in the TAT stories, they were successfully able to differentiate the three family groups. On this projective test, parents of normal children told stories which suggested that they allowed the child a

realistic amount of independence. In comparison, the TAT stories told by parents of delinquents indicated that they used strict discipline and expected immediate obedience. Finally, the parents of schizophrenics produced stories which suggested that the child primarily filled their own emotional needs.

Stabeneau et al. (1965) also compared the existing role structure in the three groups of families and noted that in the delinquent family there seemed to be a lack of clear role differentiation and an unstable relationship existed between family members. These authors also observed that there was considerable conflict regarding who would lead in the family and the patient was more often involved in this competitive struggle with his parents than was the control sibling. This difficulty in sharing of controls was also reported by Caputo (1963) as being characteristic of families with a schizophrenic member. Stabeneau et al. (1965) characterized the role pattern in his three groups as follows: the schizophrenic family roles were rigid and inflexible, delinguent family roles were competitive and the normal families manifested the clearest role differentiation. In these normal families, the father was the most active, the mother next and the child least active during the family dis-Judges also made a global estimate of communication cussion. clarity and ranked the normal families as being the most clear, followed by the delinquent and schizophrenic families who were the least clear.

In another study which focused upon the clarity of communication in families with a schizophrenic patient, Beavers, Blumberg, Timkin and Weiner (1965) compared the verbalization of nine mothers with a schizophrenic child and nine mothers who had a passive aggressive offspring. These mothers were given a semistructured interview which dealt with the mother's feelings about such issues as the child's birth, his childhood, adolescence, etc. Transcripts of this interview were scored according to three categories dealing with the mother's clarity of communication (definite responses, evasions, and shifts of meaning). These authors found that mothers of schizophrenics had a lower percentage of definite responses (clear responses related to the question) and a higher percentage of shifts and evasions in their feeling state than the mothers of passive aggressive patients. This result corresponds with the findings of others (Fisher et al., 1959; Caputo, 1963; Stabeneau et al., 1965) that a lack of clarity often characterizes the communication in schizophrenic families. In fact, Framo (1965) has suggested that this lack of clarity of communication between family members is more relevant to the development of schizophrenia than is open conflict and disagreement between parents.

Lennard, Beaulieu and Embrey (1965) focused upon a different aspect of intrafamilial communication in a study which compared ten normal families and ten families with a schizophrenic son. Family members discussed three topics

and the discussion was tape recorded and later analyzed in terms of the amount, direction and rate of intrafamilial communication. These authors also noted "who spoke" and the interpersonal referents of the communication, which were classified as to whether they were focused on the child, the parent, or someone else. Lennard et al. (1965) also recorded the rate and success of intrusions (a third member entering an ongoing dyadic interaction) and found that schizophrenic sons and their mothers exhibited fewer intrusions than fathers of schizophrenics or than normal mothers and their sons. Likewise, the schizophrenic intrusions were less successful than in the normal families (the intruder was unable to change the topic of conversation). Although this research is only partially completed, the results were interpreted to support the dominant mother, passive father notion in schizophrenia.

In an experimental study concerned with coalition formation in family triads, Haley (1962) asked 30 families with a schizophrenic child and 30 families with a normal child to play a game in which they could form an alliance with another family member by simultaneously pressing a coalition button. Haley predicted that schizophrenic families would have difficulty forming and maintaining coalitions since in schizophrenic families "there seems to be a rule that none of them will permit the other to govern his behavior and so elicit a particular response" (p. 280). This hypothesis was

confirmed by the data; schizophrenic families maintained fewer and briefer coalitions than normal families and they also had great difficulty following through with a plan regarding who was to win a certain game. Haley found that the schizophrenic group was less active than the normal group and they spent less time scoring with each other (so to speak) than did members of the normal group. Using a different procedure, Cheek (1964) also observed less activity in schizophrenic families than in normal family interaction.

Another finding in the present study was that schizophrenic families were less flexible than normal families. In the schizophrenic group, the father won the majority of games and the child hardly won at all, while in the normal families, all members equally won decisions. In another investigation concerned with coalition formation in families, Bodin (1966) studied a different pathological group (families with a delinquent son) and also found there was more tendency to "share and share alike" in normal than in problem families.

Ferreira (1963) also investigated the decision making process in 25 normal and 25 abnormal families. Individual family members were asked to make a decision about three emotionally neutral items, e.g. "If you were going to take a trip to Alaska next month, would you rather go by train, car or boat?" Next, the family was brought together to reach a family agreement on the same items. However, the experimenter did not inform members ahead of time as to their disagreements

and it was up to each person to indicate his preferences at the time of the discussion. In the analysis of this family discussion, individual choices were compared with family decisions and were classified as unanimous, majority, dictatorial or chaotic. The results supported the hypothesis that normal families differed from pathological families in their decision making process. More specifically, normal families showed a higher degree of spontaneous agreement (agreeing on an initial individual choice) and a lower incidence of chaotic decisions (families choosing an alternative that had not been selected by any of them as individuals). Another finding was that parents in the normal families had a greater influence than the children in deciding what the family was not to do, while in the abnormal families, the child had more to say regarding what the family was against. Ferreira (1963) also found in normal families a higher rate of winning decision coalitions between child and the same sexed parent than the child and the opposite sexed parent.

In a later study, Ferreira and Winter (1965) again investigated the decision making process in family interaction, this time studying such variables as "conjoint decision time" "choice fulfillments" (the number of instances in which an individual's first choice was subsequently chosen as a family decision) as well as variables of "spontaneous agreement" which had been studied in the foregoing investigation. This research also included a larger sample than was

used in the previous study. This sample consisted of 76 abnormal family triads (16 schizophrenics, 16 delinquents, 44 maladjusted) which were compared with 50 normal triads. The authors again discovered more instances of spontaneous agreement in normal than in abnormal families. In addition, they found that abnormal families took more time to reach a decision and their family decisions were less appropriate than those made by the normal families.

Bodin (1966) used a different task and independently confirmed Ferreira and Winter's (1965) finding of higher spontaneous agreement in normal than abnormal families. A unique feature of Bodin's study was the inclusion of "artificial family triads" which consisted of father, mother and son, each from a different family. In addition to these 12 "synthetic families," Bodin included 12 "problem families" (father, mother and delinquent son) and 12 "normal families" (father, mother and non-delinquent son) in his study. Family members completed the Family Agreement Measure, a questionnaire which dealt with such issues as family strengths, problems, discipline and communication. They also played a game using a modified parchesi board which yielded data regarding bargaining and coalition patterns in the three groups. Bodin found that these family groups differed little in their overall game strategy, but noted certain specific differences between the normal and problem families. In the normal families, there was "less tendency to 'go it alone', and more

tendency for fathers to show benevolence by forming coalitions even when they were all powerful" (p. 43). On the questionnaire measure, Bodin demonstrated higher overall parental agreement and more efficient joint decision making in real than in artificial families. In addition, he discovered greater father-son agreement and greater maternal influence in normal than in problem families.

Winter, Ferreira and Olson (1965) administered TAT cards to 76 abnormal (16 schizophrenic, 16 delinquent, 44 maladjusted) and 50 normal family triads. Families were asked conjointly to produce three TAT stories based upon nine cards which were later scored using the Arnold System Story Sequence Analysis (1962) on which judges rate sequential themes in terms of emotional maturity. This score successfully differentiated normal from abnormal families, although the three abnormal groups were not distinguished from one another.

Using the same sample, Ferreira, Winter and Pointdexter (1966) investigated several new variables, e.g. how much each person talked, the relative amount of overlap between speeches (simultaneous speeches), relative amount of silence. Although normal and abnormal groups did not differ in terms of who talked most, overlap or equality in decision making, abnormal families had a significantly higher percentage of silences and more often needed to extend the time limit to complete the stories. Based upon Haley's (1964) study of speech sequences

in normal and abnormal families, these authors predicted that abnormal family members would participate more unequally than normal family members in a family discussion. However. this hypothesis was not corroborated by the data, although there was a non-significant trend for schizophrenic families to deviate from random participation. In spite of these results, Ferreira et al. (1965) did observed that abnormal families operated with greater rigidity in their use of certain interactional variables, e.g. silence. Based upon these observations, Ferreira et al. (1965) concluded, "This notion of rigidity in pathological family systems seems to form well with the clinical impression that pathological families may be quite handicapped in their ability to change their ways in the face of new situations or events This subject deserves further inquiry" (p. 72).

In the preceding discussion, reference was made to Haley's (1964) investigation. This study involved a comparison of speech sequences in 40 normal and 40 abnormal family triads using an automatic counting machine which was activated when a particular member of a family triad spoke. In this way a running tally was kept on all of the 6 dyadic speech sequence possibilities: (1) mother followed by father (2) father followed by mother (3) mother followed by child (4) child followed by mother (5) father followed by child (6) child followed by father. Family interaction was elicited by means of the family members' joint production to TAT cards and their discussion of questionnaire items.

In this investigation, Haley (1964) was interested in three guestions "basic to family research" (p. 42). In the first question, this author asked whether the family was an organization following repetitive interaction patterns. Haley answered this guestion affirmatively by demonstrating that speech sequences differed from random expectations in the two groups and he interpreted this finding to be indicative of family organization. Secondly, he found that the two groups of families distributed themselves in an approximately normal fashion on a scale of interaction randomness. Haley's final hypothesis, and the one most directly relevant to the present study, was "logically derived" and also based upon the clinical observation of a rigid organization in disturbed families. In keeping with this observation, he predicted that speech sequences would be less random (more rigid) in the abnormal than in the normal families. This prediction was supported and the difference between the two groups was statistically significant at the .00003 level.

However, in a later study using a similar sample of families and a similar procedure, but with <u>two</u> children present, Haley (1967b) failed to demonstrate that speech sequences were less random in the abnormal families. In this regard, Haley suggested that one would logically expect an increase in R deviation (deviation from randomness) when an additional family member was included in the interaction since more pairs (or possible sequences) were possible. According to

Haley (1967b), "In a triad there are three possible pairs, while with four person groups there are six possible pairs of sequences so the chance of inequal participation is greater" (p. 93).

In this study, the normal families were less random (more rigid) when an additional child was included in the family discussion, while the R deviation for the clinic group was approximately the same as it had been in the preceding investigation (Haley, 1964). Yet, when Haley divided the abnormal families into subgroups in terms of degree of disturbance, he again found a relationship between rigidity and pathology; the R deviation was higher for more disturbed families than for those with milder problems. It was suggested that only further exploration would clarify why the previous, highly significant difference between the normal and clinic families disappeared when an additional child was included in the discussion. However, Haley speculated about the reasons for this occurrence and mentioned the possibility that his measure (audible sounds) may not be a clinically relevant variable, since most clinical concepts are content oriented and the present measure even fails to discriminate between a "grunt" and a "five minute lecture." Nevertheless, Haley largely discounts the possibility that this instrument was not measuring relevant variables. In this regard, it should be noted that Haley (1964) believes that family research should ideally involve the recording of observable events

which involve no inference on the part of the observer; the inference should be made after the primary data are collected. However, the possible difficulties in this approach would seem to be demonstrated in the present study where there was considerable ambiguity regarding the meaning of the results. Although not mentioned by Haley, the present author would suggest that the "more rigid speech sequences" manifested by the normal families when two children were present in the interaction may, in fact, reflect an adaptation to this situation, e.g. perhaps more organization is needed in a family discussion in which two children are participants. However, as suggested by Haley (1967a) further research is needed regarding this issue. In this study, Haley (1967b) also found that parents in the abnormal group spoke before and after the patient a great deal less than before and after his sibling and he interpreted this finding to mean that parents in the abnormal families respond differently to the problem child than to his sibling.

Haley also hypothesized that since abnormal families were more rigid than normal families, the abnormal families should change less than the normal families when re-tested 6 months later. At the time of this report, this research was only partially completed. Nevertheless, there was a trend which suggested that speech sequences in the abnormal families were more similar on the second testing than were those for the normal families. In addition, the problem child changed

less than the normal child, although he changed more than his parents. This data would seem to be corroborated by the findings from Moore's (1966) doctoral dissertation, which investigated consistency in family interaction. Moore (1966) tested eight normal and seven abnormal families in two similar semi-structured interviews with an 8-10 week interval between sessions. He found that clinic families changed less than normal families as manifested by their group pathology scores on the re-test and the normal families were significantly "less pathological" in the second interview. Moore interpreted this finding to suggest a possible differential capacity to profit from experience in the two groups. However, this result also fits well with the notion that disturbed families are more rigid (less flexible) in their interaction than are normal families.

## Methods Used to Study Family Interaction

Drechsler and Shapiro (1961) reported that direct observation of family interaction was a useful procedure for gathering diagnostic information about the family in a child guidance setting. This procedure involved having a psychiatrist interview the family and then present them with a twenty item questionnaire containing fantasy and factual material, e.g. "If each of you could change one thing about yourself and other family members what would you change?" Families were observed through a one way mirror as they discussed the questionnaire. The session was tape recorded and twenty

minute segments of family interaction were extracted and analyzed using both clinical and statistical techniques. The authors were interested in patterns of interaction within the family and observed that many of the clinic families manifested what appeared to be rather repetitive interpersonal patterns.

Another method for studying family interaction has been described by Elbert, Rosman, Minuchin and Guerney (1965). This method includes the use of a special type of family TAT called the Family Interaction Apperception Test (FIAT), which consists of ten cards that portray various family scenes. The test was initially designed to be used with families of various races at the Wiltwyck School for Boys and the figures are ambiguously drawn as to racial characteristics. It is suggested that this test be used in conjunction with the Wiltwyck Family Task which involves a structured interview, as well as certain tasks which are used to elicit family interaction. In this test, the family is asked to respond to some "neutral questions" ("Plan a menu") as well as several emotionally laden items, e.g. "Who is the biggest cry baby in the family," "who is the bossiest member of the family." The family is also instructed to describe a family argument and to tell what each person likes and dislikes most about the other family members. In addition to these questions, the family is asked to construct a wooden model together. Another task involves having the psychologist offer

the family three gifts, a group game, individual game, age or sex specific game, from which they may select one to take home with them. The final task is said to measure "nurturance." In this "test," the psychologist offers refreshments to the family that consists of one extra cupcake and one less coke than the number of family members present. The experimenter then observes how the family members respond to this problem. Although these authors are interested in such variables as cooperation, competition, leadership and aggression, the findings based upon the use of this method have not been reported as yet.

An experimental method used to study family interaction has been reported by Goodrich and Boomer (1963) who used a color matching technique to elicit marital conflict. Colored panels were presented to 50 newly married couples who were seated on opposite sides of an easel. Each spouse was given 30 colored squares and was told that this test would assess his ability to discriminate fine gradations of color.

The experimenter then presented colored squares to both mates which were to be compared with the individual panels. The husband and wife were instructed to reach an agreement as to which of their cards best matched the comparison card. However, unbeknown to the spouses, half of these matches were impossible (the panels were "rigged" to be contradictory).

The couples reacted in a variety of ways to this situation, e.g. some couples openly attacked one another, others took turns deciding whose answer to use, others agreed to disagree. The way in which couples coped with their disagreements was taken to be indicative of the maturity of their relationship. On the basis of the findings in the present study, Goodrich and Boomer (1963) concluded that "adequate coping behaviors are related to the ability to achieve perspective in the situation and to maintain self esteem." This work has been extended by Ryder and Goodrich (1966) and replicated by Ryder (1966). One advantage of this procedure is that the task only takes about 15 minutes to administer.

In this investigation, Goodrich and Boomer (1965) also noted that both husband and wife would tend to alter or distort their choices in order to avoid disagreements. This finding is consistent with Naegele's (1951) observation that it is important for married couples to communicate to outsiders the fact that they "stick together." In a study of middle class American families, Naegele (1951) found a real reluctance on the part of family members to discuss family disagreements or hostility in front of outsiders. However, if these feelings were discussed, Naegele observed that it was more accaptable to admit getting angry at the children than to report fighting or disagreeing with one's spouse. More recently, Framo (1965) has suggested that there is a need in families to present a unified and healthy front that

is even stronger than this need in the individual. Similarly, Strodtbeck (1954), using his Revealed Differences Technique, noted that although family members would clearly disagree on questionnaire items, they would often attempt to deny these differences and to give the examiner the impression that they "never disagreed." Framo (1965) has suggested that this need to present a unified front poses a potential methodological problem for family research, e.g. how to elicit the "real" and significant aspects of family life.

This methodological problem seems to have been well handled by the research design used by Ferreira (1963) who compared overt rejection and the expectancy of rejection in 25 normal and 25 pathogenic family triads. Family members were asked to color cardboard flags and then to look at the flags made by other family members and to throw away the ones they didn't like. Another part of the experiment involved having each person guess how many of their own flags would be thrown away by the other family members. Ferreira found a marked discrepancy between actual rejection and the expectancy of rejection in pathogenic families, with the individuals in this group expecting much more rejection than they, in fact, received. This was in contrast with the normal families where the expectancy of rejection was commensurate with the amount displayed. Ferreira concluded that while normal family members seem to implicitly abide by the "eye for an eye principle," the abnormal families seem to have

replaced this talionic law with the principle of "two eyes for an eye" and "no tooth for a tooth." (p. 244).

Several different structured interviews have been conceived by members of the staff at the Palo Alto Mental Research Institute (Bateson, Haley, Weakland, 1957; Satir, 1966; Watzlawich, 1967). This research group has also developed various methods for classifying communication patterns within the family. For example, Jackson, Riskin and Satir (1961) reported a method in which they looked at family communication from the perspective of the messages exchanged and the way these messages are gualified by the participants in the interaction. Communication was said to consist of two levels, The literal content (denotative) and the message about the communication (metacommunication). Bateson (1955) has illustrated the concept of metacommunication in the following way: "Cats may go through all the battery of fighting yet at the same time withhold their claws. By this metacommunication, the cat clues other cats as well as people to the fact that he is not 'really' fighting, he is playing at fighting."

Jackson, Riskin and Satir (1961) assume that an individual is constantly attempting to define and influence the nature of his relationships with others. In this regard, these authors predict that "the more disturbed families will utter a greater number of incongruent messages than will healthy families" (p. 323). In a blind analysis of 5 minute setments of tape recorded parental interaction, these authors

were able to deduce fairly accurately characteristics of the son on the basis of an analysis of parental interaction. This analysis focused upon the individual's self perception, his perception of the person with whom he was talking and the perception of the other person in relationship to the self.

A similar method for analyzing family communication was described by Riskin (1963) who reported a pilot study where five families were asked to "Plan something together." Their conversations were tape recorded and later analyzed using a set of categories (clarity, content, agreement, congruence, commitment, intensity, and attack or acceptance of the other person). Riskin observed that more covert messages were sent in pathological families and that "over a period of time, the family develops certain repetitive, enduring techniques or patterns of interaction for maintaining its equilibrium when confronted by stress" (p. 345).

This method was modified and later described in a report by Riskin (1964). The procedure involved asking nine families to "Plan something together." The family discussion was tape recorded and the first and last 76 speeches were classified according to six scales (clarity, agreement, commitment, intensity, topic change and relationship). Each scale consisted of three parts. For example, on the relationship scale, a judge would label a speech as friendly, neutral or attacking. Riskin suggested that the "family is a system and the behavior of family members is patterned and consistent

over time and a few minutes of the family's overt interaction will contain the family's basic style" (p. 485).

Mishler and Waxler (1966) reported a comprehensive research design which included good and poor premorbid schizophrenics of both sexes, matched with normal families having both male and female offspring. The design also included the "well sibling" in the interaction. A revealed differences technique was used to elicit discussion, agreement coalitions were rotated and the family discussion was classified according to Bales 12 categories and other codes, e.g. interruptions, metacommunication, negative reactions, pauses, tension, etc. A multichannel tape recorder was used to record each participant's voice on a separate channel as well as the observer's descriptions of who spoke to whom. Although this procedure proved to be very time consuming (it took 18 hours to transcribe a one hour tape), the authors still considered this method to be most useful. Titchener, D'Zmura, Goldin and Emerson (1963) have also emphasized the value of doing a semimicroscopic analysis of family inter-These authors observed the family interaction of action. patients with neurotic symptoms as the family discussed differences elicited with the revealed differences technique. The family discussion was tape recorded and certain segments were also filmed. In addition to these procedures, an observer also took notes on the on-going interaction.

In contrast to methods which have focused upon the "structural aspects" of a family discussion (interruptions,

silences, pauses, etc.), Terrill and Terrill (1965) have reported a method which views family communication as an interpersonal process. This method includes Leary's (1957) eight interpersonal categories, as well as four neutral categories. In the present investigation, family members were asked to "Plan something together," and this system was applied to the communication of 10 families (2 normal, 4 delinquent, 4 schizophrenic). The messages sent and received by each family member were recorded. Terrill and Terrill (1965) concluded that this method was a useful one and, by way of illustration, presented and interpreted the scores obtained by a particular family.

## Description and Use of the Leary System

The basic unit in Leary's (1957) diagnostic system is the "interpersonal effect" which is assessed by determining the interpersonal meaning of a particular behavior, e.g. "What is this person doing to the other?" "What kind of behavior is he trying to establish through this behavior?" (Leary, 1957, p. 91). The basic assumptions underlying this system are derived from Sullivan's (1953) theory which is interpersonal in its approach and which also assumes that normal-abnormal behavior can best be described by a continuum rather than a dichotomy. The present diagnostic scheme is represented by a circumplex model (Freedman, Leary, Ossorio and Coffey, 1951) which consists of 16 categories arranged

around two orthogonal axes: dominance-submission, hostilityaffection. The relationship between these 16 variables is assumed to be a "decreasing function of their separation on the perimeter of the circle" (LaForge and Suczek, 1955, p. 76).

Although this system was set up on apriori grounds, a number of reviews of the literature (Adams, 1965; Foa, 1961; Schaefer, 1959, 1961) report that the results of different studies support the structure of this model. According to Foa (1961), "The findings suggest a circumplex structure around the two orthogonal axes of Dominance-Submission and Affection-Hostility" (p. 261).

In addition to this indirect empirical support for the model, Leary (1957) has also suggested that his four quadrants are similar to the variables which have been consistently emphasized by other personality theorists. For example, Leary observed that his quadrants resemble the classical humors of Hippocrates: choleric (hostilitydominance), melancholic (hostility-submission), sanquine (affection-dominance), phlegmatic (affection-submission). This fourfold classification also reappears in Freud's theory with the emphasis upon the love-hate dimension in the treatment of individual behavior and the power dimension in Freud's theory of social phenomena, e.g. the interaction of the weak vs the strong. There is also a suggested correspondence between Parsons (1951) "paradigm of motivational process":

aggressiveness and withdrawal on the alienative side, and compulsive acceptance and compulsive performance on the side of compulsive conformity. Erika Chance (1957) also commented upon the similarity between this circumplex model and the central aspects of several Neo-Freudian theorists, e.g. Fromm, Horney, Jung and Adler.

Most attempts to apply Leary's system to the study of family interaction have used Level 2 behavior (conscious descriptions of self and other) as displayed by marital pairs. Several papers by Luckey (1950, 1960, 1961) related self and spouse ratings on the Interpersonal Check List (ICL) to ratings of marital satisfaction. Mitchell (1963) also used the ICL to study alcoholic husbands and their wives. Although data from these studies have been fairly easy to obtain and score, they have provided indirect measures of interpersonal behavior.

In a descriptive study, Guerney and Guerney (1961) applied Leary's concepts to the analysis of a case of a nine year old girl who had a fear of death and refused to attend school. These authors concluded that Leary's model provided a useful way of conceptualizing family dynamics. Erika Chance (1957) applied verbs representing Leary's categories to father, mother and child's descriptions of their interpersonal experience. This investigation was undertaken to study therapeutic change and these measures were made at various points in therapy.

Raush, Dittman and Taylor (1959) also used Leary's system to study changes in the interpersonal behavior of aggressive boys in the course of residential treatment. Judges rated descriptions of the boy's behavior as observed in various settings with other children and adults. The boys were rated during the early part of treatment (3-4 months after arrival) and 18 months later. In a later study, Raush et al. (1959) included a normal control group and concluded that the observed changes in the aggressive boys seemed to be primarily due to the treatment program rather than to maturational factors. Dittman (1959) demonstrated that judgments could be made reliably but recommended that a large number of acts be coded in order to counteract the effect of low item reliability.

More recently, Terrill and Terrill (1965) modified Leary's system by adding 4 neutral categories (neutral exchange speeches, unclear meaning speeches, neutral or ambiguous tone speeches) to the existing 8 interpersonal categories. This method was used to rate the interpersonal aspects of communication within the family and an illustrative case was provided. Raters obtained an average agreement of 78% on their coding <u>S</u>'s speeches. Although Terrill and Terrill found this system a useful one, they mentioned that no attempt had been made to determine the validity of the rating scheme. In response to Terrill and Terrill's report, Tinker (1967) compared rankings of family interaction using the

Terrill and Terrill scheme with judges' rankings of families from most to least pathological. He found that judges' overall rankings based upon charted ratings derived from 4 minutes of family interaction significantly correlated with Moore's (1966) family pathology score derived from 90 minutes of interaction. In Tinker's (1966) study the average interrater reliability was 40%. Tinker (1966) concluded that the Terrill and Terrill system provided a "useful and meaningful abbreviation of family communication." Mueller (1967) is presently using the 16 categories to rate client-therapist interaction as manifested in the psychotherapeutic relationship.

## Evaluation of Studies

The present review of the literature primarily consisted of studies involving a direct observation of the family unit. However, most of this research focused upon the motherfather dyad rather than the interaction between each parent and child or the family as a whole. For example, a good number of studies compared parents with a disturbed child (often schizophrenic) and the parents of well offspring. By exclusively focusing upon the mother and father's interaction, these studies seemed to imply that the child was primarily the passive recipient of these parental behaviors. In contrast to this view, is the idea that parents not only have an effect upon the child, but the child's behavior, in turn, can

also have an impact upon the parents. In this regard, Bowen (1960) noted that the disturbed child is not only the "victim" of parental misdeeds, but he can also victimize his parents so that homes "become geared to the demands of the patient."

Another characteristic of these studies was that many of the variables which were investigated seem to have been borrowed from small group research, e.g. coalition formation, decision making process, power, leadership. However, as was previously noted (Framo, 1965), families differ in significant ways from "groups without a history." Therefore, it seems likely that the significant family life variables will differ from those which have been found to be relevant for these groups.

One of the subjects which has been researched a good deal is the dominant-mother, passive-father notion, with the assumption that a reversal of roles has direct implications for the sexual identity of the children. However, most of the studies which assessed "dominance" used such measures as total speaking time, who spoke first, who spoke last and, in this way, seemed to equate authority with activity in a conversation. Yet, it is apparent that more subtle interpersonal tactics (e.g. silence) can also exert considerable control in a relationship. For example, Haley (1967) noted, "A child who refuses to talk, such as a mute schizophrenic, can carry more weight in a family conversation than the most loquacious parent" (p. 73). Similarly, Lorenz (1963) observed the disarming effect of submission or helplessness in the face of an attack. He noted that in a fight an animal who offered his throat to the victor often seemed to inhibit further aggression. These observations would suggest that future research needs to consider other measures other than "verbosity" and "activity" to accurately assess the power dimension in a relationship. A fruitful approach would seem to be suggested by Caputo's (1963) study where normal families were distinguished from schizophrenic families on the basis of whether control was shared by the parents.

Furthermore, most studies investigating role reversal only focused upon the power dimension (or instrumental role) rather than considering both dimensions (expressive and instrumental). In this connection, it is also possible that parents can become too polarized on either of these dimensions, so that one parent is expressive and only deals with emotional concerns and the other parent is non-emotional and only deals with the control aspects of the relationship. Likewise, what are the implications for the child (male or female) when the father primarily tends to social-emotional matters and the mother is practical and realistic?

A number of studies have used Strodtbeck's (1951) Revealed Differences Technique to elicit family interaction. However, the fact that this method focuses upon "family differences" may result in defensive reactions from family

members. In this regard, it has been previously suggested (Naegele, 1951; Framo, 1965) that families have considerable difficulty discussing disagreements in front of outsiders. In addition, although differences are revealed to participants, the experimenter seldom examines the content of these differences, e.g. the actual positions taken on these issues by family members. The topics presented to participants for discussion are usually determined on the basis of predetermined coalition formations. In this connection, it is possible to question whether the issues selected for discussion represent important concerns to this particular family or whether these items only incidentally tap the problems which the family is encountering at the time. In this regard, Framo (1965) suggested, "A meaningful experiment would require that each family be presented with the controversies it is inherently struggling with, not with abstract controversies which result in polite playacting. Preliminary study of the family should reveal its Achilles heels." (p. 433).

Many studies explored ways of eliciting family interaction and considered whether direct observation of the family was more valuable than less direct techniques involving measures of individual functioning. At the present time, on the basis of the results of a number of studies (Fisher <u>et al.</u>, 1959; Farina, 1960; Dreschler and Shapiro, 1961; Caputo, 1963; Cheek, 1964), it is possible to conclude that direct observation of family interaction is a valuable assessment

procedure, and may be more sensitive than individual assessment. Although many studies have focused upon the structural characteristics of this interaction, few attempts have been made to describe the actual interpersonal behavior exchanged by family members. For example, in a family discussion, what are the sequences of behavior exchanged by family members and what are the contingency patterns in the relationship" (Bateson and Jackson, 1964).

# Statement of Problem

There is considerable theoretical support (Freud, 1920; Leary, 1957; Berne, 1961) for the idea that disturbed individuals manifest more rigid and repetitive interpersonal behaviors than do normal individuals. Likewise, several authors (Henry, 1951; Haley, 1964, 1967; Ferreira, 1965; Drechsler and Shapiro, 1961) have observed that disturbed families manifest more rigid intrafamilial patterns than normal families. Despite this apparent support, there have been few studies which have investigated whether normal and disturbed families can be differentiated from one another in terms of the rigidity of interaction patterns within the family. Furthermore, the studies which have researched this proposition, have largely used non-content measures (speech sequences) and have obtained conflicting results. For example, Haley (1964) found that speech sequences were significantly (.00003) more rigid in disturbed family triads than in normal families. However, when an additional child was included in

the family discussion, Haley (1967b) no longer found a difference in "random deviation" between the two family groups. Also, Ferreira (1965), using a similar measure and sample, failed to replicate Haley's (1964) findings. Nevertheless, Ferreira (1965) observed that disturbed families operated with greater rigidity in their use of certain interactional variables and concluded that the subject of rigidity in abnormal families "deserves further inquiry."

The present study compares the range of interpersonal behavior displayed by clinic and normal families. It is predicted that participants in clinic families will display a narrower band of interpersonal behavior than will participants in normal families. More specifically, according to <u>Hypothesis I: Clinic family members will display more repetitive behavior than normal family members.</u>

It is also predicted that in each dyadic interaction, participants in clinic families will be locked in more rigid interaction sequences than will participants in normal families. A sequence is defined as a sender-receiver combination. <u>Hypothesis II</u> is stated as follows: <u>Participants of clinic</u> <u>family dyads will have a larger proportion of their senderreceiver interactions occur in one quadrant than will members</u> <u>of normal family dyads</u>.

Raush, Dittman and Taylor (1959) found that aggressive boys were less responsive to situational factors than were normal boys. The disturbed boys were more likely to manifest

the same behavior, regardless of the social setting or interpersonal context. Furthermore, in the course of treatment, the children increased their ability to act differently in different situations. These authors suggested that a lack of responsiveness to situational and interpersonal variables is characteristic of psychological disturbance. This position would also seem to be supported by observations regarding the "consistency" of family interaction in disturbed families. In this connection, Moore (1966) found that clinic families changed their behavior less than normal families as measured in a re-test 8-10 weeks later. Likewise, Haley (1967b) observed a trend which suggested that abnormal families were more similar on the second testing (six months later) than were normal families. Also relevant are the studies which suggest that disturbed patterns of interpersonal behavior are often transmitted from one generation to the next (Henry, 1951; Fisher and Mendell, 1956; Ehrenwald, 1958, 1960, 1963). In keeping with these findings and with the previous hypothesis of rigidity in disturbed family interaction, it is predicted that participants in clinic families will behave more similarly with different family members than will participants in normal families who will manifest more differentiated behavior in the two dyadic interactions with different family members. This prediction will be tested by computing the proportion of times each category was used by a participant in each of the two different dyadic interactions.

<u>Hypothesis III</u> is stated as follows: <u>Clinic family members</u> <u>will be more consistent from one dyadic interaction to the</u> <u>other than will be normal family members.</u>

It is often assumed that a relationship exists between hostility or negative affect and various types of psychopathology, and that aggressive children come from homes where the parents are hostile or rejecting. A characteristic of the present sample of clinic boys is their aggressive behavior. On the basis of this specification, it would be possible to deduce that the parents of these boys are also hostile. This prediction would be consistent with social learning theory where there is the suggestion that a child learns response patterns from his parents and other models. Several studies by Bandura (1959, 1960, 1962) demonstrated that children exposed to aggressive models tend to display more aggression than children exposed to nonaggressive models. This is also in keeping with Virginia Satir's (1964) statement that "How parents teach a child is just as important as what they teach."

Similarly, Ackerman (1959) has suggested that boys with conduct problems often come from families where the parents are hostile or rejecting. However, the present author would not only view the child as the passive recipient of parental rejection and hostility, but would assume that children in clinic families also manifest behavior that tends to perpetuate the existing family patterns, e.g. the child exhibits behavior that elicits further rejection and hostility

from his parents. In this regard, Leary (1957) has suggested that aggressive behavior pulls aggressive responses and friendly behavior pulls behavior of the same kind. Therefore, it is predicted that there will be a significant difference between the normal and clinic families in the number of friendly (A-J) and hostile (B-I) responses made. According to <u>Hypothesis IV</u>: <u>Clinic families will express</u> <u>more negative affect in their interactions with one another</u> <u>than will normal families; normal families will express more</u> <u>positive affect in their interactions with one another than</u> will clinic families.

### Exploratory Questions

In addition to making the above predictions, the present study will further compare the type of interpersonal behavior exchanged by clinic family members with that manifested by normal family members. Responses will be classified as to whether they are hostile or friendly, dominant or submissive and into which quadrant they fall. <u>Question I</u>: <u>In each dyad, what behaviors are most frequently expressed by</u> <u>participants in clinic as opposed to participants in normal</u> families?

According to psychoanalytic theory, the boys should be post-oedipal (based upon their age) and, therefore, they should be more like their father than their mother. In this regard, it is possible to ask whether the clinic boy's behavior represents a lack of identification with his father.

Or, because of the interpersonal process within the family, is it difficult for the clinic boy to identify with his father (or both parents)? On the other hand, if the clinic boy is like the father, does the father seem to represent a "faulty model" e.g. is he hostile or passive? Therefore, <u>Question 2</u> is stated as follows: <u>Is there a difference be-</u> <u>tween clinic and normal boys on how much they resemble</u> <u>mothers, and resemble fathers? Regardless of whether a boy</u> <u>is clinic or normal, which parent does he most resemble</u>?

#### CHAPTER II

#### METHOD

### Subjects

The study included a Normal and a Clinic group with ten families in each group. The <u>Clinic</u> group was composed of families who were involved in some type of diagnostic evaluation or psychological treatment at the Michigan State University Psychological Clinic. Specifically, seven of the ten families had one or more members of the family in treatment at the time of this study. The remaining three families were being diagnostically evaluated, two of these families were later referred for treatment.

The clinic families initially contacted the Michigan State University Psychological Clinic to refer a male child between the ages of 7-11 for underachievement in school and lack of behavior control. More specifically, boys included in the study had been referred to the clinic for the following problems: Negative attention getting behavior, school performance not commensurate with intellectual ability, and poor self control which often involved aggressive outbursts. In cases where the family or child was in treatment, these specifications were verified by the clinician who was seeing the patient.

Clinic families were not paid for their participation in the project. The treatment agreement at the Michigan State University Psychological Clinic is that families participate in some ongoing research since no fees are charged for clinic services.

Normal families were also selected on the basis of the behavior of the male child between the ages of 7-11. Five normal families were obtained from the Wardcliff Elementary School in Okemos, Michigan. Boys from this school were nominated by the classroom teacher (grades 3-6) who was asked to select the most well adjusted boys from her class based upon the following criteria: "He does average or better than average work in school and seems interested and involved in his school work. He gets along well with his classmates and seems to be well liked by them. He gets along well with the teacher and other adults." Two other normal families were recruited from a teacher at a different local elementary school who was given a similar description to nominate eligible boys. Also, two families were recommended by graduate students who had included the families as "normal Ss" in their own projects. In addition, one family was nominated by a local minister. All normal families were offered \$10.00 to participate in the research project.

Twenty families were included in the study, ten normal and ten clinic families. Inspection of Table 1 reveals that the two groups are essentially similar in composition, except for the mean level of mother's education
which is 2.05 years higher in the normal sample. However, this difference is not significantly different from chance expectation. (The <u>t</u> between the clinic and normal mother's education level equaled 1.95, with df = 18, which was not significant.) The socio-economic classification of families was determined using the Hollingshead (1957) two factor index of social position which is based upon the occupation and education of the father. It can be noted (from Table 1) that on the average both groups fall into Class II. Related identifying information for each family appears in Appendix A.

Table 1. Comparison of Normal and Clinic family groups on several composition criteria.

Family Group	Mean of co <u>educa</u> Father	years mpleted tion Mother	Mean age <u>of son</u> So	Mean number <u>of siblings</u> n	Mean socio- economic class of family	
Normal	15.9	15.05	9.8	1.8	II	
Clinic	15.7	13.00	9.3	1.7	II	

### The Interviewing Procedure

The session was conducted at the Michigan State University Psychological Clinic in a room with a one-way observational mirror and a ceiling microphone. The furniture in the room included a circular table and three chairs which were arranged around the table in such a way that each <u>S</u> would be clearly visible from behind the one-way mirror. The tape recorder was placed beside the table and the microphone in the middle of the table at an approximately equal distance from the participants.

The  $\underline{E}$  introduced each family in the experimental task. Families were informed that the session was being tape recorded and that they were being observed through a one-way mirror.

The following instructions were given to each family "We are interested in finding out more about (triad): family life and particularly how families go about solving actual day to day problems. In the next hour you are going to be talking with each member of your family (name). When you are talking with this other person I would like you to discuss what changes you would like to see made in your family, either as a whole or in any particular member. It is up to you and the other person what part of this question you discuss. In discussing these changes, talk about the specific steps you might take, how you might be able to bring about these changes. Try to reach an agreement with this other person on what changes should be made and what should be done so that these changes will occur."

Each family then engaged in the following fifteen minute interactions (a standard sequence was used): Mother-Father, Mother-Son, Father-Son, Mother-Father-Son.

The experimenter was not in the room when the  $\underline{S}s$ discussed the topic. However, at the end of a fifteen minute

session, the  $\underline{E}$  would terminate the ongoing interaction and bring the next family member into the room to engage in the task.

# Response Unit

The session was tape recorded and a <u>S</u>s recorded speech was used as a unit. A speech was defined as by Terrill and Terrill (1965): "A scorable speech consists of a relatively continuous utterance by an individual which is either uninterrupted or if interrupted is apparently unaffected by the interruption" (p. 264)

In addition, the present system also included scoring of a "silence response" which was defined as follows: A silence is scored when it is apparent that one person (the speaker) expects a response from the other person and none is forthcoming within a fairly lengthy period of time (five seconds). Furthermore, that silence has the quality of being an interpersonal mechanism, a response to the other person's speech and an elicitor toward the other person.

### Raters

The experimenter (rater A) and two additional raters (rater B and rater C) participated in the study. All raters had previous experience in family research work and/or clinical work with families.

Rater B, a Ph.D. in clinical psychology, had recently completed a doctoral dissertation which involved an analysis

of family interaction. Rater C was a third year graduate student in clinical psychology who had previously worked as a rater on a family research project. None of the raters had previous experience with the present rating scheme.

### Rating Scale

The rating scale consists of a circumplex with sixteen categories of interpersonal behavior arranged around two orthogonal axes: dominance-submission, hostilityaffection. (See Appendix B for circumplex model.)

The present rating scheme is based upon the circumplex model of interpersonal behavior as described by Freedman <u>et al</u>. (1951). This model was later expanded by Leary (1957) to be used as a multi-level diagnostic tool consisting of five levels of diagnosis ranging from level 1 (Public Communication) to level 5 (Values). The present method used level 1 behavior, e.g. the overt interpersonal behavior of a person as rated by others.

### The Scoring Procedure

Judges rated each family member in terms of the interpersonal behavior that person displayed in his interaction with every other family member. Although each family engaged in four separate interactions (mother-father, motherson, father-son, mother-father-son), the present study was confined to an analysis of the three dyadic relationships.

The following procedure was used in rating a family: The family was initially observed by the raters (during the

live interaction). During this observation, raters recorded relevant nonverbal behavior that occurred during this interaction, particularly noting what participants were doing during silences. The purpose of this observation was to assist the rater in judging the tapes, e.g. the rater had some familiarity with the nonverbal behavior of the <u>S</u>s. Later, the tape recordings of the sessions were scored by the assigned raters.

In judging a tape, the rater evaluated each response according to its position on the circumplex model (A through P). A description of these 16 categories can be found in Appendix B. In assigning a particular mechanism to a speech, a rater would take the place of the "receiver" (the person to whom the speaker was talking) and from that point of view judge the affective quality of the message (affection vs hostility) and the kind of relationship the speaker was trying to establish with the other person (dominance vs submission).

If the meaning of a particular speech was unclear, the rater obtained additional information about scoring that speech by listening to the subsequent speaker's response to the message in question.

During the pilot work, it was observed that a message often consisted of two themes, a major and a minor theme. Based upon this observation, it was decided to assign each speech two mechanisms. A capital letter was used to designate

the <u>major</u> theme, the primary most dominant affect expressed by the speaker. A small letter referred to the <u>minor</u> theme, the secondary more implicit affect that was being expressed in the unit. In addition to scoring major and minor mechanisms, a unit was scored in <u>sequence</u> when a change in major theme occurred within a unit. The scoring rules used in the present system can be found in Appendix C. Although all speeches were assigned a major and minor mechanism, the findings of the present study will be limited to an analysis of major mechanisms.

In recording data, raters indicated the "speaker" (M=Mother, F=Father, S=Son), to whom the speech was addressed (M F S) and the interpersonal mechanism assigned to the unit. A copy of the scoring sheet can be found in Appendix C.

Raters were trained for approximately thirty hours to learn the present scoring system. Later, each rater was assigned one of the three pilot families to rate. (These tapes were not used to determine reliability.)

The reliability sample consisted of twelve tapes with each of the three rater combinations (A-B, A-C, B-C) scoring two normal and two clinic tapes. (Each rater scored a total of eight reliability tapes.) In addition, each rater evaluated two (or three) tapes by himself. Table 2 shows the number of tapes and type of tape each rater (A, B, C) judged by himself and in combination with the other two raters.

	P	<u></u>	B	<u></u>		с	Total number of tapes scored by
Raters	n	С	n	С	n	С	each rater
A	2	1	2	2	2	2	11
В	2	2	1	1	2	2	10
С	2	2	2	2	1	2	11

Table 2. A summary of the number and type of tape (n=normal, c=clinic) scored by each rater (A-A, B-B, C-C) and rater combination (A-B, A-C, B-C).

Although the experimenter was aware of whether a family was "normal" or "clinic," the other raters were not informed as to which group a particular family belonged.

The reliability tapes were scored by having two assigned raters simultaneously code the tape. In scoring a tape, raters independently decided what interpersonal mechanisms a particular unit would receive. However, a rater was allowed to ask the <u>number</u> of the unit that was presently being scored by the other rater. In addition, a rater would indicate if he were scoring a particular speech in sequence, e.g. "I am scoring this in sequence." These checks were made to assure that raters were scoring the same unit and were assigning the same number of mechanisms to a speech. This was done so that the determination of units would not confound the measures of inter-rater reliability for actual scoring units. However, to determine if raters were, in fact, agreeing in their definition of a unit (to determine reliability on specification of a unit) an independent rating was made on the total number of units on three non-reliability tapes using each of the three rater combinations (A-B, A-C, B-C). (The three tapes were independently scored for the number of units on the tape by two raters.)

In order to equalize individual judging errors, the hypotheses were evaluated using scorings made by each of the three raters, i.e. the twenty tapes were divided between the three raters.

The non-reliability scoring tapes took between 4-6 hours to score. However, it took longer (6-8 hours) to code the "reliability tapes." This was due to the fact that raters worked at different speeds and both raters needed to finish scoring a particular unit before the next response could be judged.

### CHAPTER III

### RESULTS

### Inter-Rater Agreement

Reliability was based upon the average percentage agreement between raters A-B, A-C, B-C for the Major Mechanism assigned each speech. In addition to exact agreement (16 categories), reliability was determined for the following types of inter-rater agreement: (1) 8 categories--Agreement on octant. (2) 1 Step Agreement--Agreement on adjacent mechanisms. (3) 2 Step Agreement--Inter-rater agreement on mechanism not more than two steps apart on the interpersonal circle. (4) Quadrant--Agreement on quadrant. (5) Love-Hate--Agreement on whether mechanism was positive or negative affect. (6) Dominance-Submission--Agreement on whether mechanism was dominant or submissive. The average percentage agreement between the raters based upon the Major Mechanism assigned to individual speeches is presented in Table 3. A total of 9,314 speeches were scored for reliability.

Although the findings of the present study were limited to an analysis of Major Mechanism, reliability was also determined for Minor Mechanism and Interpersonal Mechanisms (Inter-rater agreement on the mechanisms assigned

	Mother- Father	Mother- Son	Father- Son	Total
16 Categories				
А-В А-С В-С	57 53 58	57 54 62	56 56 57	57 55 59
Mean	57	57	56	57
8 Categories				
A-B A-C B-C	65 61 64	61 62 68	68 66 66	64 63 66
Mean	63	63	67	64
<u>1 Step Agreement</u> A-B A-C B-C	67 67 73	68 70 77	72 72 73	69 70 74
Mean	69	71	72	71
2 Step Agreement				
А-В А-С В-С	78 74 80	74 78 83	78 79 79	76 78 82
Mean	77	78	79	78
Quadrant				
A-B A-C B-C	71 68 71	70 72 74	70 76 72	70 72 72
Mean	70	72	72	72
Love-Hate				
А-В А-С В-С	81 82 82	80 85 83	82 85 84	81 84 83
Mean	82	83	83	83
Dominance-Submission				
А-В А-С В-С	83 79 86	84 83 88	85 85 81	84 83 85
Mean	83	85	84	84

Table 3. Average percentage agreement between raters A-B, A-C, B-C for Major Mechanism in each dyad.

a speech, regardless of the ordering of these mechanisms as Major or Minor). The average percentage agreement between the raters for Interpersonal Mechanisms can be found in Appendix D-1 and for Minor Mechanism in D-2.

Inter-rater agreement on the specification of a unit was determined by comparing the number of units in one tape which was independently scored by the three raters. Table 4 reports the number of units assigned by each rater.

Table 4. The number of units specified by rater A, B, and C for the Mother-Father, Mother-Son and Father-Son dyad.

Rater	Mother-Father	Mother-Son	Father-Son	Total
A	85	110	71	275
В	80	113	69	262
С	78	112	70	260

The percentage agreement on the total number of units was 99% for raters A-B, 95% for raters A-C, and 99% between raters B-C.

### Test of Hypothesis I

It was predicted that clinic family members would display more repetitive behavior than normal family members. To test this hypothesis, normal and clinic groups were compared on the variance of the <u>S</u>s' responses in the sixteen categories as computed in proportions. The Mann Whitney U, a non-parametric statistic for comparing two independent samples (Siegel, 1956) was used to determine whether the variances for clinic and normal groups came from the same distribution. Smaller variances were assumed to reflect more equal (or homogeneous) use of the sixteen categories and it was expected that smaller variances would be found in the normal than in the clinic group (1 tailed test). These Mann Whitney U values are reported in Table 5.

Table 5. Mann Whitney U values on the distribution of variance in normal and clinic groups.

Sender of Behavior	Mann Whitney U
Mother to Father	35
Father to Mother	38
Mother to Son	44
Son to Mother	32*
Father to Son	42
Son to Father	43

# \*p $\leq$ .10 (1 tailed test)

The Mann Whitney U values were not statistically significant and Hypothesis I was not supported. However, there was a trend in the predicted direction (U = 32:  $p \le 10$ ) for clinic sons to be more repetitive with mothers than normal sons with mothers.

An additional comparison was made to determine whether clinic and normal family members differed on the proportion of their responses which fell into the most frequently used category. This proportion was assumed to represent the "repetitiveness" of a <u>S</u>'s behavior, e.g. how often any <u>one</u> type of interpersonal behavior was repeated in a particular interaction. Table 6 presents the median proportion of the most frequently used category and the number of family members in each dyad who had proportions larger than this median.

Table 6. Median of the proportion for the most frequently used category. The number of normal and clinic family members with proportions above the median. N=10 in each group.

		Number of Ss	Above Median
Sender of Behavior	Median	Normal	Clinic
Mother to Father	.333	5	4
Father to Mother	.377	6	4
Mother to Son	.399	5	5
Son to Mother	.396	4	6
Father to Son	.393	5	6
Son to Father	.388	5	5

The distributions of these proportions in normal and clinic groups were compared using the Mann Whitney U statistic. In each dyad, the proportions of the most frequently used category for members of normal and clinic families were ranked in order of increasing size and it was predicted that higher ranks would be obtained in the clinic group (1 tailed test). Table 7 reports these Mann Whitney U values.

There was no significant difference between the normal and clinic family members in each dyad on the proportion of the most frequently used category and this prediction was not supported. However, it should be noted that all the U values were in the predicted direction, except for the

Table 7. Mann Whitney U values on the most frequently used category comparing normal and clinic family members in each dyad.

Sender of Behavior	Mann Whitney U
Mother to Father	34.5
Father to Mother	41
Mother to Son	39
Son to Mother	32.5*
Father to Son	49
Son to Father	49

\*p  $\leq$  .10 (1 tailed test)

Mother to Father and Father to Mother interaction where the normal group displayed more repetition than the clinic group. There was a trend in the predicted direction (U = 32.5;  $p \leq 10$ ) for clinic sons to be more repetitive with mothers than normal sons with mothers.

Similar findings were obtained when this subhypothesis was further explored by comparing normal and clinic groups using the combined proportions of the <u>two</u> most frequently used categories and the proportion of the most frequently used <u>octant</u>. When the data were grouped in octants, a trend in the predicted direction was again observed in the Son to Mother interaction. The computed U of 28.5 was between the .05 and .10 significance level. The median and the number of families above the median on the two most frequently used categories can be found in Appendix E-1 and the Mann Whitney U values comparing the normal and clinic groups in E-2. Similarly, the median and Mann Whitney U values for the comparisons on octants can be found in Appendix E-3 and E-4.

# Test of Hypothesis II

Hypothesis II predicted that participants of clinic family dyads would have a larger proportion of their senderreceiver interaction occur in one quadrant than would members of normal family dyads. This hypothesis was tested by comparing the normal and clinic groups on the proportion of the most frequently used sender-receiver sequence. To simplify this analysis, the data were grouped in quadrants. In this way, there were sixteen possible sender-receiver combinations. Normal and clinic groups were compared with each person serving as both a sender and a respondent in that interaction.<sup>1</sup>

Table 8 presents the median of the distribution of proportions on the most frequently used sender-receiver quadrant in each dyad and the number of family members who had proportions that were larger than this median.

<sup>&</sup>lt;sup>1</sup>This was done because the distribution of responses in a dyad differed depending upon whether an S was viewed as sender or respondent (receiver) in that interaction. One reason for this occurrence was that certain speeches were scored in sequence (when there was a change of major affect in the unit). In this case, the first mechanism in a sequence was recorded when an <u>S</u> was viewed as a respondent and the last mechanism in a sequence recorded when the S was viewed as the sender. In other words, the first mechanism in a sequence was considered the response (to the previous speech) and the last mechanism was viewed as the stimulus (for the subsequent speech). Also, the number of speeches in a particular dyad varied depending upon whether the sender of behavior started the interaction. For example, in the mother-father dyad, if the first response was made by the mother and the father was viewed as the sender, the mother's first response was not scored. For these reasons, normal and clinic groups were compared with each person serving as both a sender and as a respondent in each interaction.

Table 8. Median of the proportion for the most frequently used sender-receiver quadrant. The number of normal and clinic family members with proportions above the median. N=10 in each group.

		Number of S	s Above Median
Sender and Respondent	Median	Normal	Clinic
Mother Sender -			
Father Respondent	.272	4	6
Father Sender -			
Mother Respondent	.302	5	5
Mother Sender -			
Son Respondent	.339	3	7
Son Sender -			
Mother Respondent	.336	4	6
Father Sender -			
Son Respondent	.360	5	5
Son Sender -			
Father Respondent	.345	4	6

A Mann Whitney U was computed on the distribution of the most frequently used sender-receiver quadrant comparing normal and clinic families. Table 9 presents the Mann Whitney U values for each dyad.

Table 9. Mann Whitney U values on the most frequently used sender-receiver quadrant comparing normal and clinic family members in each dyad.

Sender and Respondent of Behavior	Mann Whitney U
Mother Sender - Father Respondent	41
Father Sender - Mother Respondent	46
Mother Sender - Son Respondent	36.5
Son Sender - Mother Respondent	42
Father Sender - Son Respondent	37
Son Sender to Father Respondent	36

The U values were not statistically significant and this hypothesis was not confirmed. However, all the U values were in the predicted direction except for the Father sender to Mother respondent interaction where the normal group had a larger proportion of their behavior occur in one senderreceiver quadrant than the members in the same clinic family dyad. Similar findings were also obtained when the <u>two</u> largest proportions were combined. The median of these combined proportions can be found in Appendix F-1 and the Mann Whitney U values on the comparisons between normal and clinic groups are reported in Appendix F-2.

# Test of Hypothesis III

This hypothesis predicted that clinic family members would be more consistent from one dyadic interaction to the other than would be normal family members.

The difference between the distribution of responses (16 categories) in the two dyadic interactions was computed with the D statistic. This statistic provides a measure of the geometrical distance between two points in space and is computed with the formula  $\sqrt{\Sigma d^2}$  (Square root of the sum of the squared differences between coordinates of the same dimension (Osgood and Suci, 1952)). Chronbach and Gleser (1953) have described the D statistic as being particularly relevant for assessing the similarity between a set of scores; this method not only takes into account the profile similarity among a group of scores but also their mean differences.

According to these authors (Chronbach and Gleser, 1953), the D measure has the advantage over Pearson product moment correlation, a special case of D, since it takes into account the differences between the means of related variables.

Normal and clinic groups were compared using the Mann Whitney U on the distribution of D scores. These scores were ranked in order of increasing size with the expectation that higher ranks would be found in the normal group (1 tailed test). The Mann Whitney U values are reported in Table 10.

Table 10. Mann Whitney U values on the distribution of D for two dyadic interactions, comparing Mother, Father and Son in normal and clinic families.

Sender of Behavior	Mann Whitney U
Mother (To Father vs To Son)	47
Father (To Mother vs To Son)	45
Son (To Mother vs To Father)	38

The Mann Whitney U values were not statistically significant and Hypothesis III was not supported. Similar findings were obtained when the data were grouped in octants, quadrants, and as dominance vs submission. Appendix G presents the Mann Whitney U values for these comparisons. In fact, when the normal and clinic fathers were compared with the data grouped as dominance vs submission, there was a trend in the opposite from the predicted direction. Normal fathers tend to be more consistent in the proportion of dominant behavior shown in both dyadic interactions than do clinic fathers. The U values for this comparison was 27 with p less than .10 (two-tailed test).

# Test of Hypothesis IV

Hypothesis IV predicted that normal family members would express more positive affect in their interactions with one another than would clinic family members. This hypothesis was tested for each person as a sender of interpersonal behavior in the two dyadic interactions. The number of normal and clinic family members who sent more friendly than hostile behavior in each dyadic interaction is presented in Table 11.

Table 11. The number of normal and clinic family members who sent more friendly than hostile behavior (proportion of friendly responses above .500) in each dyadic interaction. N=10 in each group.

	Number of Ss who Sent More Friendly than Hostile Behavior	
Sender of Behavior	Normal	Clinic
Mother to Father Father to Mother Mother to Son Son to Mother Father to Son Son to Father	8 9 10 7 10 8	2 4 5 0 8 2

The actual proportion of friendly responses sent by normal and clinic family members in each dyad is reported in Appendix H-1. The difference between the proportions of friendly responses sent by normal and clinic family members (the independence of the normal and clinic groups) was tested using Cohen's (1967) multiple comparisons for proportions. This statistic is suitable for small samples. The arcsin transformations of the proportions are used in computing a statistic having a chi square distribution. As described by Cohen (1967), this test is an analogue of Sheffe's (1959) theorem of multiple comparisons. Table 12 presents the chi square values on the proportion of friendly responses sent by normal and clinic family members (regardless of receiver) using Cohen's (1967) method.

Table 12. Chi square value on the proportion of friendly responses sent by family members (regardless of receiver) between normal and clinic groups.

Sender of Behavior	X <sup>2</sup>
Mother (To Father and To Son)	321.08*
Father (To Mother and To Son)	145.71*
Son (To Mother and To Father)	457.98*

 $*p \le .001$ 

These chi square values, with 19 df, were significant with p much less than .001. As hypothesized, normal family members sent significantly more positive affect than did clinic family members. The Mann Whitney U was computed on the same data to determine whether these results could also be obtained when a more familiar statistic was used. Similar findings were obtained using the Mann Whitney U and these U values are reported in Appendix H-2.

This hypothesis was also analyzed for family members as senders of friendly behavior in the separate dyadic interactions. The chi square values using Cohen's (1967) method for these comparisons are reported in Table 13.

Table 13. Chi square values on the proportion of friendly responses sent by family members in each dyad, comparing normal and clinic groups.

Sender	of Behavior	x <sup>2</sup>
Mother	to Father	130.43*
Father	to Mother	91.64*
Mother	to Son	147.31*
Son to	Mother	315.92*
Father	to Son	56.58*
Son to	Father	146 25*

# \*p ≤ .001

The chi square values with 19 df were highly significant In each dyad, normal family members manifested significantly more friendly behavior than did clinic family members. The Mann Whitney U comparisons on the same data are provided in Appendix H-3. Although for certain comparisons less significant results were obtained using the Mann Whitney U than with Cohen's (1967) method, the findings were still statistically significant and Hypothesis IV was supported.

# Exploratory Question 1

The question was asked, <u>In each dyad what behaviors</u> <u>are most frequently expressed by participants in clinic as</u> <u>opposed to participants in normal families</u>? The behavior manifested by normal and clinic family members was classified as to whether it was friendly or hostile, dominant or submissive, the quadrant of the response, octant of the response, and the quadrant of the sender-receiver interaction. A comparison was then made between normal and clinic groups on the distribution of these behaviors.

# Friendly-Hostile

The difference between the proportion of friendly messages sent by normal and clinic family members was tested in Hypothesis IV. For present purposes, a comparison was made of the exchanges of affect within these two groups. More specifically, the question was asked: Is the amount of positive affect sent more commensurate with the amount of positive affect received in normal than in clinic family dyads? The difference between the proportion of friendly messages sent by one member of a dyad and the proportion of friendly messages sent by the other member of that dyad was computed for normal and clinic groups. Using a Mann Whitney U, the distributions of these differences in normal and clinic families were compared. These Mann Whitney U values are reported in Table 14.

Table 14. Mann Whitney U values on the difference between the proportion of friendly responses sent and proportion of friendly responses returned in each dyad, comparing normal and clinic groups.

		Family Dyad	Mann Whitney U
Mother	to	Father vs Father to Mother	39
Mother	to	Son vs Son to Mother	29*
Father	to	Son vs Son to Father	35

\*p between .05 and .10 (1 tailed test)

The Mann Whitney U values were in the predicted direction, but were not statistically significant. However, a trend (p between .05 and .10) was observed in the motherson interaction. There was a greater difference between the amount of positive affect sent and returned by clinic mothers and sons than between normal mothers and sons. Generally, clinic mothers expressed more positive affect than was returned by their sons. (See Appendix G-1 for the actual proportion of friendly messages sent by clinic mothers to sons and by clinic sons to mothers.)

### Dominance-Submission

Table 15 presents the median proportion of dominant responses sent by members of normal and clinic family dyads and the number of family members with proportions larger than this median.

A Mann Whitney U was computed on the distribution of dominant responses comparing normal and clinic groups.

Table 15. Median for distribution of dominant responses in each dyad and the number of normal and clinic family members with proportions above the median. N=10 in each group.

		# <u></u>	Number of S	s Above Median
Sender	of Behavior	Median	Normal	Clinic
Mother	to Father	.685	3	7
Father	to Mother	.633	6	4
Mother	to Son	.822	3	7
Son to	Mother	.403	5	5
Father	to Son	.836	3	7
Son to	Father	.473	5	5

These U values are presented in Table 16. Since this comparison was exploratory, specific predictions were not made in advance and a two-tailed test seemed most appropriate.

Table 16. Mann Whitney U values on the proportion of dominant responses comparing normal and clinic family members in each dyad.

Sender of Behavior	Mann Whitney U
Mother to Father	26.5*
Father to Mother	34
Mother to Son	22.5**
Son to Mother	45
Father to Son	35
Son to Father	39

\*p  $\leq$  .10 (two tailed test) \*\*p  $\leq$  .05 (two tailed test)

There was a trend (p between .05 and .10) for clinic mothers to be more dominant with father than were normal mothers. Similarly, in the mother-son dyad, clinic mothers were significantly more dominant with sons than were normal mothers (p less than .05). The direction of non-significant findings can be assessed from an inspection of Table 15.

# Quadrant

For this comparison the question was asked: "Do normal and clinic family members manifest different types of behavior (hostile-dominant, hostile-passive, friendly-passive, friendly-dominant)?" The mean proportion of responses sent in each quadrant by normal and clinic family members is presented in Appendix I. Table 17 reports the Mann Whitney U values on the distribution of behavior in each quadrant between participants of normal and clinic dyads. Since the direction of these comparisons was not specified in advance, two tailed tests were used.

The direction of non-significant U values can be determined from an inspection of Appendix I. Generally, normal and clinic family members displayed different types of behavior. These differences will be specified below:

## Hostile-Dominant

Clinic mothers expressed significantly more hostiledominant behavior with fathers (U = 12.5;  $p \le .02$ ) and with sons (U = 9;  $p \le .002$ ) than did normal mothers in these two interactions. In turn, clinic sons sent more hostiledominant behavior to mothers (U = 13;  $p \le .02$ ) than did normal sons with mothers.

Sender of Behavior	Mann Whitney U	Direction of Difference <sup>a</sup>
Mather Cost to Esther		
Mother Sent to Father		2
Hostile-Dominant (BCDE)		C
Hostile-Passive (FGHI)	37.5	
Friendly-Passive (JKLM)	15 ***	N
Friendly-Dominant (NOPA)	20 **	N
Father Sent to Mother		
Hostile-Dominant (BCDE)	42.5	
Hostile-Passive (FGHT)	1.3 ***	C
Friendly-Passive (IKLM)	34	<b>C</b>
Friendly-Dominant (NOPA)	24 *	N
Filenaly-Dominant (NOFA)	24	14
Mother Sent to Son		
Hostile-Dominant (BCDE)	9 ****	С
Hostile-Passive (FGHI)	48	
Friendly-Passive (JKLM)	18.5***	N
Friendly-Dominant (NOPA)	24 *	N
Son Sent to Mother		_
Hostile-Dominant (BCDE)	13 ***	C
Hostile-Passive (FGHI)	14 ***	C
Friendly-Passive (JKLM)	3 ***	N
Friendly-Dominant (NOPA)	17 ***	N
Pathor Cont to Con		
Hachile Deminant (DODE)	71	
Hostile-Dominant (BCDE)	J⊥ 42	
Hostile-Passive (FGHI)	46	
Friendly-Passive (JKLM)		N
Friendly-Dominant (NOPA)	45	
Son Sent to Father		
Hostile-Dominant (BCDE)	31	
Hostile-Passive (FGHT)	21.5***	C
Eriendly-Passive (IVIN)	Q ****	U N
Friendly-Passive (URLM) Eriondly-Dominant (NOPA)	у 35 5	1
Filendly-Dominant (NOFA)		
*p between .05 and .10 ( **p ≤ .05 ***p ≤ .02 ****p ≤ .002	two tailed test)	
<sup>a</sup> C = Clinic greater thar N = Normal greater thar	n normal. n clinic.	

Table 17. Mann Whitney U values on the distribution of behavior in each quadrant for normal and clinic family members in each dyad.

### Hostile-Passive

In the father-mother dyad, clinic fathers were more hostile-passive (U = 13;  $p \le .02$ ) than normal fathers. Also, clinic sons were more hostile-passive with mothers (U = 14;  $p \le .02$ ) and with fathers (U = 21.5;  $p \le .05$ ) than were the normal boys.

# Friendly-Passive

The normal mothers expressed significantly more friendly-passive behavior with both fathers (U = 13;  $p \le .02$ ) and with sons (U = 18.5;  $p \le .02$ ) than did the clinic mothers in these interactions. On the other hand, normal sons sent more friendly-passive behavior to both mothers (U = 3;  $p \le .002$ ) and fathers (U = 9;  $p \le .002$ ) than did clinic sons. And, normal fathers displayed more friendly-passive behavior with sons (U = 7;  $p \le .002$ ) than did the clinic fathers.

# Friendly-Dominant

Normal mothers sent more friendly-dominant behavior  $(U = 20; p \le .05)$  to the father than did normal mothers to fathers. Likewise, normal fathers (U = 24; p between .05 and .10) sent more friendly-dominant behavior to mother than did clinic fathers in this interaction. Also, normal mothers expressed more friendly-dominant behavior with son (U = 24; p between .05 and .10) than clinic mothers. In turn, normal sons sent more friendly-dominant behavior  $(U = 17, p \le .02)$  to mothers than did clinic sons with mothers.

### Octant

The question of whether normal and clinic family members displayed different types of behavior was further explored by comparing their responses when classified into octants. Figures 1 through 6 depict the mean proportion of responses in each octant for normal and clinic family members as senders of behavior in each dyad. The variance (and mean proportion) for each octant in normal and clinic groups is listed in Appendix J.

Using the Mann Whitney U statistic, normal and clinic groups were compared on the distribution of behavior in octants. Since a similar comparison had been made between these groups on quadrants, the present analysis was limited to octants which were part of those quadrants where a significant difference had been found to exist (see Table 17). The Mann Whitney U values on the distribution of behavior in octants is presented in Table 18. The direction of these U values were not specified in advance and two tailed tests were used.

Generally, normal and clinic family members manifested different types of behavior octants. These differences will be described below:













for normal and clinic sons in son-father dyad.

Sender of BehaviorDirection of DifferenceaMother Sent to Father (BCDE, JKLM, NOPA)DNarcissistic - Competitive (BC) 20 *** C Challenging - Antagonistic (DE) 13.5**** C CRespectful - Trusting (JK) 23 *** N Cooperating - Affiliating (LM) 20 *** N Helpful - Supportive (NO) 36 Directing - Informing (AP) 17 ***** NFather Sent to Mother (FGHI, NOPA) Rebellious - Distrustful (FG) 26 ** C Helpful - Supportive (NO) 31 * N Directing - Informing (AP) 26 ** NMother Sent to Son (BCDE, JKLM, NOPA) Narcissistic - Competitive (BC) 11 **** C Challenging - Antagonistic (DE) 11.5**** C Caspectful - Trusting (JK) 16 **** N Directing - Informing (AP) 24 ** N Helpful - Supportive (NO) 24 ** N Directing - Informing (AP) 33Son Sent to Mother (BCDE, JGHI, JKLM, NOPA) Narcissistic - Competitive (BC) 10 ***** C Challenging - Antagonistic (DE) 10 ***** C Challenging - Antagonistic (DE) 10 ***** N Directing - Informing (AP) 33Son Sent to Mother (BCDE, JGHI, JKLM, NOPA) Narcissistic - Competitive (BC) 28 * C Challenging - Antagonistic (DE) 10 ***** C Respectful - Trusting (JK) 26 ** N Cooperating - Affiliating (LM) 2 ***** N Directing - Informing (AP) 33Son Sent to Mother (BCDE, JGHI, JKLM, NOPA) Narcissistic - Competitive (BC) 28 * C Challenging - Antagonistic (DE) 10 ***** C Helpless - Obedient (HI) 49 Respectful - Trusting (JK) 26 ** N Cooperating - Affiliating (LM) 2 ***** N Directing - Informing (AP) 26 ** N Cooperating - Affiliating (LM) 2 ***** N Directing - Informing (AP) 26 ** N Cooperating - Affiliating (LM) 3 ***** N		and a second statement in the	
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Table 18. Mann Whitney U values on the distribution of behavior in octants, comparing normal and clinic family members in each dyad.

continued

Table 18 - Continued

Sender of Behavior	U		Direction of Difference <sup>a</sup>
Son Sent to Father (FGHI, JKLM)			
Challenging - Antagonistic (DE)C	24	**	С
Rebellious - Distrustful (FG)	17	****	c
Helpless - Obedient (HI)	45		-
Respectful - Trusting (JK)	9	****	N
Cooperating - Affiliating (LM)	10	****	N
Directing - Informing (AP)	28	*	Ν
<pre>*p ≤ .20 (Two tailed test) **p ≤ .10 ***p ≤ .05 ****p ≤ .02 *****p ≤ .002</pre>		·	

<sup>a</sup>C = Clinic greater than normal. N = Normal greater than clinic.
<sup>b</sup>Quadrants where significant differences were found between normal and clinic groups (see Table 17).
<sup>c</sup>Tested because a difference appeared to exist.

# Competitive-Narcissistic (BC)

Clinic mothers showed significantly more competitivenarcissistic behavior with both fathers (U = 20,  $p \ge .05$ ) and sons (U = 11;  $p \ge .02$ ) than did normal mothers. In turn, there was a trend for clinic sons to express more competitivenarcissistic behavior with mothers (U = 28;  $p \ge .10$ ) than did normal boys with mothers.

# Challenging-Antagonistic (DE)

Clinic mothers were significantly more challenging and antagonistic with both fathers (U = 13.5;  $p \le .02$ ) and sons (U = 11.5;  $p \le .02$ ) than were normal mothers. Also,
clinic sons sent significantly more rebellious-distrustful behavior with both mothers (U  $\leq$  10, p  $\leq$  .002) and fathers (U = 17; p  $\leq$  .02) than did normal sons.

## Helpless-Obedient (HI)

Clinic fathers were significantly more helpless and obedient with mothers (U = 15;  $p \le .02$ ) than were normal fathers.

### Respectful-Trusting (JK)

Normal mothers were significantly more respectful and trusting with both fathers (U = 23; p  $\leq$  .05) and sons (U = 16; p  $\leq$  .02) than were clinic mothers. There was also a trend for normal boys to express more respectful and trusting behavior with mothers (U = 26; p  $\leq$  .10) than clinic boys. In addition, normal boys sent significantly more respectfultrusting behavior to fathers (U = 9; p  $\leq$  .002) than did clinic boys. In turn, there was a trend for normal fathers to be significantly more respectful and trusting with sons (U = 25.5; p  $\leq$  .10) than were clinic fathers.

## Cooperating-Affiliating (LM)

Normal mothers showed significantly more cooperating and affiliating behavior with fathers (U = 20;  $p \leq .05$ ) than did clinic mothers. There was also a trend for normal fathers to manifest more cooperation and affiliation with mothers (U = 27.5;  $p \leq .10$ ) than did clinic fathers A trend was observed for normal mothers to display more cooperating and affiliating behavior with sons (U = 24;  $p \le .10$ ) than did clinic mothers. Also, normal sons showed more cooperation and affiliation with both mothers (U = 2;  $p \le .002$ ) and fathers (U = 10;  $p \le .002$ ) than did clinic sons. Furthermore, normal fathers manifested significantly more cooperating and affiliating behavior with sons (U = 3;  $p \le .002$ ) than did clinic fathers.

### Helpful-Supportive (NO)

There was a slight trend (U = 31;  $p \le .20$ ) for normal fathers to manifest more helpful and supportive behavior with mothers than did clinic fathers. Another trend was for normal mothers to be more helpful and supportive with sons (U = 24;  $p \le .10$ ) than were clinic mothers. In turn, normal sons were significantly more helpful and supportive with mothers (U = 21.5;  $p \le .05$ ) than were clinic sons.

## Directing-Informing (AP)

Normal mothers expressed significantly more directinginforming behavior with fathers (U = 17;  $p \leq .02$ ) than did clinic mothers. Also, there was a trend for normal fathers to show more of this behavior (directing-informing) with mothers (U = 26;  $p \leq .10$ ) than did clinic fathers. Finally, a trend was noted for normal sons to send more directinginforming behavior with both mothers (U = 26;  $p \leq .10$ ) and fathers (U = 28;  $p \leq .20$ ) than did clinic sons. Sender-Respondent Sequences (Quadrants)

Normal and clinic groups were compared on senderrespondent (receiver) sequences, classified into quadrants. When the responses were classified in this way, there were sixteen possible sender-respondent sequences. The proportion of responses in each sender-respondent sequence was computed for members of a dyad as both sender and respondent in the interaction (see footnote 1 for reason that distribution of responses differs when member of a dyad is viewed as sender or respondent in the interaction). Appendices K-1, K-2, K-3 report the mean proportion of responses in each senderrespondent sequence for members of normal and clinic dyads. These appendices provide information about the most frequent sequences of interchange in normal and clinic groups and, by inference, the most likely response to a sender behavior. (To determine the most likely response to a sender behavior, find the largest mean proportion within the normal and clinic group to each of the four different sender quadrants.) The most frequently used sender-receiver sequences will now be presented.

### Mother-Father Interaction

Clinic fathers primarily responded to mothers hostile dominant behavior (BCDE) with passive hostility (FGHI) and next often with dominant hostility (BCDE). When the father was viewed as sender, clinic fathers passive hostility (FGHI) and dominant hostility (BCDE) most frequently elicited active

hostility from mothers (BCDE). However, when clinic fathers did send dominant friendly behavior (NOPA), mothers were most likely to respond with dominant hostility (BCDE). In contrast, when normal fathers sent dominant friendly behavior (NOPA), mothers primarily responded with either friendly dominant (NOPA) or friendly passive behavior (JKLM).

# Mother-Son Interaction

When clinic mothers sent dominant hostile behavior (BCDE) and when they sent active friendly behavior (NOPA), sons were most likely to express passive hostility (FGHI). Viewing sons as the sender, clinic boys primarily sent passive hostility (FGHI) to mothers and in response most often received dominant hostility (BCDE) and next often received friendly dominant behavior (NOPA). In the normal group, sons primarily sent friendly passive behavior (JKLM) to mothers which was responded to with friendly dominance (NOPA). However, normal boys also responded to mothers friendly dominant behavior (NOPA) with passive hostility (FGHI) and with dominant friendly behavior (NOPA).

## Father-Son Interaction

Clinic sons most frequently reacted to fathers dominant friendly behavior (NOPA) with passive hostility (FGHI) and next often with dominant hostility (BCDE). Viewing sons as the sender, when clinic boys sent passive hostility (FGHI) to fathers, they most often received dominant friendly behavior (NOPA) and next often received dominant hostility (BCDE).

Normal fathers also sent dominant friendly behavior (NOPA) to sons, but in response was most likely to receive passive friendly behavior (JKLM) and next often received passive hostility (FGHI) or dominant friendly (NOPA) behavior from sons.

In addition to computing the mean proportion of responses in each sender-respondent sequence (Appendices K-1, K-2, K-3), a comparison was also made between normal and clinic groups on the most frequent sender-respondent sequence in each family with son as sender, mother and father as respondents. This was done to obtain further information about the most likely sequence of interchange between child and parent in each normal and clinic family. A list of these most frequent sequences can be found in Appendix L. Inspection of Appendix L reveals that in five of the ten clinic families, the son was most likely to receive positive affect (NOPA) from one parent and negative affect (BCDE) from the other parent in response to the same behavior (FGHI--hostile-passive). This pattern was not observed in the normal group. In four of five normal families where the boy sent JKLM behavior (friendly-passive) to both mother and father, he was most likely to receive the same response (NOPA--friendly-dominant, or JKLM--friendly-passive behavior) from both parents. The exception was a family where the boy sent JKLM (friendlypassive behavior) to both mother and father, but received JKLM (friendly-passive behavior) from the mother and NOPA (friendly-dominant behavior) from the father.

## Exploratory Question 2

This question asked, "Is there a difference between clinic and normal boys on how much they resemble mothers, and resemble fathers?"

First, the similarity between mother and son was assessed. This was done by computing the proportion of responses by mother and by son in both dyadic interactions which fell in each quadrant. The D statistic was used to determine the similarity of the mother-son responses. This was the same statistic that was used in testing Hypothesis III. Whether these mother-son D scores were distributed differently in normal and clinic groups was determined using the Mann Whitney U statistic. The U value on similarity between mother and son, comparing normal and clinic groups, was 27 with p less than .10 (two tailed test). Normal mothers and sons were more similar than were clinic mothers and sons.

The same procedure was followed to assess the similarity between father and son. (D scores were computed on the behavior in quadrants for father and son and then a Mann Whitney U was computed on the distribution of these D scores in normal and clinic groups.) The U value for this comparison was 43 which was not significant. However, it should be noted that more normal fathers and sons were alike than were clinic fathers and sons. In comparison to the normal boy (who resembles mother), the clinic boy seems to be similar to neither parent.

A second question was phrased: "Regardless of whether boy is clinic or normal, which parent does he most resemble?" For this comparison, the mother-son D score was subtracted from the father-son D score. Thus, positive values were obtained when mother-son were more similar than fatherson, and negative values when father-son was more similar Using the Mann Whitney U, these scores were than mother-son. ranked from the largest negative value to the largest positive The obtained U=31, with p less than .20 (two tailed value. test) was not significant. However, there was a trend for clinic boys to be more like fathers than mothers and normal boys to be more like mothers than fathers. In the clinic group, seven of the ten boys were more similar to their fathers than mothers. In contrast, six of the ten normal boys were more similar to their mothers than their fathers (three were more like fathers than mothers and one boy was equally like both parents).

## Additional Findings

There was an additional finding that was not directly predicted, but which was considered relevant to the study. In keeping with the expectation that clinic family members would be more polarized than normal family members, the question was asked: "Are normal mothers and fathers more similar than clinic mothers and fathers?" The D statistic was used to assess the similarity of the mother-father responses as manifested in both interactions to spouse and

son with the behavior classified in quadrants. These D scores were ranked in order of increasing size with the prediction that higher ranks would be found in the clinic group. The Mann Whitney U = 26 was significant at the .05 level (1 tailed test). Normal mothers and fathers were more similar than clinic mothers and fathers.

### CHAPTER IV

## DISCUSSION

# Inter-Rater Agreement

In the present study, the average percentage agreement for the three rater combinations on octants was 64%. This is somewhat lower than the reliability of 78% reported by Terrill and Terrill (1965) who added four neutral scoring categories to Leary's octants. However, it is considerably higher than the inter-rater agreement of 40% reported by another investigator (Tinker, 1967) who used the Terrill and Terrill system.

The present raters had more difficulty agreeing on exact mechanisms than on the <u>general</u> location of the behavior on the circumplex. In future research, it would seem desirable for the investigator to take special care in distinguishing between adjacent categories and mechanisms which are described with verbs that have similar meanings, e.g., "provocative, challenging behavior" (D) and "rebellious behavior" (F).

The same behavior was often expressed in distinctly different ways by participants of normal and clinic groups. Characteristically, clinic family members manifested "emotionally flat" or extremely intense affect, in constant

to the normal group where this behavior was more modulated. Also, the affect expressed by members of the clinic group often seemed either "over-controlled" or "under-controlled." Within the present scoring system, it was not possible to take into account the intensity of a particular behavior. For example, the demanding, narcissistic behavior (B) expressed by normal mothers was typically much less "intense" than the same behavior as manifested by clinic mothers. Or, it was not possible to distinguish between the emotionally flat "P" behavior (controlling, informing) sent by the clinic father and the more emotionally involved "P" behavior of the normal father. On the basis of these observations, it is recommended that an "intensity" dimension be included in future research using the Leary system. (This was also suggested by Terrill and Terrill). In addition, it may also be relevant to specify the type of affect that was expressed (positive or negative) and whether this affect was controlled or uncontrolled. It seemed that "P" and "L" categories were often "over-used" as a way of taking into account the "intensity" of behavior since these categories seemed best to represent relatively modulated behavior where the primary intent was to communicate information. Therefore, an intensity dimension may also provide raters with increased scoring flexibility.

Each speech was scored for the major, most predominant theme, and the minor, secondary theme. Although this procedure provided relatively exact ratings of behavior, it also

resulted in more detailed information than could be used. (There are 256 possible ratings when speeches are double scored.) Instead of double scoring, it may be sufficient to simply report those instances where different or conflicting messages are being conveyed in the same unit. The fact that a person is communicating in relatively "unclear" or "contradictory" ways may be more important to know than the "particulars" of that communication.

A usual control for rater bias in studies comparing normal and disturbed groups is to have the raters do "blind scoring." This was done in the present study, i.e., the raters were not informed as to which group a particular family belonged. However, it was noted that normal and clinic family members often "gave themselves away" by their behavior. In studies such as this, it may be better to use psychologically unsophisticated raters who are less sensitive to "pathological behavior" and who are unaware that "normal" and "disturbed" groups are being compared. Dittman (1958) also reported that blind ratings do not really handle rater bias for extreme groups and suggested that raters score a wide range of material out of sequence so that context effects would be minimized. However, if an investigator is attempting to assess the interpersonal function of a behavior (from the vantage point of the receiver), it would seem most important that he be familiar with the sequence of responses in making his judgment. This would seem to be particularly

true in rating "groups with a history," such as families where the interpersonal effect of a behavior may be based upon a particularly long sequence. For example, the interpersonal effect of "occasional" self-depreciation may be quite different from the effect of this same behavior after it has been consistently repeated for years.

### <u>Hypothesis I</u>

The hypothesis that clinic family members would be more repetitive than normal family members was not supported. Instead, <u>both</u> groups could be characterized as manifesting relatively repetitive behavior. On the average, normal and clinic family members repeated their most characteristic behavior about 33% of the time. The important distinction between normal and clinic groups was not the way their behavior was patterned, but the kind of behavior that was expressed. Normal family members could be characterized as primarily expressing positive affect and clinic as manifesting negative feelings.

Although there is no empirical support for this hypothesis, observation of clinic family members suggested that the same interpersonal themes were often repeated over and over again in a discussion. It may, therefore, be worthwhile to compare the rigidity of interpersonal behavior in normal and clinic families using more global ratings of behavior. In this regard, the question could be asked, Are the same interpersonal themes repeated more frequently in

the clinic than in the normal group? It should also be noted that while the data were double scored, the present analysis was limited to major themes. It is possible that different findings will be obtained when both major and minor themes are included in the analysis.

There was a trend for clinic sons to be more repetitive with mothers than were normal sons with mothers. The fact that a difference appeared with sons (and mothers) rather than other family members could, in part, be a function of the way the scoring categories were defined so there were fewer scoring alternatives for "appropriate adult behavior." For example, in some ways it is considered more appropriate for boys to occasionally engage in "rebellious" (F), "provocative"(D), "obedient" (I) or "boastful" (B) behaviors than it is for parents to do these things. (There would seem to be more "negative categories" for describing adult than child behavior.) In order to insure that a greater spectrum of the circumplex is used for scoring, it may be helpful to re-define the categories for the population to be studied. In this case, separate definitions and examples could be provided for "son" and "parent" behavior.

It is also possible that clinic boys expressed a more limited range of behavior with mothers because mothers were more controlling with sons; clinic mothers were significantly more dominant with sons than were normal mothers. Likewise, there is evidence that normal boys have more opportunity to

"try out" or explore different types of behavior with their parents. For example, normal parents expressed significantly more JKLM (submissive-friendly behavior) with sons than did clinic mothers and fathers. When parents are submissive (yet warm), it would seem to provide the child with a chance to practice a variety of responses, including adult types of behavior (NOPA).

### Hypothesis II

The hypothesis that sequences of interchange would be more repetitive in the clinic than in the normal group was not confirmed. Again, it should be noted that normal and clinic family members were locked in different types of interaction. Clinic family members generally engaged in hostiledemanding interactions and normals in warm-cooperative ones. Different findings may have been obtained if a more molecular analysis had been used with the data. (Analysis was limited to major themes with the data grouped in quadrants.) On the other hand, there would have been 65,536 sequences if the data had been analyzed as 16 categories with both themes.

The present author suggests that in future research it would be particularly interesting to compare the actual types of sequences which occur in normal and clinic family interaction. In this regard, it would be relevant to ask what type of response does the clinic boy receive when he does manifest socially appropriate behavior? Does the normal boy receive a different type of response from his parents? Do sender

behaviors elicit different types of responses in normal and clinic groups. Inspection of the present data revealed certain instances where clinic and normal family members responded differently to the same sender behavior. For example, when normal mothers sent hostile dominant behavior (BCDE), normal fathers were most likely to respond to this with friendly dominant behavior (NOPA). In the clinic group, fathers most frequently responded to this behavior (BCDE) with passive hostility (FGHI). (On the other hand, clinic mothers expressed significantly more hostile dominant behavior than did normal mothers.)

### Hypothesis III

It was expected that clinic family members would be less responsive to interpersonal variables than would normal family members and, hence, it was predicted that in comparison to the normal  $\underline{S}$ s, clinic family members would behave more similarly with different family members. However, this hypothesis was not supported. In fact, there was a trend in the opposite than predicted direction for normal fathers to be more consistent (dominant) with mothers and sons than were clinic fathers.

In retrospect, it may have been better to have used a different measure of "interpersonal unresponsiveness," since it is clearly possible for a person to be responsive without also being inconsistent and vice versa. In fact, there is some evidence that clinic family members were more

narcissistic and emotionally unresponsive than were normal family members. For instance, clinic mothers manifested significantly more BC behavior (narcissistic and demanding) with both fathers and sons than did normal mothers. To illustrate, one clinic family had a particularly hyperactive child who spent most of the mother-son interaction dashing around the room, shouting into the microphone, yanking at the curtains, etc. While this was going on, this mother engaged in a most "pleasant conversation" with the boy, addressing the chair where her son had been seated and occasionally glancing up to look at herself in the one way mirror. On the other hand, clinic fathers often appeared to be detached and emotionally unresponsive. These fathers typically responded to sons with AP behavior (lecturing controlling), regardless of what the son expressed.

This notion of interpersonal responsiveness would seem to be an important topic to pursue in future family research. Using a similar design, it would be possible to investigate this idea by comparing individual sequences and sequences of interchange in normal and clinic groups. As previously reported, speeches were scored in sequence when there was a change of major affect in the unit. In a sense, these sequences would seem to provide a measure of "self responsiveness," e.g., a person's response to his own behavior (internal process). In keeping with the idea that clinic family members would be more self stimulating than normal family members,

one could predict that participants of clinic groups would express a greater number of responses in sequence. By looking at the sequence of interchange, the question could also be asked, Does the receiver have more of an impact on the sender in normal than in clinic groups? That is, is there more change in the sender's subsequent behavior as a result of the receiver's message?

## Hypothesis IV

Boys in the clinic group had been referred for psychological help on the basis of their poorly controlled, aggressive behavior. The finding that parents of these boys were significantly more hostile (both with sons and each other) than were parents of normal boys is consistent with most theoretical expectations. According to social learning theory, children exposed to aggressive models will be more aggressive than children exposed to nonaggressive models. There is also some evidence that clinic boys were "partially reinforced" for their negative behavior, e.g., they received positive affect from one parent and negative affect from the other parent in response to the same behavior (passive-hostile). However, the clinic boys should not be viewed as the "passive recipient" of parental hostility. Characteristically, these boys were both highly provocative and rebellious. And, as suggested by Leary (1957), bitter rebellious behavior (FG) pulls punitive rejection and superiority (BCD). In contrast,

normal boys both expressed and received more positive affect from their parents.

It is also possible to view the clinic boy's negative attention getting behavior as a way of getting a response from his "interpersonally unresponsive" parents. In fact, rebellious, provocative behavior could be considered a particularly effective interpersonal maneuver in a family where subtlety is likely to go unnoticed. Bell and Vogel (1960) observed that disturbed children were most adept in arousing parental anxieties. One of the most striking examples of this in the present study was a clinic family where the parents were highly perfectionistic and concerned with having things be "just right." These parents had an unusually bright and sensitive seven year old boy who consistently "made mistakes" in his schoolwork that involved having his arithmetic answers be wrong by "only one number" and his spelling was incorrect because a single letter had been either omitted or misplaced.

At first glance, it would appear that clinic fathers were the "most friendly" member of the clinic group. However, this friendly behavior was almost exclusively AP (structuring, controlling) where there is typically little "affect" involved. While the normal fathers also sent considerable AP behavior to other family members, this was combined with responses which reflected more emotional involvement and warmth. For example, normal fathers menifested significantly more

affiliating, cooperating behavior (LM) with mothers and sons and also significantly more helpful supporting behavior (NO) with mothers than did clinic fathers.

## Exploratory Question 1

This question asked, In each dyad what behaviors are most frequently expressed by participants of clinic as opposed to members of normal families? There were clear differences in the types of behavior manifested in the two groups and a number of these findings have already been considered in connection with other hypotheses. The present discussion will be limited to those results which are of particular theoretical interest.

Clinic mothers were significantly more dominant with fathers and sons than were normal mothers. At first, this finding would seem to support those theories which emphasize the importance of mother dominance in the development of disturbed behaviors. However, contrary to this idea, in the present study <u>both</u> normal and clinic mothers displayed more dominant than submissive behavior with fathers and sons. (Clinic mothers were <u>more</u> dominant than normal mothers.) One possible interpretation of this finding is that compared with clinic mothers, normal mothers "share authority" more with other family members. In addition, whether a mother is "dominant" or not may be less important than the way she dominates. In the present research, clinic mothers primarily dominated in aggressive ways (BCDE), while normal mothers dominated in a more "friendly" manner (NOPA).

In each dyadic interaction (except father to mother), normal family members displayed significantly more help seeking behavior (JK) with each other than did clinic family members. Raush et al. (1959) observed that one of the most noticeable changes in hyperaggressive boys during residential treatment was that these boys began to express significantly more dependent (K) behavior with adults. These authors interpreted this finding to reflect the fact that treatment had resulted in the "dissolution of a defensive layer" so that dependency could emerge. It is possible to speculate that clinic boys (and parents) were a good deal more dependent than members of the normal group even though they manifested very little "help seeking" behavior. It also seemed that dependency was manifested in a different way by clinic family members who typically asked for help by either being demanding (BC) or in a whiney, complaining manner (FG).

Virginia Satir (1964) has suggested that a child needs to have both parents validate him in order to develop self esteem. According to this author, "He must identify with his own sex, yet that very identification must include an acceptance by the other sex. Males validate females as females, females validate males as males. Identification in this sense is a two sided affair." (p. 53). In the present study, normal boys received significantly more approval and

affiliation (LM) from both parents than did clinic boys. Also, normal mothers expressed significantly more respectful, trusting behavior (JK) with sons than did clinic mothers. Satir (1964) also stated, "A boy's self esteem about himself as a male will suffer most if his father looks disparaged or depreciated in the marital relationship." (p. 53). This pattern was observed in clinic families where mothers expressed significantly more critical, competitive, challenging types of behavior (BCDE) with fathers than did normal mothers. Also, clinic fathers responded to mothers with significantly more helpless obedient (HI) behavior than did normal fathers with mothers.

Contrary to expectations, the most likely response to a sender behavior was not always what would be predicted on the basis of Leary's (1957) interpersonal reflexes. For example, some of the time parents responded to a child's "rebellious behavior" by controlling and structuring (AP) rather than reacting with what this behavior presumably pulled (BCD). It is possible that eliciting behaviors work differently in symmetrical than in complementary relationships (parent-child) or in relationships where there are particularly well prescribed roles defining what is "appropriate and inappropriate" behavior. In addition, more information may need to be obtained about the "subjective meaning" of a behavior before the interpersonal effect of that behavior can be accurately assessed. For example, a mother may respond

to a child's disruptive behavior by complying with his demands if this behavior has meanings for her which elicit feelings of helplessness or guilt.

## Exploratory Question 2

This question asked, Is there a difference between normal and clinic boys in how much they resemble mothers and resemble fathers? In comparison to the normal boy (who resembled mothers), the clinic boys seemed to be similar to neither parent. One could speculate that interpersonal processes in the clinic family make it most difficult for the boy to affiliate with either parent. For example, there seems to be more conflict in clinic than in normal families. Clinic mothers and fathers competed and disagreed (BC) far more than normal parents who expressed significantly more affiliating, cooperating behavior (LM) with each other and with sons. Also, clinic parents were less alike (more polarized) than normal mothers and fathers. It seemed particularly difficult for the clinic boy to satisfy both parents; he frequently got punished by one parent and rewarded by the other parent for the same type of behavior.

A trend was also observed for clinic boys to be more similar to fathers than mothers and normal boys to be more like mothers than fathers. This finding should not be interpreted as a test of the identification hypothesis. A test of this theory would have involved looking at a child's behavior with each parent separately, rather than across

interactions as was done in this study. (Theoretically, a <u>S</u> would not be expected to manifest the model's behavior with that model.)

### General Observations

In this section some general observations will be made of differences in normal and clinic families. In addition, suggestions will be presented for future research.

(1) More tension was manifested by clinic than by normal family members. This tension was most directly expressed by clinic sons who were hyperactive and easily upset. In many ways, the boy's behavior seemed to provide an indirect outlet for parental feelings. Clinic parents also expressed tension, e.g., by their posture, nervous laughter, etc.

(2) Affect and control were more polarized in clinic than in normal families. Normal fathers generally played the instrumental role and mothers the expressive, but these roles were much less polarized than they were in the clinic group. In clinic families, one parent (usually the mother) was the one "with feelings" (often hurt and angry), and the father was the "rational one" who was autocratic and emotionally unresponsive.

(3) Clinic family members often communicated in less direct ways than did members of normal families and they were also likely to express mixed and muddled messages. Several authors (Fisher et al., 1959; Caputo, 1963; Stabeneau et al., 1965) have noted that a lack of clarity often characterizes the communication of members of schizophrenic families. The present observations would suggest that this behavior may also characterize "less disturbed" (non-psychotic) families. The present observer found that it was much easier to specify what was said in normal than in clinic groups where the affective meaning of the behavior seemed to override the content of the communication.

Naegele (1951) observed a need in families to put up a good front with outsiders. In the present study, it generally appeared that mothers were more concerned about making a good impression than were fathers (mothers may be more invested in being viewed as a "good parent"). When normal mothers directed remarks to the observer (asides), they usually involved descriptions about "how good things were." In contrast, clinic family members seemed less concerned with making a good impression than in demonstrating the ways in which they were being wronged or "victimized" by other family members.

The topic of "family changes" worked quite well; it generally provided a "take off" point for family members to discuss a great variety of issues and concerns. <u>S</u>s occasionally had difficulty "getting started," but typically family members immediately became involved in the task.

In normal families, there seemed to be more instances where both parents independently brought up the same topic

with son and they also seemed to take the same position on most issues. Others (Bodin, 1965; Ferreira, 1963; Ferreira and Winter, 1965) have observed that there were more instances of spontaneous agreement (decision making) in normal than in disturbed families.

It would be interesting to repeat this study with a different group of disturbed families, e.g., families with a withdrawn child and compare those findings with the ones obtained in the present investigation. It would also be possible to "switch sons" in normal and clinic families and observe how normal parents responded to the clinic child and clinic parents to the normal child (over a time span of several sessions). In this regard, one could ask, Do boys behave in more hostile and aggressive ways with clinic than with normal parents? Does the clinic boy eventually elicit responses from normal parents that are similar to the ones he typically receives from his own parents? etc.

### CHAPTER V

## SUMMARY

The purpose of this study was to compare the interpersonal behavior of normal and clinic family members as manifested during family interaction. Ten normal and ten clinic families were observed as they discussed a predetermined topic. Each family member talked with each other family member for fifteen minutes and the following standard sequence was used: mother-father, mother-son, father-son. These sessions were observed and tape recorded, to be later rated using Leary's (1957) circumplex model of interpersonal behavior. This model consists of 16 categories of interpersonal behavior arranged around two orthogonal axis: dominance-submission, hostility-affection. Normal and clinic groups were compared on the patterning of their behavior as well as the kinds of behavior which were typically sent by normal and clinic family members. The following results were obtained.

(1) The average percentage agreement on 16 categories for the three rater combinations was 57% and when the data were grouped as octants, inter-rater agreement was 64%.

(2) Hypothesis I predicted that clinic family members would display more repetitive behavior than normal family

members. This hypothesis was not supported. However, there was a trend in the predicted direction for clinic sons to be more repetitive with mothers than were normal sons with mothers.

(3) The second hypothesis concerned the sequence of interpersonal behavior exchanged by normal and clinic family members. It was expected that participants of clinic family dyads would have a larger proportion of their sender-receiver interaction occur in one quadrant than would members of normal family dyads. This hypothesis was not confirmed.

(4) The hypothesis that clinic family members would be more consistent from one dyadic interaction to the other than would be normal family members was not supported. In fact, there was a trend in the opposite than predicted direction for normal fathers to be more consistent (dominant) with mothers and sons than were clinic fathers.

(5) According to hypothesis IV, normal family members would express more positive affect in their interactions with one another than would clinic family members. This hypothesis was confirmed.

In addition to the above predictions, certain exploratory questions were asked. These questions and findings are as follows:

(1) Exploratory question 1 asked: In each dyad what behaviors are most frequently expressed by participants in clinic as opposed to participants in normal families?

The responses were classified as to whether they were dominant or submissive, the quadrant and octant of the response and the sender-receiver sequence.

- (a) There was a greater difference between the amount of positive affect sent and received by clinic mothers and sons than between normal mothers and sons.
   Generally, clinic mothers expressed more positive affect than was returned by their sons.
- (b) Clinic mothers were significantly more dominant with fathers and with sons than were normal mothers.
- (c) Different types of behavior were generally manifested by normal and clinic family members, both when these data were analyzed in quadrants and in octants.
- (d) Different types of sender-respondent sequences were manifested in normal and clinic groups.

(2) Exploratory question 2 asked: Is there a difference between normal and clinic boys on how much they resemble mothers, and resemble fathers in their typical interpersonal behaviors? This comparison used the behavior expressed by a <u>S</u> in both dyadic interactions. In comparison to the normal boys (who resembled mothers), the clinic boys seemed to be similar to neither parent. The question was also asked: Regardless of whether a boy is clinic or normal which parent does he <u>most</u> resemble? There was a trend for clinic boys to interact more like fathers than mothers and normal boys to (3) Finally, in keeping with the expectation that clinic family members would manifest more polarized behavior than normal family members, the question was asked: Are normal mothers and fathers more similar than clinic mothers and fathers? This question was answered affirmatively. There was a significant difference between normal and clinic groups in the predicted direction. These results were discussed and suggestions were made for future research.

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APPENDICES

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## APPENDIX A

## SPECIFICATION OF FAMILIES INCLUDED IN THIS STUDY

<ul> <li>Plant Security 16 Housewife 15 8 3 II</li> <li>Plant Security 16 Housewife 15 8 3 II</li> <li>Guard</li> <li>Assistant 20 Housewife 11 9 2 I</li> </ul>	Mean socio- economic class of family III II II II IV IV IV II I	Siblings Siblings 3 2 3 3 2 2 3 3 2 2 2 3 2 2 2 2 3 3 3 3 3 2 2 2 2 2 2 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3	<b>Age</b> 1 1 8 9 1 9 0 9 1 1 8 9 1 1 0 0	Ter Education 12 12 13 14 11 15 11 11 11	Occupation Secretary Housewife Housewife Bookkeeper (part time) Housewife Housewife Housewife Housewife	cation <sup>a</sup> 16 16 16 12 12 12 12 20 20 20 20	Father Father Occupation Edu Own Business Process Engineer Accountant Accountant Accountant Accountant Forfessor Contractor Foreman Metal Finisher Metal Finisher Plant Security Guard Assistant Plant Security Guard	9 9 7 9 7 9 7 9 9 9 9 9 9 9 9 9 9 9 9 9
	II	0	7	12	Secretary	16	Health Physicist	
	UI IV	0 M		7 <b>4</b> 7	Housewife Housewife	13 12	Foreman Metal Finisher	6
7 Matal Winisher 12 Housewife 11 11 3 TV	III IV	4 0	11 8 11	12	Bookkeeper (part time) Housewife	12 13	Contractor Foreman	ര വ
5 Contractor 12 Bookkeeper 12 8 4 III (part time) 12 Rockman 13 Housewife 14 11 0 IV 7 Metal Winisher 12 Housewife 11 11 3	г	ᠳ	ი	18	Housewife	02	Assistant Professor	4
4Assistant20Housewife1891I5Professor12Bookkeeper1284III6Foreman13Housewife14110IV7Metal Winisher12Housewife11113TV	II	0	11	12	Housewife	16	Accountant	Ю
3Accountant16Housewife12110II4Assistant20Housewife1891115Professor2Bookkeeper12Bookkeeper1284III6Foreman13Housewife14110IV7Motal Finisher12Housewife11113IV	II	2	თ	13	Housewife	16	Process Engineer	N
2Process16Housewife1392II3Accountant16Housewife12110II4Assistant20Housewife1891I4Assistant20Housewife1891I5Contractor12Bookkeeper (part time)1284III6Foreman13Housewife14113IV	III	Ŋ	10	12	Secretary	16	Own Business	ы
1Own Business16Secretary12102III2Process16Housewife1392II3Accountant16Housewife12110II4Assistant20Housewife189115Contractor12Bookkeeper1284116Foreman13Housewife14110IV7Motal Finicher12Housewife141131V	economic class of family	Number of Siblings	Åge	Education	Occupation	cation <sup>a</sup>	Occupation Edu	ily ber
IlyNumber ofNumber ofeconomic cla0 ccupationEducationOccupationEducationAgeSiblingsofeconomic cla1Own Business16Secretary12102III2Process16Housewife1392II3Accountant16Housewife12110II4Assistant20Housewife189115Contractor12Bookkeeper12189116Foreman13Housewife14110III7Metal Finisher1214110IV	Mean socio-	nos	-	ner	MOLI		Father	

Specification of families included in this study; families 1-10 are the APPENDIX A.

133

	Own Business Engineer Civil Engineer Associate Professor Territory Sales Manager Industrial Sales Manager	12 16 16 12 12 12 12 12 12 12 12 12 12 12 12 12	Selling (part time) Housewife Housewife Housewife Housewife	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	6 6 7 6 7 7 7 7 6 7 7 7 7	<b>0 0 0 0 <del>1</del> 1</b>	
•	rool and Die Maker	12	Housewife	12	11	τı	IV
-	<b>College</b> Instructor	18	Housewife	18	თ	ю	II
	<b>Assistant</b> Professor	20	Housewife	14.5	11	2	н
• • • • • • •	Associate Director of a Public Works Department	17	Social Worker	18	თ	2	II

<sup>a</sup>Education refers to number of years in school.

### APPENDIX B

## CIRCUMPLEX MODEL AND DEFINITION OF 16 INTERPERSONAL CATEGORIES (A-P)





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#### DEFINITION OF 16 INTERPERSONAL CATEGORIES (A-P)

- <u>A</u> To direct, command, or order. To <u>dominate</u> with relatively neutral affect being involved.
- <u>B</u> To actively resist the other person with somewhat negative affect being involved, e.g., to <u>boast</u>, to actively establish independence, to actively make demands upon the other person. The affect in this category is less intense than in C, D, or E and the primary intent seems to be to take over control of to establish ones own position rather than to punish.
- <u>C</u> To refuse what the other person offers or says. To be dissatisfied with what the other offers or suggests. To disagree, to compete with the other person, to take forcibly from the other, to <u>reject</u>.
- <u>D</u> To <u>punish</u>, to depreciate the other person. This may be done by challenging, mocking or threatening the other. More intense affect and rejection is expressed in this category than in C.
- <u>E</u> To openly attack the other person, to condemn, to criticize, to disapprove of them with intense negative affect, to disaffiliate with them. To express hate.
- <u>F</u> Passive resistance. To passively resist the other, to <u>complain</u>, nag, sulk, passively rebel, disobey, not cooperate.
- <u>G</u> To do and say things that imply distrust, suspicion or accusation of the other. Also, to passively place demands upon the other. (Passive <u>distrust</u>.)
- H To retreat, passively explain oneself, to be critical of oneself to yield, withdraw, apologize, to <u>condemn</u> oneself. To be helpless.
- <u>I</u> To <u>submit</u> with relatively neutral affect being involved. To defer, to obey.
- J To <u>admire</u> the other, to ask an opinion, to inquire, to manifest respect for the other. To be somewhat deferent toward the other.
- <u>K</u> To <u>trust</u> the other, to ask the other for help, to depend upon the other.

- L To <u>cooperate</u> with the other, to agree, collaborate, confide, conciliate, to accept the other's observation.
- <u>M</u> To <u>love</u>, affiliate, praise, approve of the other with considerable positive affect being expressed. To get close to the other, to express warmth.
- <u>N</u> To <u>support</u>, sympathize, reassure the other with positive affect being involved.
- O To give, to offer something to the other, to help, offer suggestions, interpret, to reflect with some positive affect being expressed.
- <u>P</u> To <u>teach</u>, give an opinion, to summarize, clarify, inform, advise, to explain with some positive affect being involved. To structure the situation by asking questions. (To teach, explain, etc., in a positive, constructive manner.)

APPENDIX C

THE SCORING RULES AND SCORING SHEET USED IN THIS STUDY The present study used the following scoring rules:

<u>Interruptions</u> are only scored as a new unit if the speaker responds to the other's verbalizations.

<u>Major Theme</u>: A major theme is the most dominant, primary affect that is expressed by the speaker. A capital letter is used to designate the major theme, e.g., P.

<u>Minor Theme</u>: A minor theme is the secondary, more implicit, affect that is expressed by the speaker. A small letter is used to indicate the minor theme, e.g., d. Each unit is assigned a major and a minor theme, e.g., Pd.

<u>Sequences</u>: A unit is scored in sequence when there is a change in major theme within that unit. In other words, within one speech two major interpersonal mechanisms will be displayed. The first mechanism is often in response to the previous stimulus and the second mechanism serves as an elicitor for the subsequent speech. Score as follows: Pd...Dg.

<u>Silence</u>: A silence is scored when it is apparent that one person expects a response from the other and one is not forthcoming within a fairly lengthy period of time (five seconds). Furthermore, the silence has the quality of being an interpersonal mechanism (response to the other's speech and an elicitor towards the other person, e.g., F, H). If the addressed person, however, does respond after a period of time (before the other makes another speech), score as usual and just note that the response is "delayed."

<u>Scoring the Triad</u>: In the triad, one person (mother) may overtly address another (father) and express one major interpersonal mechanism, e.g., N, while covertly her comments are directed to another person (son) and she expresses a different major interpersonal mechanism, e.g., D. In this case, the speaker's (mother's) comments are double scored, e.g., the message to father is scored as well as the message to the son. In the analysis of the data, the speaker in the next unit (father or son) will determine which of the two previous messages is scored, e.g., if father responds (is the next "speaker"), the unit mother to father will be scored. Example: Three possible ways to score the triad:

(1) Mother only addresses father.

Interp. Mech.
To Whom M F S
Speaker M F S
<u>Interp. Mech</u> . N
To Whom M F S
Speaker
<u>Unit</u> 1

(2) Mother addresses both father and son and displays the same interpersonal mechanism with both.

Interp. Mech.
TO Whom M F S
Speaker M F S
<u>Interp. Mech</u> . N
To Whom M F S
Speaker M F S
<u>Unit</u> 1

(3) Mother overtly addresses father and covertly addresses son.

Interp. Mech.	Q
To Whom	MFS
Speaker	M F S
Interp. Mech.	N
To Whom	M (F) S
Speaker	M F S
Unit	₹┨

# SCORING SHEET FOR DYAD

Name\_\_\_\_\_

Interaction\_\_\_\_\_

<u>Unit</u>	Speaker	To Whom	Interpersonal_Mechanism
1	MFS	MFS	
2	MFS	MFS	
3	MFS	MFS	
4	MFS	MFS	
5	MFS	MFS	
6	MFS	MFS	
7	MFS	MFS	
8	MFS	MFS	
9	MFS	MFS	
10	MFS	MFS	
11	MFS	MFS	
12	MFS	MFS	
13	MFS	MFS	
14	MFS	MFS	
15	MFS	MFS	
16	MFS	MFS	
17	MFS	MFS	
18	MFS	MFS	
19	MFS	MFS	
20	MFS	MFS	
21	MFS	MFS	
22	MFS	MFS	
23	MFS	MFS	
24	MFS	MFS_	
25	MFS	MFS	
26	MFS	MFS	
27	MFS	MFS	
28	MFS	MFS	
29	MFS	MFS	
30	MFS	MFS	
31	MFS	MFS	
32	MFS	MFS	
33	MFS	MFS	
34	MFS	MFS	
35	MFS	MFS	

		Interpers. Mech.																																			
Name	Triad	To Whom	MFS	MFS	MFS	MFS	MFS	MFS	MFS	MFS	MFS	MFS	MFS	MFS	MFS	MFS	MFS	MFS	MFS	MFS	MFS	MFS	MFS	MFS	MFS	MFS	MFS	MFS	MFS	MFS	MFS	MFS	MFS	MFS	MFS	MFS	MFS
		Speaker	MFS	MFS	MFS	MFS	MFS	MFS	MFS	MFS	MFS	MFS	MFS	MFS	MFS	MFS	MFS	MFS	MFS	MFS	MFS	MFS	MFS	MFS	MFS	MFS	MFS	MFS	MFS	MFS	MFS	MFS	MFS	MFS	MFS	MFS	MFS
		Interpers. Mech.																																			
		To Whom	MFS	MFS	MFS	MFS	MFS	MFS	MFS	MFS	MFS	MFS	MFS	MFS	MFS	MFS	MFS	MFS	MFS	MFS	MFS	MFS	MFS	MFS	MFS	MFS	MFS	MFS	MFS	MFS	MFS	MFS	MFS	MFS	MFS	MFS	MFS
		Speaker	MFS	MFS	MFS	MFS	MFS	MFS	MFS	MFS	MFS	MFS	MFS	MFS	MFS	MFS	MFS	MFS	MFS	MFS	MFS	MFS	MFS	MFS	MFS	MFS	MFS	MFS	MFS	MFS	MFS	MFS	MFS	MFS	MFS	MFS	MFS
		Unit	-1	0	23	4	2 2	9	7	8	6	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35

SCORING SHEET FOR TRIAD

# APPENDICES D-L

### RESULTS

APPENDIX D-1. Aver Inte	age percentage agreement <u>rpersonal Mechanisms</u> in €	between rater each dyad.	cs A-B, A-C, B-	-C for
	<u>Mother-Father</u>	Mother-Son	Father-Son	Total
16 Categories				
<b>A-</b> B	61	60	56	59
A-C	60	62	60	61
BLC	59	60	59	60
Mean	60	61	58	59
8 Categories				
A-B	67	65	66	66
A-C	65	66	66	66
B-C	65	66	66	66
Mean	66	65	66	66
<b>1 Step Agreement</b>				
<b>A-B</b>	70	70	69	70
A-C	72	74	73	73
B-C	71	72	71	71
Mean	τ <i>ι</i>	72	71	71
2 Step Agreement				
A-B	77	<i>LL</i>	73	76
A-C	78	79	79	19
B-C	78	78	78	78
Mean	77	78	76	77
Quadrant				
A-B	72	73	71	72
A-C B-C	74 70	75 70	75 71	75 71
Mean	72	73	73	73
Love-Hate				
A-B	82	83	80	82
A-C B-C	85 81	85 81	84 82	84 81
	0 V	02	60	02
MEAL	00	0	70	oo continued

APPENDIX D-1 - Continued

	<u>Mother-Father</u>	<u>Mother-Son</u>	Father-Son	Total
<u>DOMINANT-SUDMISSION</u> A-B	85	84	83	84
A-C	85	86	85	85
B-C	84	83	82	83
Mean	84	84	83	84

APPENDIX D-2. Averag Minor	Je percentage agreement Mechanisms in each dyad	between rater d.	's A-B, A-B, B-	-C for
	Mother-Father	Mother-Son	Father-Son	Total
16 Categories				
<b>A</b> -B	33	38	35	36
A-C	40	40	40	40
B-C	38	38	36	37
Mean	37	38	37	37
8 Categories				
A-B	41	42	40	41
A-C	46	45	44	45
B-C	44	42	40	42
Mean	43	43	41	42
1 Step Aareement				
A-B	44	45	44	44
A-C	51	53	50	52
B-C	47	48	45	47
Mean	47	49	46	47
<b>2 Step Agreement</b>				
A-B	55	58	51	55
A-C	62	60	58	60
B-C	54	56	56	56
Mean	57	58	54	57
Quadrant				
A-B	52	55	48	52
A-C	58	00 10	54	57
B-C	TC	DC	1C	4 J
Mean	53	55	50	53
Love-Hate	1	Ì		·
A-B A-C	75	71 75	67 73	71
с С С С С С С С С С С С С С С С С С С С	73	73	67	11
Mean	74	73	69	72

continued

APPENDIX D-2 - Continued

public ons' Median of the combined properties for the two APPENDIX E-1. most frequently used categories. The number of normal and clinic family members with proportions above the median. N=10.

Sender	of Behavior	Median	<u>Number of S</u> <u>Normal</u>	s Above Median <u>Clinic</u>
Nothor	to Bathor	E C A	6	4
Mother	to Father	• 364	0	4
Father	to Mother	.621	6	4
Mother	to Son	.602	5	5
Son to	Mother	.639	4	6
Father	to Son	.611	4	6
Son to	Father	.637	5	5

APPENDIX E-2. Mann Whitney U values on the combined proportions for the two most frequently used categories comparing normal and clinic family members in each dyad.

Sender	of Behavior	Mann Whitney U
Mother	to Father	40
Father	to Mother	32.5
Mother	to Son	49
Son to	Mother	36
Father	to Son	42
Son to	Father	44.5

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APPENDIX E-3. Median of the distribution of proportions for the most frequently used octant. The number of normal and clinic family members with proportions above the median. N=10 in each group.

Sender	of Behavior	Median	Number of Ss Normal	Above Median Clinic
		4.0.4		
Mother	to Father	.421	5	5
Father	to Mother	.431	5	5
Mother	to Son	.513	5	5
Son to	Mother	.396	4	6
Father	to Son	.539	4	6
Son to	Father	.412	4	6

APPENDIX E-4. Mann Whitney U values on the most frequently used octant comparing normal and clinic family members in each dyad.

Sender of Behavior	Mann Whitney U
Mother to Father	48
Father to Mother	42
Mother to Son	47
Son to Mother	28.5*
Father to Son	42
Son to Father	40

p between .05-.10 (1 tailed test)

APPENDIX F-1. Median of the combined proportions for the two most frequently used sender-receiver quadrants. The number of normal and clinic family members with proportions above the median. N=10 in each group.

Sender and Respondent	Median	<u>Number of Ss</u> <u>Normal</u>	Above Median Clinic
Mother Sender - Father			
Respondent	.420	5	5
Father Sender - Mother			
Respondent	.456	6	4
Mother Sender - Son			
Respondent	.542	5	6
Son Sender - Mother			
Respondent	.516	5	5
Father Sender - Son			
Respondent	•536	4	6
Son Sender - Father			
Respondent	.528	4	6

APPENDIX F-2. Mann Whitney U values on the combined proportions for the two most frequently used senderreceiver quadrants, comparing normal and clinic family members in each dyad.

Sender and Respondent	Mann Whitney U
Mother Sender - Father Respondent	48.5
Father Sender - Mother Respondent	44
Mother Sender - Son Respondent	39.5
Son Sender - Mother Respondent	46
Father Sender - Son Respondent	37
Son Sender - Father Respondent	37.5

APPENDIX G.	Mann Whitney U value for two dyadic inter Father and Son in no Data grouped as octa dominance-submission	s on the distribution of D actions, comparing Mother, ormal and clinic families. ints, quadrants and as
Sender of Bel	avior	Mann Whitney U
<u>Octant</u> Mother (To Father (To Son (To Mot	Father vs To Son) Mother vs To Son( ther vs To Father)	44 31.5 34
<u>Quadrant</u> Mother (To Father (To Son (To Mot	Father vs To Son) Mother vs To Son) ther vs To Father)	36 31 <b>4</b> 5
Dominance-Sul Mother (To Father (To Son (To Mot	<u>omission</u> Father vs To Son) Mother vs To Son) ther vs To Father)	40 27* 46

\*p  $\leq$  .10 (two tailed test)

APPENDIX	G-1.	The propo families families	ortion of fri in each dyad 11-20 are th	endly messages • Families 1-: e normal group	sent by mem 10 are the c	bers of clini linic famili€	.c and normal es and
				Sender of Behi	avior		
Family Number	Fat	<u>Mother</u> her	to Son	<u>Father</u> Mother	to Son	Son to Mother	2 Father
-	.2	10	.354	.350	.343	.092	.176
0		00	.416	.413	. 664	.289	.165
3	~	35	.441	.499	.896	.356	.813
4	•	18	.715	.512	.275	.014	.284
ß	4.	12	.254	.400	.779	.124	.231
9	•	148	.100	0	.500	.200	.250
7	.4	37	.537	.552	.970	.019	.030
8		44	.721	.687	.755	.396	.292
6	.1	48	.750	.188	.866	.054	.093
10		60	.891	.727	.680	.472	.833
×	ю. •	101	.518	.433	.673	.202	.317
	1	       	         	1 1 1 1 1	       	: ; ; ; ; ; ; ; ; ; ; ; ; ; ; ; ; ; ; ;	         
11	ດ •	42	.760	.592	.887	.538	.547
12	•	60	.714	.327	.637	.144	.379
13	.1	58	.844	.631	.861	.772	.755
14	ິ •	185	1.000	.953	.856	.924	.734
15	• 6	53	.979	.749	.945	.884	.927
16	თ •	147	.672	1.000	.913	.333	.352
17	• •	191	.847	.749	.820	.723	.721
18	. 6	:04	.686	.721	.861	.456	.631
19	•	020	.934	.793	.918	.729	.864
10	.7	86	.949	.755	.987	.871	. 603
X		370	.839	.727	.869	.636	.651

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APPENDIX H-1. Mann Whitney U value on the proportion of friendly responses sent by family members (regardless of receiver) comparing normal and clinic groups.

Sender of Behavior	Mann Whitney U
Mother (To Father and To Son)	7.5*
Father (To Mother and To Son)	7 *
Son (To Mother and To Father)	9 *

\*  $p \leq .001$  (1 tailed test)

APPENDIX H-2. Mann Whitney U values on the distribution of proportions for friendly responses sent by family members in each dyad comparing normal and clinic groups.

Sender of Behavior	Mann Whitney U
Mother to Father	16**
Father to Mother	13**
Mother to Son	15**
Son to Mother	9***
Father to Son	24*
Son to Father	16**
* $p \leq .05$ (1 tailed test) ** $p \leq .005$ (1 tailed test) *** $p \leq .001$ (1 tailed test)	

Sender of Behavior	X Prop Normal	ortion Clinic
Nother Cost to Esther		
Mother Sent to Father	000	<b>F</b> 4 <b>7</b>
Hostile-Dominant (BCDE)	.220	.547
Hostile-Passive (FGHI)	.097	.143
Friendly-Passive (JKLM)	•268	.099
Friendly-Dominant (NOPA)	.415	.208
Father Sent to Mother		
Hostile-Dominant (BCDE)	.178	.258
Hostile-Passive (FGHI)	.095	.304
Friendly-Passive (JKLM)	.217	.118
Friendly-Dominant (NOPA)	.507	.314
-		
Mother Sent to Son	–	
Hostile-Dominant (BCDE)	.113	.395
Hostile-Passive (FGHI)	.082	.088
Friendly-Passive (JKLM)	.216	.051
Friendly-Dominant (NOPA)	.623	.464
Son Sent to Mother		
Hostile-Dominant (BCDE)	.100	.243
Hostile-Passive (FGHI)	.263	.556
Friendly-Passive (JKLM)	.355	.069
Friendly-Dominant (NOPA)	.283	.132
Father Sent to Son	000	4.04
Hostile-Dominant (BCDE)	.088	.191
Hostile-Passive (FGHI)	.043	.134
Friendly-Passive (JKLM)	.178	.033
Friendly-Dominant NOPA)	.690	.642
Son Sent to Father		
Hostile-Dominant (BCDE)	.142	.255
Hostile-Passive (FGHI)	.207	.429
Friendly-Passive (JKLM)	.404	.120
Friendly-Dominant (NOPA)	.248	.197
		•

APPENDIX I. The mean proportion of responses sent in each quadrant sent by normal and clinic family members.

			Nc	ormal	c	linic
Sender	of	Behavior	Mean	Variance	Mean	Variance
Mothor	+0	Fathor				
Mother	20	BC	1 91	0294	111	04 64
		DE	.029	.0010	.133	.0093
		FG	.070	.0045	.101	.0079
		HI	.027	.0012	.042	.0012
		JK	.056	.0045	.003	.0001
		LM	.212	.0111	.009	.0083
		NO	.054	.0040	.030	.0027
		AP	.362	.0286	.178	.0124
Father	to	Mother				
		BC	.155	.0332	.202	.0426
		DE	.023	.0006	.056	.0079
		FG	.047	.0062	.156	.0264
		HI	.048	.0060	.148	.0079
		JK	.006	.0001	.029	.0029
		LM	.211	.0214	.089	.0040
		NO	.111	.0535	.031	.0015
		AP	.397	.0150	.283	.0209
Mother	to	Son				
		BC	.089	.0047	.255	.0218
		DE	.024	.0010	.140	.0205
		FG	.039	.0017	.052	.0028
		HI	.010	.0002	.036	.0026
		JK	.082	.0054	.010	.0002
		LM	.154	.0135	.042	.0026
		NO	.113	.0044	.054	.0027
		AP	.510	.0129	•412	.0279
Son to	Mot	ther	005	0070	474	04 7 0
		BC	.095	.0036	•1/4	.0132
		DE	.005	.0001	.009	.0036
		rg ut	• T 0 0	• 0200 01 7 a	• ± / ± ∩ ₽1	00000
		.TK	.038	00173	0015	.0002
		T.M	•004 301	0136	.010	0031
		NO	.053	-0035	.007	.0003
		AP	.230	.0079	.126	.01.31

APPENDIX J. The mean proportion and variance for each octant in normal and clinic family dyads.

	N	ormal	c	linic
Sender of Behavior	Mean	Variance	Mean	Variance
Father to Son				
	062	0022	153	0209
BC	.002	.0022	•133	.0208
DE	.026	.0005	.058	.0022
FG	.024	.0032	.062	.0133
HI	.019	.0011	.072	.0096
JK	.060	.0038	.016	.0004
LM	.119	.0032	.017	.0004
NO	.175	.0111	.058	.0048
AP	.515	.0316	.584	.0433
Son to Father				
BC	.133	.0110	.211	.0203
DE	008	.0000	044	0018
EC	116	0063	316	.0010
FG	•110	.0003	• 510	.0402
HI	.091	.0194	.115	.0165
JK	.046	.0057	.012	.0005
LM	.359	.0205	.108	.0177
NO	.020	.0006	.030	.0056
AP	.228	.0163	.167	.0365

APPENDIX J - Continued

APPENDIX K-1. The mean proportion of responses in each senderrespondent sequence (quadrants) for each member of mother-father dyad as both sender and as respondent, comparing normal and clinic groups.

	a	_ Normal	_ Clinic
<u>Sender a</u>	nd Respondent	X Proportion	X Proportion
Mother Sende BCD BCD BCD	r - Father Respondent E - BCDE E - FGHI E - JKLM	.067 .032 .040	.175 .226 .057
BCD	E – NOPA	.080	.089
FGH FGH FGH FGH	I – BCDE I – FGHI I – JKLM I – NOPA	.035 .016 .009 .037	.025 .040 .020 .058
JKL JKL JKL	M – BCDE M – FGHI M – JKLM M – NOPA	.025 .016 .062 .166	.015 .014 .015 .058
NOP NOP NOP NOP	A – BCDE A – FGHI A – JKLM A – NOPA	.052 .031 .132 .200	.026 .044 .049 .089
Father Sende BCD BCD BCD BCD	r - Mother Respondent E - BCDE E - FGHI E - JKLM E - NOPA	.079 .034 .031 .034	.187 .019 .021 .032
FGH FGH FGH FGH	I – BCDE I – FGHI I – JKLM I – NOPA	.042 .016 .009 .032	.172 .063 .019 .054
JKL JKL JKL	M – BCDE M – FGHI M – JKLM M – NOPA	.049 .002 .055 .115	.069 .012 .011 .027
NOP NOP NOP NOP	A – BCDE A – FGHI A – JKLM A – NOPA	.076 .033 .196 .202	.116 .051 .070 .077

<sup>a</sup>The quadrant on the left refers to the sender's behavior and the quadrant on the right to the respondent's behavior.

APPENDIX K-2. The mean proportion of responses in each senderrespondent sequence (quadrants) for each member of mother-son dyad as both sender and as respondent, comparing normal and clinic groups.

	_ Normal	_ Clinic
Sender and Respondent	X Proportion	X Proportion
Mother Sender - Son Respondent	004	074
BCDE - BCDE	.021	.074
BCDE – FGHI	.054	.280
BCDE – JKLM	.018	.030
BCDE – NOPA	.020	.011
FGHI - BCDE	.011	.027
FGHI - FGHI	.016	.050
FGHI - JKLM	.009	.008
FGHI - NOPA	.012	.003
JKLM - BCDE	.006	.009
JKLM - FGHI	.027	.019
JKLM - JKLM	.084	.006
JKLM - NOPA	.099	.019
NOPA - BCDE	.061	.123
NOPA - FGHI	.168	.228
NOPA - JKLM	.251	.033
NOPA - NOPA	.144	.081
Son Sender - Mother Respondent		
BCDE – BCDE	.020	.083
BCDE - FGHI	.017	.038
BCDE - JKLM	.015	.011
BCDE - NOPA	.048	.111
FGHI - BCDE	.055	.270
FCHI - FCHI	010	053
FGHI - JKLM	031	.017
FCHI - NOPA	168	216
FGII - NOFA	•100	• 2 1 0
JKLM - BCDE	.015	.029
JKLM - FGHI	.015	.002
JKLM - JKLM	.084	.004
JKLM - NOPA	.241	.035
NOPA - BCDE	.030	.024
NOPA - FGHI	.013	.007
NOPA - JKLM	.092	.031
NOPA - NOPA	.148	.071

APPENDIX K-3. The mean proportion of responses in each senderrespondent sequence (quadrants) for each member of father-son dyad as both sender and as respondent, comparing normal and clinic groups.

Sender and Respondent	Normal X Proportion	Clinic X Proportion
Father Sender - Son Respondent		
BCDE - BCDE	024	047
BCDE - FCHI	026	107
BCDE - JKLM	021	007
	017	030
BCDE - NOFA	•017	.050
FGHI - BCDE	.014	.042
FGHI - FGHI	.004	.046
FGHI - JKLM	.017	.011
FGHI - NOPA	.009	.036
JKLM - BCDE	.021	.011
JKLM - FGHI	.024	.006
JKLM - JKLM	.078	.009
JKLM - NOPA	.056	.007
NOPA - BCDE	.077	.151
NOPA - FGHI	.158	.290
NOPA - JKLM	.297	.085
NOPA - NOPA	.157	.083
Son Sender - Father Respondent		
BCDE - BCDE	- 031	.048
BCDE - FGHI	-016	.062
BCDE - JKLM	. 021	.009
BCDE - NOPA	074	.136
		•100
FGHI – BCDE	.022	.105
FGHI - FGHI	.012	.040
FGHI - JKLM	.024	.010
FGHI - NOPA	.150	.279
JKLM – BCDE	.023	.020
JKLM - FGHI	.010	.014
JKLM - JKLM	.075	.015
JKLM - NOPA	.295	.071
NOPA - BCDE	.019	.024
NOPA - FGHI	.008	.025
NOPA - JKLM	.076	.020
NOPA - NOPA	.143	,090
	• • • • •	

APPENDIX L.	The most frequent sender-respondent sequen sender and mother and father as respondent families and families 11-20 are the normal	ces for each family with son as • Families 1-10 are clinic group.
Fami ly Number	Son Sender - Mother Respondent	Sequence Son Sender - Father Respondent
Ł	FGHI - BCDE	BCDE - FGHI
N	FGHI - BCDE	BCDE – NOPA * FGHI – NOPA *
3	FGHI - NOPA	FGHI - BCDE
4	FGHI - NOPA	FGHI - BCDE
ប	FGHI - BCDE	FGHI - NOPA
9	FGHI - BCDE	FGHI - BCDE * FGHI - NOPA
7	FGHI - BCDE	FGHI - NOPA
8	NOPA - NOPA	BCDE - NOPA
6	FGHI - NOPA	FGHI - NOPA
10	FGHI - NOPA	JKLM - NOPA
11	FGHI - NOPA	JKLM - NOPA
12	FGHI - NOPA	JKLM - NOPA
13	JKLM - NOPA	JKLM - NOPA
14	UKLM - JKIM	JKTW – JKTW
15	JKLM - NOPA	JKLM - NOPA
16	FGHI - NOPA	FGHI - NOPA
17	JKLM - NOPA * NOPA - NOPA	JKLM - NOPA
18	FGHI - NOPA	JKLM – NOPA
19	JKLM - NOPA	NOPA - NOPA
20	JKLM - JKLM	JKLM - NOPA
* = tie		

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