AN EXAMINATION OF PROBLEM AND NON-PROBLEM FAMILY MEMBERS' VERBAL COMMUNICATION

By

THOMAS KIRK SIMS

Bachelor of Arts
University of San Francisco
San Francisco, California
1970

Master of Science
New Mexico Highlands University
Las Vegas, New Mexico
1972

Submitted to the Faculty of the Graduate College
of the Oklahoma State University
in partial fulfillment of the requirements
for the Degree of
DOCTOR OF PHILOSOPHY
May, 1974

AN EXAMINATION OF PROBLEM AND NON-PROBLEM

FAMILY MEMBERS' VERBAL COMMUNICATION

Thesis Approved:

Thesis Adviser

Kenneth D. Sandoval

H. Stephen Caldwell

Cheryl M. Scott

Dean of the Graduate College

ACKNOWLEDGMENTS

My deepest thanks are extended to my friend and adviser, Dr. Elliot A. Weiner, whose help and encouragement extended beyond the pages of this project.

Dr. H. Stephen Caldwell provided much help in obtaining subjects and made many helpful suggestions concerning the collection and analysis of data.

Dr. Kenneth D. Sandvold contributed numerous helpful suggestions and taught me never to split an infinitive.

Dr. Cheryl Scott provided help with her knowledge of speech and communication arts.

Dr. Barbara J. Weiner gave many hours in helping me with my data analysis and computer programming.

Dr. Anthony I. Schuham graciously opened his research files and provided the subjects for this project.

My sons Brian and Peter provided so much joy and happiness throughout the project, particularly when the tension of meeting deadlines and putting the paper together was at its highest.

My wife, Ann, gave so much of herself during the writing of this project. Instead of the usual wifely task of putting her husband through school, she truly went with me, never behind or in front, but by my side. For that I am very grateful.

TABLE OF CONTENTS

LIST OF TABLES

CHAPTER I

THE LITERATURE REVIEW

Introduction

In the last few years, the field of family therapy has emerged as a distinct treatment method, uniquely apart from the traditional focus on the individual and his internal processes. Haley (1971) and Wells, Dilkes and Trivelli (1972) have provided recent comprehensive reviews of the numerous methods used by practitioners in the area of family treatment. Although many of these therapeutic methods are currently enjoying wide-spread popularity, some researchers have suggested a new orientation in the field. Riskin and Faunce (1972) have observed that

> ...while the therapeutic arena has been extremely important in generating hypotheses, ...it is now essential to move beyond a clinical-impressionistic orientation toward a more "hard-line" research application in studying families, namely family interaction research. (Riskin and Faunce, 1972, p. 504)

Specifically, Riskin and Faunce advocate an increase in research involving quantifiable data capable of replication and meaningful interpretation. In an earlier paper, Riskin and Faunce (1970) noted a number of studies which have intended to move beyond clinically based inferences and to develop more objective operational methodologies for assessing family interaction (e.g., Wynne and Singer, 1963; Mishler and Waxler, 1968; Ferreira and Winter, 1968a, 1968b). However, these studies are said to have generally concentrated upon general aspects of communication (e.g., time to reach a decision; power within the family) rather than

upon specific semantic content of the interactional language itself. While the general aspects of family interaction are useful and relevant to the investigation of family communication patterns, the study of the specific content of the family's language also appears to be a fertile and untapped area in interactional research.

Theoretical Orientation

The theoretical position for the present investigation was influenced primarily by the work of Satir (1967). Fundamental to this framework is the viewpoint that the family is the basic environment in which the individual develops, and that persons within the family must communicate clearly if they are to develop and survive. Through clear communication, the individual comes to know the world: he learns to differentiate from and relate to other people and objects. He learns to know what to expect from the world and how to get along successfully within it. Thus, the family is a communication group, with the members giving and receiving information to each other in varying degrees of clarity, to the mutual profit or loss of each individual. The family which communicates clearly, then, may be expected to be well adjusted and effective in dealing with the world, while lack of clarity may be indicative of a maladjusted and ineffective family.

"Communication" is generally understood to refer to a combination of verbal and non-verbal behavior. The most obvious is verbal behavior and as such provides a highly objective tool with which family interaction may be examined.

Clarity as an Indicator of Adjustment

The importance of clear verbal communication in differentiating adjustment from maladjustment has been observed by both psychologists and semanticists. Johnson (1946) stated that seriously maladjusted psychiatric patients commonly shared one chief symptom -- they were unable to say accurately what was the matter with them. These patients could rarely put their difficulties into words. Furthermore, once the patients succeeded in articulating their difficulties clearly and to the point, progress was made. Johnson felt that "...before a problem can be attacked effectively it must be stated with reasonable clarity. And as soon as it has been so stated, some kind of solution to it becomes more or less apparent" (1946, p. 16). Pemberton (1959) observed that the language of maladjusted individuals involves various semantic distortions which differentiate those individuals from adjusted individuals. He further proposed that therapeutic practices which aimed at improving semantic clarity would result in success.

Haley (1959) and Satir (1967) among others (e.g., Bateson, Jackson, Haley and Weakland, 1962; Bateson and Ruesch, 1951) have emphasized the content of family communication as an important factor in studying the maladjustment of a family member. Specifically, Haley (1959) and Satir (1967) have identified four fundamental parts of a statement. These include (a) the sender ("I"), (b) the message ("am saying something"), (c) the receiver ("to you"), and (d) the context ("in this situation."). Each statement made in communication contains these four parts, and on the basis of these parts, may be judged for semantic clarity in interactional communication.

The Sender

Satir (1967), enlarging upon the work of Pemberton (1959), has noted that simple verbal communication (the use of words) may be hindered by three properties that words possess. First, the same word may have different meanings (e.g., "class" may refer to social structure or a school course). Second, the same word may have different connotations (e.g., "mother" may be a warm accepting person or a cold rejecting person). Third, words are abstractions which only stand for their referents (e.g., the word "book" is not the same thing as the object which it represents). Due to these three properties, communication is often disrupted because an individual uses a word in one way and his listener receives the word as though it meant something entirely different. Satir concludes from this that, because words are often unclear in themselves, it is important for the person expressing his thoughts (the sender) to clarify and qualify what he says. The sender accomplishes this by specifying that the words he uses refer to his own thoughts, feelings and perceptions, and are not necessarily congruent with the thoughts of others. For example, if a person states that "To me (the sender), mothers are warm, accepting people.", he recognizes that this perception of "mother" is his own, and that the word may have a different meaning for someone else. If the sender does not recognize that words are symbols with different meanings, he will tend to overgeneralize (Satir's term) and will reduce the clarity of his message. Specifically, the person who overgeneralizes will make a number of logical errors in his communication. (a) He will assume that one instance is an example of all instances, particularly in his use of who, what, when and where (e.g., "<u>Everybody</u> hates me."; "It's like that <u>everywhere</u> I go."). (b) He will assume that other people share his

feelings, thoughts and perceptions (e.g., "Of course he doesn't like to eat spinach."). (c) He will assume that his values and perceptions will not change (e.g., "That's the way I am."). (d) He will assume that his perceptions are complete (e.g., "I already know all about that."). (e) He will dichotomize (e.g., "You either love it or leave it."). (f) He will assume that characteristics he attributes to people and objects are part of them (e.g., "She is selfish."). (g) He will assume that he can interpret other people's thoughts, feelings or perceptions for them (e.g., "I know just what you mean."). (h) He will assume that others can interpret his own feelings, thoughts and perceptions (e.g., "You know what I mean."). The concept of "I-the sender" is distorted when the sender makes an error of overgeneralization. By overgeneralizing, "I-the sender" becomes an individual who speaks in absolute terms, interpreting the world, and the people and objects in it (reality), as though they corresponded exactly to his own perceptions. "I-the sender" becomes "I-the interpreter" and therefore not subject to disagreement or correction because he is only relaying "reality", not opinions, to his listener. However, the individual who specifies his statements (e.g., I think that...") reduces generalization and enables himself to check his "reality" with another's "reality". In this way, both individuals gain knowledge about their environment.

It is important to note that Satir recognizes that no one communicates without some generalization, and that many times it is an efficient and helpful method of communication. It is when an individual overgeneralizes -- employs generalization as his major method of communication -- that it becomes a hindrance to communication; particularly if the individual does not recognize that he does overgeneralize.

The concept of "I-the sender" of my own perceptions, as a functional mode of communication has received indirect support from a number of researchers. Winer (1971) has reported that the increased use of the "differentiated I" (as opposed to the undifferentiated "we", "us" or "our") in speech, reflects less intense symbiotic involvement in the family system and therefore is a sign of progress in family therapy. A similar opinion has been voiced by Bower (1966). Cheek and Anthony (1971) and Conrad and Conrad (1956), however, have reported that the use of the first person singular pronoun in speech ("I", "me", "mine") is not a sign of good communication. Cheek and Anthony report that first person singular pronouns are used more in the language of young adult schizophrenics than in the language of young adult normals, and represents a "pathological egocentric focus".

Thus, the use of "I-the sender" remains clouded. Satir (1967) contends that the speaker who specifies that he is responsible for his statements, with terms like "I think...", "I feel..." or "In my experience...", facilitates communication, while the speaker who overgeneralizes hinders communication. Indirect support for this has been provided by Winer (1971) and Bower (1966), while indirect opposition has been put forth by Conrad and Conrad (1956) and Cheek and Anthony (1971).

The Message

Although specification in the sending of a message is crucial in Satir's verbal communication model, it is also important to determine whether the message being sent is complete or incomplete. That is, if the sender leaves the receiver guessing about the content of a message because it is incomplete or not fully expressed, the receiver must

operate from what he guesses the message to be, with the probability of dysfunctional communication increasing greatly. Satir (1967) has stated that absolutely complete communication is impossible to achieve. There do exist degrees of completeness and incompleteness, however, and dysfunctional communication appears to correspond to the degree of incompleteness in the interaction. Dysfunctional families appear to send incomplete messages in two ways. First, they fail to complete sentences (e.g., "He isn't very...you know."). Second, they use pronouns vaguely (e.g., "We went there so they got upset with him.").

Sullivan (1925) and Mabry (1964) have supported Satir's position that incomplete messages hinder communication. Mabry observed that schizophrenic psychiatric patients display more "fragmentary" sentences in their language than do normals. Wynne and Singer (1963) have further observed that disrupted, fragmented communication is characteristic of families with schizophrenic children. Additionally, Mahl (1956) has stated that incomplete sentences are a sign of anxiety in psychiatric patients. In general, a large amount of literature supports the hypothesis that incomplete sentences are associated with anxiety and the presence of schizophrenia. Mishler and Waxler (1968), however, disagree with that hypothesis. In a study of 49 families, they concluded that disrupted communication, in the form of incomplete sentences, pauses, fragmentation and laughter, are more likely to occur in normal families than in schizophrenic families. This finding essentially agreed with the earlier positions of Fiske and Maddi (1961) and Goldman-Eisler (1958). Goldman-Eisler contended that discontinuity in speech, while breaking the even flow of words, allows the speaker a choice of words, and enables him to introduce new information.

Thus, the role of incompleteness and fragmentation in communication is debatable. Satir (1967) and Wynne and Singer (1963) state that incomplete sentences are a sign of a maladjusted, or specifically, a schizophrenic family. Mishler and Waxler (1968), however, contend that disruptions and incompleteness are more representative of normal families than of schizophrenic families.

Receiver and Context: the Reply

Haley's (1959) and Satir's (1967) schema for analyzing statements not only includes the concepts of sender and message, but also the concepts of sending the message to someone (the receiver) within a certain situation (the context). The concepts of receiver and context may be observed when one person replies to the statement of another. Satir (1967) discusses two aspects of the reply which have a bearing on the development of clear communication. First, the degree of commitment or non-commitment in the reply appears important in the effectiveness of communication. Second, the nature of the statement to which the reply is being given appears important (i.e., is the reply made to a statement which is specific, overgeneralized, complete or incomplete?). Satir indicates that commitment to an overgeneralized and/or incomplete statement disrupts clear communication. That is, because an overgeneralized or incomplete statement is considered dysfunctional in Satir's model, the individual who commits himself to such a statement (by either agreeing or disagreeing) cannot be certain about what it is to which he is committing himself. Thus, not only does he commit himself to a vague proposition, he also extends the unclear interaction by indicating, through his commitment, that the original statement was clear when it was not. The only

functional recourse in Satir's model is to delay commitment by asking the sender to clarify his statement (e.g., "What do you mean by everybody hates you?"). By requesting clarification, the individual not only avoids the untenable position of committing himself to an unclear statement, he also indicates to the sender that the communication within the interaction is unclear.

A number of studies provide general support for the inclusion of a commitment category in a family interaction study, although no study was found which differentiated commitment in terms of a reply to a functional or dysfunctional statement. Ruskin and Faunce (1970) found that normal families express more agreement in discussions than do families with schizophrenic or neurotic children. Furthermore, Ruskin and Faunce found that multiproblem families exhibit more non-commitment, in the form of topic change, than do normal families.

Thus, Satir states that the nature of a reply (whether it involves commitment or non-commitment) and the clarity of the statement to which the reply is being made, are crucial in differentiating normal and problem families. Although the factor of commitment has been studied in previous investigations, no investigation was found which specifically tested Satir's hypothesis.

Insurance of Clarity

Although family communication is rarely completely clear, members of the family group may utilize a number of techniques to insure that clarity or non-clarity exists (Satir, 1967). In order to assure himself that his message has been clearly stated, a communicator may request feedback from other members of the family (e.g., "Did you understand what

I meant?"). In return, the family members may request him to clarify his original statement or they may ignore his request for feedback. If a request for clarification is made, the sender may still reduce the general clarity of the interaction by failing to respond to the request by (a) repetition of his original statement (e.g., "Like I just said, everybody hates me.") or by rebuffing the request (e.g., "Why are you so picky? You know perfectly well what I mean."). Whether the use of these techniques indicates family pathology remains uncertain. Although requesting feedback and requesting clarification appear to be functional, Satir warns that this may not always be the case. The individual who constantly requests feedback or clarification may hinder communication rather than facilitate it. Furthermore, examination of another method of disrupting communication -- the interruption -- has produced various results in previous studies. Riskin and Faunce (1970) found that an interruption category in their interactional study was non-discriminating between normal and disturbed families. Farina (1960) in a similar investigation, however, suggested that interruptions may indicate family conflict.

Thus clarification may be insured in a number of ways during family interaction. The sender may insure clarity by (a) requesting feedback about the clearness of his statement and by (b) clarifying his statement upon request. The receiver may insure clarity by (a) requesting clarification and by (b) not interrupting the sender.

Hypotheses

The communication model of Satir (1967) has been reviewed, with reference made to four general factors involved in clear verbal communication: the sender, the message, the reply, and insurance of clarity. The present investigation examined each of these factors with the assumption that family members may be identified as problem (PROB) or non-problem (NO-PROB) on the basis of their verbal interaction behaviors. It was also assumed that the individual fathers, mothers and children in problem families (PROB FATH, PROB MOTH and PROB CHILD, respectively) and non-problem families (NO-PROB FATH, NO-PROB MOTH and NO-PROB CHILD, respectively) may be identified on the basis of their verbal behaviors.

It was expected that in a discussion situation, the NO-PROB groups would be characterized by general clarity as senders. This would be seen (in comparison to PROB groups) in their use of (1) less overgeneralization and (2) more specification statements.

It was further expected that the NO-PROB groups would be characterized by more complete messages in their discussions. This would be seen in (3) their use of more complete sentences, (4), their use of less incomplete sentences and (5) their clear use of pronouns in sentences.

Third, it was expected that NO-PROB groups would be more functional in their replies. This would be seen in (6) less commitment to overgeneralized statements, (7) less non-commitment to overgeneralized statements, (8) more requests for clarification of overgeneralized statements, (9) less commitment to incomplete sentences, (10) less non-commitment to incomplete sentences and (11) more requests for clarification of incomplete sentences.

Fourth, it was expected that NO-PROB groups would do more to insure

clarity in their discussions. This would be seen in (12) fewer interruptions, (13) more requests for feedback concerning clarity, (14) more giving of feedback upon request and (15) less avoidance of requests for clarification.

Fifth, it was expected that differences on the 15 variables would exist between groups of families having children diagnosed as character disorder (CHAR DIS), neurotic (NEUR) or non-problem (NO-PROB). Furthermore, it was expected that an interaction of effects would exist between family members (father, mother and child) and the three diagnostic sub-groups (CHAR DIS, NEUR and NO-PROB).

CHAPTER II

METHOD

Subjects

Subjects (Ss) were 72 individuals belonging to two samples of family triads, one sample designated as "non-problem" (NO-PROB) and the other sample designated as "problem" (PROB). A family triad was defined as a father, mother and child currently living together with the child being the natural offspring of the parents. The samples contained a total of 24 families with three Ss in each family: eight families and 24 Ss in the NO-PROB group and 16 families and 48 Ss in the PROB group. The PROB group was further subdivided into two groups of neurotic (NEUR) and character disorder (CHAR DIS), each with eight families and 24 Ss. The NO-PROB group was comprised of families whose members had no past or pending referral to any psychiatric facility. The PROB group was comprised of families in which the child had been referred to a psychiatric agency and diagnosed through a formal interview as NEUR or CHAR DIS. No cases were used in the present investigation in which physical or neurological exams indicated the presence of organic factors. The NO-PROB, CHAR DIS and NEUR groups were matched on: child's sex, socio-economic class (group means on Hollingshead scale ranged from 37.6 to 40.8), child's I.Q. (group means on WISC-Full scale I.Q. ranged from 104.6 to 109.5) and on child's age (group means ranged from 10.7 to 11.4 years old).

Dependent Variables

All hypotheses of the present investigation were tested using the following 15 dependent variables for each S.

(1) Overgeneralization - A statement in which the speaker fails to state that the opinions, feelings or information expressed are his own perceptions.

(2) Specification - A statement in which the speaker states that the opinions, feelings or information expressed are his own perceptions.

(3) Complete Sentence - A grammatical unit of a word or words expressing a complete thought.

(4) Incomplete Sentence - A grammatical unit of a word or words that does not express a complete thought.

(5) Mixed Pronouns - A sentence or phrase in which pronouns are mixed to the extent that the persons or objects to which they refer are not clear.

(6) Commitment to Overgeneralization - A statement in which the speaker implies agreement or disagreement with the previous overgeneralization in the conversation.

(7) Non-commitment to Overgeneralization - A statement in which the speaker ignores the previous overgeneralization in the conversation which called for commitment.

(8) Request Clarification of Overgeneralization - A request for the previous speaker to clarify an earlier overgeneralization.

(9) Commitment to Incomplete Sentence - A statement in which the speaker implies agreement or disagreement with a previous incomplete sentence in the conversation.

(10) Non-commitment to Incomplete Sentence - A statement in which the speaker ignores the previous incomplete sentence in the conversation which called for commitment.

(11) Request Clarification of Incomplete Sentence - A request for the previous speaker to clarify an earlier incomplete sentence.

(12) Interruption - A speaker gains attention by interrupting another person's speech.

(13) Request Feedback Concerning Clarity - A request by the speaker for information concerning the clarity of his statements.

(14) Give Feedback - The one listening supplies feedback to the original speaker concerning the clarity of his statements.

(15) Clarify on Request - The speaker attempts to make his previous statements more understandable if asked to do so by others.

(See Appendix B for specific examples of dependent variables.)

Procedure

The three family members were placed in separate rooms and asked to fill out an opinion questionnaire which presented 30 hypothetical family problem situations and three possible solutions to each problem. The problems dealt with topics such as children's allowance, use of babysitters, and family vacations. Four items were selected upon which the family members disagreed. The family was then re-united in a room equipped with audio and video recorders, instructed to discuss each of the four items in succession and arrive at a unanimous decision concerning each. The discussions were transcribed and scored in random order by an observer on the 15 dependent variables. A second observer working independently, scored the sixth, 12th, 18th and 24th transcripts to

obtain a measure of observer reliability. Observer agreement for scoring of each discussion statement ranged from 84% to 100% for the 15 dependent variables. Observer agreement for numerical scores for each S on the 15 variables ranged in correlation from +.66 to +1.00, although four of the variables (nos. 9, 13, 14, and 15) had too few cases of observation to compute correlation coefficients. (See Appendix C for complete table of observer agreement.) All correlation coefficients computed were significant ($p < .01$). Neither observer had prior knowledge of Ss' group membership during scoring.

Experimental Design

In order to differentiate PROB FAM versus NO-PROB FAM characteristics, the scores of all Ss were analyzed using a multiple discriminant function analysis. This analysis presented a final predictors system for the interactional categories which best discriminated between the PROB FAM and NO-PROB FAM groups. Due to the problem of shrinkage, an *a priori* maximum of five predictors (i.e., five interactional categories) were allowed for selection into the final prediction system. In order to differentiate the effects of family membership, three additional multiple discriminant function analyses were calculated: one comparing fathers (PROB FATH versus NO-PROB FATH), one comparing mothers (PROB MOTH versus NO-PROB MOTH) and one comparing children (PROB CHILD versus NO-PROB CHILD). An *a priori* maximum of two predictors were allowed for selection into the final prediction system. (See Appendix D for a more complete description of multiple discriminant function analysis.)

In order to examine the interactional characteristics of the diagnostic subgroups (CHAR DIS, NEUR and NO-PROB) and individual family

members (Father, Mother and Child), 15 analyses of variance were calculated. Each analysis was a 3x3 randomized factorial design (Kirk, 1968) using scores for one interactional category only. Significant interaction effects were investigated using the simple main effects interactions procedure (Kirk, 1968). Comparison of diagnostic subgroup means were tested for all interactional categories using Tukey's Honestly Significant Differences (HSD) test, $\alpha = .01$, df = 3,63 (Kirk, 1968).

CHAPTER III

RESULTS

Comparison: Problem and Non-problem Family Members

The overall statistical null hypothesis of no significant differences between means of PROB FAM and NO-PROB FAM groups was rejected. Table I presents the means and standard deviations of the two groups for the 15 variables. The Clarify Upon Request variable was not observed in any of the family discussions and was therefore eliminated from subsequent analyses. It was found that the NO-PROB FAM group interrupted less ($\overline{X}$ = 0.58) than the PROB FAM group ($\overline{X}$ = 9.25, F = 24.64, df = 1,70, $p < .01$) and made more requests for clarification of incomplete sentences ($\overline{X}$ = 1.13) than the PROB FAM group ($\overline{X}$ = 0.81, F = 4.65, df = 1,69, $p < .05$). A final prediction system consisting of Interruptions (F = 29.31, df = 1,69, $p < .01$) and Request Clarification of Incomplete Sentences (F = 4.65, df = 1,69, $p < .05$) is presented, in order of selection, in Table II. (The F values and order of selection for all 14 variables are presented in Appendix A.) The proportion of Ss that were correctly classified the same as their diagnostic groups, on the basis of the final prediction system, is presented in Table III. The proportion of correct classifications was significant (χ^2 = 22.21, df = 1, $p < .01$). Table IV presents the frequency distribution of probabilities of classification of Ss in PROB FAM and NO-PROB FAM groups on the basis of the

TABLE I

VARIABLE MEANS AND STANDARD DEVIATIONS FOR FIFTEEN VARIABLES FOR PROB FAM AND NO-PROB FAM GROUPS

Variable	PROB FAM		NO-PROB FAM	
	$\bar{X}$	SD	$\bar{X}$	SD
	N=48		N=24	
Overgeneralization	57.81	43.60	55.92	27.45
Specification	11.85	7.52	11.38	8.98
Complete Sentence	87.52	59.74	86.46	42.32
Incomplete Sentence	24.98	16.03	22.17	12.76
Mixed Pronouns	.13	.49	.04	.20
Commitment - Overg.	7.98	6.71	6.96	4.88
No. Commitment - Overg.	24.08	16.32	24.13	10.87
Req. Clarif. - Overg.	1.63	1.85	2.33	3.10
Commitment - Incom.	2.96	3.21	2.88	4.01
No. Commitment - Incom.	17.27	12.82	13.58	7.88
Req. Clarif. - Incom.*	.81	1.25	1.13	1.45
Interruptions**	9.25	8.49	.58	1.10
Request Feedback	2.44	4.57	2.54	3.55
Give Feedback	.06	.32	.08	.28
Clarify on Request	.00	.00	.00	.00

*$p < .05$.

**$p < .01$.

TABLE II

SELECTION ORDER AND TEST OF STATISTICALLY SIGNIFICANT VARIABLES DISCRIMINATING BETWEEN PROB FAM AND NO-PROB FAM GROUPS

Variable	df	F value to enter	Final Prediction System df	F
Interruptions	1,70	24.64**	1,69	29.31**
Req. Clarif. - Incom.	1,69	4.65*	1,69	4.65*

*p < .05.

**p < .01.

TABLE III

PROPORTION OF STATISTICAL CLASSIFICATION FOR PROB FAM AND NO-PROB FAM GROUPS

	Number of Cases Classified Into Group	
	PROB FAM	NO-PROB FAM
PROB FAM Ss	30 (p = .63)	18
NO-PROB FAM Ss	1	23 (p = .96)

$\chi^2 = 22.21$, df = 1, (p < .01).

TABLE IV

FREQUENCY DISTRIBUTION OF PROBABILITIES OF CLASSIFICATION FOR PROB FAM AND NO-PROB FAM GROUPS

Probability of Classification	Frequency			
	PFAM as PFAM (correct)	PFAM as NPFAM (error)	NPFAM as NPFAM (correct)	NPFAM as PFAM (error)
.95 - 1.00	8		1	
.90 - .94	5		1	
.85 - .89	4			
.80 - .84			4	
.75 - .79	1			
.70 - .74	1		5	
.65 - .69	3	4	2	
.60 - .64		9	8	
.55 - .59	3	2	1	1
.50 - .54	5	3	1	
Totals	30	18	23	1

PFAM = PROB FAM; NPFAM = NO-PROB FAM.

final prediction system. An example for interpreting Table IV is that eight PROB FAM Ss were correctly classified PROB FAM with a probability of correct classification being between .95 and 1.00.

Comparison: Fathers in Problem and Non-problem Families

The overall statistical null hypothesis of no significant differences between fathers in problem families (PROB FATH) and fathers in non-problem families (NO-PROB FATH) was rejected. Table V presents the means and standard deviations of the two groups for the 14 variables. It was found that the NO-PROB FATH group interrupted less ($\overline{X}$ = 1.00) than the PROB FATH group ($\overline{X}$ = 10.94, F = 7.65, df = 1,22, $p < .05$) and tended to make more requests for clarification of overgeneralized statements ($\overline{X}$ = 4.38) than the PROB FATH group ($\overline{X}$ = 2.06, F = 2.61, df = 1,21, $p < .25$). A final prediction system consisting of Interruptions (F = 7.29, df = 1,21, $p < .05$) and Request Clarification Overgeneralization (F = 2.61, df = 1,21, $p < .25$) is presented, in order of selection, in Table VI. (The F values and order of selection for all 14 variables are presented in Appendix A.) The proportion of Ss that were correctly classified the same as their diagnostic groups, on the basis of their final prediction system, is presented in Table VII. Table VIII presents the frequency distribution of probabilities of classification of Ss in PROB FATH and NO-PROB FATH groups on the basis of the final prediction system.

TABLE V

VARIABLE MEANS AND STANDARD DEVIATIONS FOR FOURTEEN VARIABLES FOR PROB FATH AND NO-PROB FATH GROUPS

Variable	PROB FATH $\bar{X}$	PROB FATH SD	NO-PROB FATH $\bar{X}$	NO-PROB FATH SD
	N=18		N=8	
Overgeneralization	67.81	49.76	63.63	14.54
Specification	13.06	8.47	14.13	11.53
Complete Sentence	103.63	67.03	107.63	42.48
Incomplete Sentence	29.06	18.50	26.13	9.63
Mixed Pronouns	.06	.25	0.00	0.00
Commitment - Overg.	8.50	6.10	8.63	5.01
No. Commitment - Overg.	28.13	16.71	26.88	14.46
Req. Clarif. - Overg.[a]	2.06	2.46	4.38	4.44
Commitment - Incom.	3.44	2.56	2.38	1.06
No. Commitment - Incom.	18.06	12.24	15.00	9.83
Req. Clarif. - Incom.	1.13	1.15	1.50	2.00
Interruptions**	10.94	9.99	1.00	1.60
Request Feedback	3.75	6.57	4.38	4.53
Give Feedback	.19	.54	.13	.35

[a] $p < .25$.

**$p < .01$.

TABLE VI

SELECTION ORDER AND TEST OF STATISTICALLY SIGNIFICANT VARIABLES DISCRIMINATING BETWEEN PROB FATH AND NO-PROB FATH GROUPS

Variable	df	F value to enter	Final Prediction System df	F
Interruptions	1,22	7.65*	1,21	7.29*
Req. Clarif. - Overg.	1,21	2.61[a]	1,21	2.61[a]

[a] $p < .25$

*$p < .05$.

TABLE VII

PROPORTION OF STATISTICAL CLASSIFICATION FOR PROB FATH AND NO-PROB FATH GROUPS

	Number of Cases Classified Into Group	
	PROB FATH	NO-PROB FATH
PROB FATH Ss	11 (p = .69)	5
NO-PROB FATH Ss	0	8 (p = 1.00)

$\chi^2 = 10.15$, df = 1, ($p < .01$).

TABLE VIII

FREQUENCY DISTRIBUTION OF PROBABILITIES OF CLASSIFICATION FOR PROB FATH AND NO-PROB FATH GROUPS

Probability of Classification	Frequency			
	PF as PF (correct)	PF as NPF (error)	NPF as NPF (correct)	NPF as PF (error)
.95 - 1.00	2		1	
.90 - .94	2			
.85 - .89	3			
.80 - .84				
.75 - .79		1	3	
.70 - .74		2	1	
.65 - .69	2			
.60 - .64	1			
.55 - .59	1		1	
.50 - .54		2	2	
Totals	11	5	8	0

PF = PROB FATH; NPF = NO-PROB FATH.

Comparison: Mothers in Problem and Non-problem Families

The overall statistical null hypothesis of no significant differences between mothers in problem (PROB MOTH) and non-problem families (NO-PROB MOTH) was rejected. Table IX presents the means and standard deviations of the two groups for the 14 variables. It was found that the NO-PROB MOTH group interrupted less ($\overline{X}$ = 0.38) than the PROB MOTH group ($\overline{X}$ = 10.31, F = 12.29, df = 1,22, $p < .01$) and tended to commit themselves to incomplete sentences more ($\overline{X}$ = 5.00) than the PROB MOTH group ($\overline{X}$ = 4.19, F = 2.24, df = 1,21, $p < .25$). A final prediction system consisting of Interruptions (F = 14.99, df = 1,21, $p < .001$) and Commitment to Incomplete Sentences (F = 2.24, df = 1,21, $p < .25$) is presented, in order of selection, in Table X. (The F values and order of selection for all 14 variables are presented in Appendix A.) The proportion of Ss that were correctly classified the same as their diagnostic groups, on the basis of the final prediction system, is presented in Table XI. Table XII presents the frequency distribution of probabilities of classification of Ss in the PROB MOTH and NO-PROB MOTH groups on the basis of the final prediction system.

TABLE IX

VARIABLE MEANS AND STANDARD DEVIATIONS FOR FOURTEEN VARIABLES FOR PROB MOTH AND NO-PROB MOTH GROUPS

Variable	PROB MOTH $\bar{X}$	PROB MOTH SD	NO-PROB MOTH $\bar{X}$	NO-PROB MOTH SD
	N=16		N=8	
Overgeneralization	66.81	45.03	64.25	36.50
Specification	12.56	7.17	12.88	9.37
Complete Sentence	100.44	61.36	92.88	43.48
Incomplete Sentence	24.31	16.18	23.75	13.38
Mixed Pronouns	.19	.75	.13	.35
Commitment - Overg.	9.81	7.52	8.13	5.69
No. Commitment - Overg.	23.50	17.33	23.25	6.84
Req. Clarif. - Overg.	1.94	1.39	1.88	1.80
Commitment - Incom.[a]	4.19	4.28	5.00	6.50
No. Commitment - Incom.	21.44	15.63	15.63	5.58
Req. Clarif. - Incom.	1.13	1.67	1.00	.93
Interruptions**	10.31	7.91	.38	.74
Request Feedback	2.38	4.01	2.00	2.88
Give Feedback	0.00	0.00	.13	.35

[a] $p < .25$.

** $p < .01$.

TABLE X

SELECTION ORDER AND TEST OF STATISTICALLY SIGNIFICANT VARIABLES DISCRIMINATING BETWEEN PROB MOTH AND NO-PROB MOTH GROUPS

Variable	df	F value to enter	Final Prediction System df	F
Interruptions	1,22	12.28**	1,21	14.99**
Commitment - Inc.	1,21	2.23[a]	1,21	2.23[a]

[a] $p < .25$.

**$p < .01$.

TABLE XI

PROPORTION OF STATISTICAL CLASSIFICATION FOR PROB MOTH AND NO-PROB MOTH GROUPS

	Number of Cases Classified Into Group	
	PROB MOTH	NO-PROB MOTH
PROB MOTH Ss	11 (p = .69)	5
NO-PROB MOTH Ss	0	8 (p = 1.00)

$\chi^2 = 10.15$, df = 1, ($p < .01$).

TABLE XII

FREQUENCY DISTRIBUTION OF PROBABILITIES OF CLASSIFICATION FOR PROB MOTH AND NO-PROB MOTH GROUPS

Probability of Classification	Frequency			
	PM as PM (correct)	PM as NPM (error)	NPM as NPM (correct)	NPM as PM (error)
.95 - 1.00	4		2	
.90 - .94	2			
.85 - .89				
.80 - .84	2			
.75 - .79			1	
.70 - .74			3	
.65 - .69		2	2	
.60 - .64	3			
.55 - .59		3		
.50 - .54				
Totals	11	5	8	0

PM = PROB MOTH; NPM = NO-PROB MOTH.

Comparison: Children in Problem and Non-problem Families

The overall statistical null hypothesis of no significant differences between means of children in problem (PROB CHILD) and non-problem families (NO-PROB CHILD) was rejected. Table XIII presents the means and standard deviations of the two groups for the 14 variables. It was found that the NO-PROB CHILD group interrupted less ($\overline{X}$ = 0.38) than the PROB CHILD group ($\overline{X}$ = 6.50, F = 5.72, df = 1,22, $p < .05$) and tended to request clarification of incomplete sentences more ($\overline{X}$ = 0.88) than the PROB CHILD group ($\overline{X}$ = 0.19, F = 2.55, df = 1,21, $p < .25$). A final prediction system consisting of Interruptions (F = 4.48, df = 1,21, $p < .25$) and Request Clarification-Incomplete (F = 2.55, df = 1,21, $p < .25$) is presented, in order of selection, in Table XIV. (The F values and order of selection for all 14 variables are presented in Appendix A.) The proportion of Ss that were correctly classified the same as their diagnostic group, on the basis of the final prediction system, is presented in Table XV. Table XVI presents the frequency distribution of probabilities of classification of Ss in the PROB CHILD and NO-PROB CHILD groups on the basis of the final prediction system.

TABLE XIII

VARIABLE MEANS AND STANDARD DEVIATIONS FOR FOURTEEN VARIABLES FOR PROB CHILD AND NO-PROB CHILD GROUPS

Variable	PROB CHILD $\bar{X}$	PROB CHILD SD	NO-PROB CHILD $\bar{X}$	NO-PROB CHILD SD
	N=16		N=8	
Overgeneralization	38.81	29.56	39.88	22.18
Specification	9.94	6.95	7.13	3.48
Complete Sentence	58.50	39.63	58.88	27.60
Incomplete Sentence	21.56	13.05	16.63	14.39
Mixed Pronouns	.13	.34	0.00	0.00
Commitment - Overg.	5.63	6.14	4.13	2.59
No. Commitment - Overg.	20.63	14.97	22.25	10.87
Req. Clarif. - Overg.	.88	1.36	.75	.89
Commitment - Incom.	1.25	1.57	1.25	1.04
No. Commitment - Incom.	12.31	8.68	10.13	7.45
Req. Clarif. - Incom.[a]	.19	.40	.88	1.36
Interruptions*	6.50	7.15	.38	.74
Request Feedback	1.19	1.60	1.25	2.55
Give Feedback	0.00	0.00	0.00	0.00

[a] $p < .25$.

*$p < .05$.

TABLE XIV

SELECTION ORDER AND TEST OF STATISTICALLY SIGNIFICANT VARIABLES DISCRIMINATING BETWEEN PROB CHILD AND NO-PROB CHILD GROUPS

Variable	df	F value to enter	Final Prediction System df	F
Interruptions	1,22	5.72*	1,21	4.48*
Req. Clarif. - Inc.	1,21	2.55[a]	1,21	2.55[a]

[a] $p < .25$.

*$p < .05$.

TABLE XV

PROPORTION OF STATISTICAL CLASSIFICATION FOR PROB CHILD AND NO-PROB CHILD GROUPS

	Number of Cases Classified Into Group	
	PROB CHILD	NO-PROB CHILD
PROB CHILD Ss	10 (p = .63)	6
NO-PROB CHILD Ss	0	8 (p = 1.00)

$\chi^2 = 8.57$, df = 1, ($p < .01$).

TABLE XVI

FREQUENCY DISTRIBUTION OF PROBABILITIES OF CLASSIFICATION FOR PROB CHILD AND NO-PROB CHILD GROUPS

Probability of Classification	Frequency			
	PC as PC (correct)	PC as NPC (error)	NPC as NPC (correct)	NPC as PC (error)
.95 - 1.00	2		1	
.90 - .94	2			
.85 - .89				
.80 - .84				
.75 - .79				
.70 - .74	1		2	
.65 - .69		1	1	
.60 - .64	4			
.55 - .59	1			
.50 - .54		5	4	
Totals	10	6	8	0

PC = PROB CHILD; NPC = NO-PROB CHILD.

Comparison: Family as a Unit

It is interesting to note that an alternate method of scoring -- scoring the family as a unit -- proved to be less effective than the present system of scoring each family member. When scoring each family as a unit, by summing each of the family member's scores to equal one score for each variable, only the Interruptions category was found to be statistically significant ($p < .05$). However the classification system was improved slightly to a successful classification rate of 100% for the non-problem families and 69% for the problem families.

Comparison: Diagnostic Sub-groups

The statistical null hypothesis of no significant differences between the means of the CHAR DIS, NEUR and NO-PROB groups for the Interruption category was rejected. There were no significant differences between means for the other 14 variables. (See Appendix E for F values.) The means of the three diagnostic groups for all 15 variables are presented in Table XVII. Within the Interruptions category, it was found that the statistically different group means ($F = 13.60$, $df = 2,63$, $p < .01$) involved the NO-PROB group making fewer interruptions within a discussion ($\overline{X} = 0.58$) than either the CHAR DIS group ($\overline{X} = 10.92$, $p < .01$) or the NEUR group ($\overline{X} = 7.58$, $p < .01$).

No statistically significant family membership by diagnostic group interactions were found for any of the 15 variables. F values for the interactions ranged from .196 to 1.744, $df = 4,63$; all were statistically non-significant. See Appendix E for all F values.

TABLE XVII

GROUP MEANS OF DIAGNOSTIC SUB-GROUPS FOR FIFTEEN VARIABLES

Variable	CHAR DIS $\bar{X}$	NEUR $\bar{X}$	NO-PROB $\bar{X}$
Overgeneralization	61.79	53.83	55.92
Specification	13.25	10.46	11.38
Complete Sentence	92.13	82.92	86.46
Incomplete Sentence	27.96	22.00	22.17
Mixed Pronouns	0.25	0.00	0.04
Commitment - Overg.	8.13	7.83	6.96
No. Commitment - Overg.	25.88	22.29	24.13
Req. Clarif. - Overg.	1.42	1.83	2.33
Commitment - Inc.	3.58	2.33	2.88
No. Commitment - Inc.	18.83	15.71	13.58
Req. Clarif. - Inc.	0.67	0.96	1.13
Interruptions**	10.92	7.58	0.58
Request Feedback	1.67	3.21	2.54
Give Feedback	0.08	0.04	0.08
Clarify Upon Req.	0.00	0.00	0.00

**$F = 13.60$, $p < .01$.

CHAPTER IV

DISCUSSION

Comparison: Problem and Non-problem Groups

The strongest discriminator between all PROB and NO-PROB groups (Families, Fathers, Mothers and Children) was the Interruptions category. The results for that category consistently supported the original hypothesis that interruptions are more frequently observed in problem, rather than non-problem, families. These findings also support Farina's (1960) contention that interruptions characterize problem families, while contradicting Riskin and Faunce (1970) who reported that interruptions were non-discriminating between problem and non-problem families. The results of the present study go on to specify, however, that not only are interruptions characteristic of the problem family members as a whole, but that each family member -- father, mother and child -- tends to interrupt more than his non-problem counterpart. Thus interruptions, as an interactional behavior, appear to be both a powerful and consistent indicator of family problems.

In the PROB FAM and NO-PROB FAM comparison the second choice for the final prediction system was the Request Clarification - Incomplete category. The results supported the original hypothesis that the NO-PROB FAM group would request clarification more often than the PROB FAM group would. This finding supported Satir's (1967) assertion that functionally communicating families avoid misunderstandings by requesting

clarification of incomplete sentences. A similar result was found in the PROB CHILD and NO-PROB CHILD comparison in which the same Request Clarification - Incomplete category was the second choice for the final prediction system. Again the original hypothesis of NO PROB CHILD > PROB CHILD was supported. The probability level of error for that conclusion was somewhat high, however ($p < .25$). For the PROB FATH and NO-PROB FATH comparison, another Request Clarification category was the second variable entered into the final prediction system. For that comparison, however, the category chosen was the Request Clarification - Overgeneralization rather than the Request Clarification - Incomplete category. The results were also in the hypothesized direction of NO-PROB FATH > PROB FATH, although the error probability for that conclusion again was somewhat high ($p < .25$). Only the PROB MOTH and NO-PROB MOTH comparison did not conform to the pattern of having a Request Clarification category as a strong group discriminator. Instead, the Commitment to Incomplete Sentences category was the second variable entered into the final prediction system, while the Request Clarification - Incomplete category was fourth and the Request Clarification - Overgeneralization category was eleventh. Moreover, the NO-PROB MOTH group, contrary to the original hypothesis, as well as Satir's (1967) hypothesis, committed themselves to incomplete sentences more than the PROB MOTH group did. As in the father and child comparisons, however, the inclusion of that category as a statistically significant group discriminator is somewhat tenuous ($p < .25$).

From these findings, a general pattern of verbal communication within problem families emerges. The strongest aspect of the pattern is that problem family members tend to interrupt one another in the course of a

discussion, thus disrupting the free flow of opinions and ideas. The present study's findings suggest a number of hypotheses concerning the relationship between interruptions and family pathology. Interruptions may reflect a striving for power between family members in which disruptions of another person's speech represent an effort to control that person by regulating when he may speak and by censoring what he may say (Mishler and Waxler, 1968). If this is true, the findings of the present study, that all family members tends to interrupt, indicate that the family members are involved in a power struggle with one another. Furthermore, this struggle appears to be taking place in a family system in which there exists no clearly defined power structure -- every member challenges the other. Additionally, if the power hypothesis is true, one may conclude that the lack of interruptions within the non-problem family is probably due to the existence of a clearly defined power structure which is accepted by each family member. Such conclusions regarding the lack of power structures in problem families have also been reached by Haley (1959) in his observations of schizophrenic families, and by Schuham (1970) in his studies of family power and agreement. Further information concerning power structures might be obtained from studies of who interrupts whom within the family and the success each family member has in disrupting discussion. Similar work has been reported by Mishler and Waxler (1968) in their study of schizophrenic families, which resulted in varying findings.

The finding that Request Clarification categories are strong group discriminators in the present study tends to lessen support for the power hypothesis. Mishler and Waxler (1968) suggest that question asking, like interruptions, is an indirect technique of disrupting other people's

communication and hence is a sign of conflict and struggle within the family. The finding that one type of question asking -- that of asking for clarification -- is more characteristic of non-problem families, indicates that not all questions are disrupting nor are they signs of struggle. Instead, questions may indicate a harmonious pattern of family members attempting to understand each other.

A second and third hypothesis view interruptions more as a causal element in family pathology. The second hypothesis deals with the individual family member's self concept. Parental interruptions of children may tell the children that what they say is of no importance and not worth finishing. Thus the child develops a low opinion of himself, thinking that his thoughts are not worth putting into words. As a result the child may withdraw and refuse to interact with anyone, or he may act out his thoughts in an inappropriate manner. For example, instead of verbally assaulting his brother (e.g., "I hate you!") he may physically attack him, because he feels that his words have no power to convey his feelings. Continuous repetition of such behavior eventually results in the label of "problem child".

The third hypothesis involves the disruption of information-processing through interruption. That is, through constant interruption, the child is deprived of speech, his major method of learning about the world and the people in it. The child is thus restricted in his efforts to negotiate with others -- to receive their opinions and check out his own perceptions by comparing them with those of others. This concept appears quite workable in view of the findings that problem children give fewer requests for parental clarification of sentences. Again, this illustrates the idea that disturbed children become disturbed because

they are limited in their communication with others. Their statements are interrupted and their requests for clarification -- of questioning things they do not understand -- is stifled. Furthermore, this finding completes the pattern of free flowing communication thought to exist in non-problem families. Not only is there less disruption in communication through interruptions, but there is an interactional level of communication in which family members seek out information from one another if a misunderstanding occurs.

The lack of statistical significance of either the Sender categories (Overgeneralization and Specification) or the Message categories (Complete Sentences, Incomplete Sentences and Mixed Pronouns) as effective group discriminators raises questions about their importance as concepts of verbal communication. Also, it may be that they do play an important role in communication, but only when accompanying non-verbal communication is taken into account (Mehrabian, 1971). For example, an incomplete sentence may be "completed" by a gesture or facial expression so that all involved in the discussion receive a completed message.

Group Diagnostic Classification

One purpose of the multiple discriminant function analysis is to provide a final prediction system upon which accurate and efficient group classification of family members may be made. Inspection of the PROB FAM and NO-PROB FAM classifications in Tables III and IV indicates somewhat mixed findings. The correct classification rate of NO-PROB FAM members is 96%, which indicates that on the basis of the final prediction system (Interruptions and Request Clarification - Incomplete) one can expect to achieve a high rate of success on correctly classifying NO-PROB FAM

members as such. However, successful classification of PROB FAM members as such is lower in probability -- 63%. Translated into practical terms, these probabilities indicate that the final prediction system as a diagnostic tool is quite accurate in diagnosing non-problem family members, but less accurate in diagnosing problem family members correctly. If the cost of misclassification of problem family members is low and the cost of misclassification of non-problem family members is high, then this final prediction system as a diagnostic tool may be useful. For example, the therapist using this classification system for diagnostic purposes has a low risk of treating a family member that does not really need treatment (a "non-problem" family member). This is due to the high probability of correctly classifying non-problem family members as such. In many areas of clinical work, with large case loads and inadequately sized staffs to accomodate the case loads, the cost of treating a family member that does not need it is a luxury that can hardly be afforded. However, the therapist pays for this efficiency by also rejecting clients that really do need assistance (the "problem family member"). This is due to the lower probability rate (63%) of correctly classifying problem family members as such. The ultimate decision of relying upon a classifying system with this type of disadvantage is up to the consideration of the therapist.

One important aspect of the probabilities distribution in Table IV is that the correctly classified PROB FAM as PROB FAM group is distributed somewhat bimodally, with 17 Ss having a probability of correct classification between .85 and 1.00 and another group of eight Ss between the .50 and .59 probability levels. This bimodal distribution suggests that the final prediction system delineates one "type" of

PROB FAM member very well, as indicated by the high level of probability of correct classification. The exact nature of this difference should be the subject of future research.

The group classifications for fathers, mothers and children are quite similar to the overall family classifications. A high probability for successful classification of NO-PROB members exists (100% for all groups), while a lower probability level exists for PROB members (ranging from 63% to 69%). Again, the cost of misclassification is crucial in determining the efficiency of the final prediction systems as diagnostic tools. However, χ^2 tests showed that the overall classifications correctly classified both PROB and NO-PROB members at a rate greater than chance.

Comparison: Diagnostic Sub-groups

To gain additional information regarding verbal communication in problem families, the PROB FAM group was divided into its two constituent groups: eight families with neurotic children and eight families with character disorder children. Analysis of these two groups was felt to be important partly due to the suggestion of different "types" of PROB members within the classification probability distributions (Table IV). Interruptions were found to be significantly greater for the NEUR group than the NO-PROB group and greater for the CHAR DIS group than the NO-PROB group. No differences between the NEUR and CHAR DIS groups nor family membership by diagnostic sub-group interactions were found to be statistically significant for any of the 15 variables. From the lack of statistically significant differences between NEUR and CHAR DIS groups, it may be concluded that families of character disorder and neurotic

children are alike in their verbal communication. This conclusion is questionable, however, in view of differences thought to exist between the two groups diagnostically. Maher (1966), for example, views the pyschopathic character disorder as socially and verbally adept, while neurotics are viewed as somewhat socially withdrawn. In view of the statistically non-significant results for CHAR DIS and NEUR group differences, it may be that the communication systems studied in the present investigation are inappropriate for fine discriminations between pathological sub-groups, but appropriate for a general differentiation between "problem" and "non-problem" groups. Also it may be that any communication system is inappropriate for differentiation between diagnostic sub-groups. A third possibility is that the diagnostic system currently used is erroneous. That is, there is no real difference between character disorder and neurotic children. Finally, the inability of the present system to make such differentiations may also account for the lack of interaction between family membership and diagnostic sub-group effects.

Considerations for Further Research

A number of areas within the present investigation appear to deserve further study. First, the importance of each of the 15 interactional variables should be reassessed. The "Reply" categories (e.g., Request Clarification - Incomplete, Avoid Commitment - Overgeneralization, Commitment - Incomplete) appear to be relevant to the study of verbal communication. However, the division of the Reply category into "to Overgeneralization" and "to Incomplete Sentences" categories may be too precise. That is, the combining of the two divisions into the categories of Commitment to Dysfunctional Statement, Avoidance of Dysfunctional

Statement and Request Clarification - Dysfunctional Statement appears to be just as meaningful and does not seem to suffer from a loss of relevant information. The "Insure Clarification" categories (Request Feedback, Give Feedback and Clarify Upon Request), with the exception of Interruptions, were observed quite rarely and further study of these categories does not appear to be necessary. The "Sender" categories (Overgeneralization and Specification) and the "Message" categories (Complete Sentences, Incomplete Sentences and Mixed Pronouns) may be closely related to non-verbal behavior, and thus not lend themselves to a study of purely verbal behavior.

Additionally, the relationships between verbal communication and variables such as power within the family, self-concept and who speaks to whom merit further investigation.

Although the present study's final prediction systems for family comparisons appear to be useful as diagnostic tools, it is strongly recommended that future validation studies of the systems be carried out before being used in a clinical setting.

The present investigation's method of observing family discussion of hypothetical situations appears to be a useful strategy for study, although observation of unstructured discussions, within the home environment for example, may provide useful additional information.

The most obvious area of further study concerns the general relationship between verbal and non-verbal communication. While the study of verbal communication is a necessary and fundamental step in understanding the pathological and developmental aspects of family communication, it must ultimately be joined with the study of non-verbal patterns of interaction if a full understanding of family communication is to be reached.

A number of observations made by the investigator in the present study offer several directions for further research.

The nature of the interruptions during discussion, in terms of the power hypothesis, deserves further study. Often, especially in the problem families, interruptions were made in a series, apparently in an effort by the interrupter to gain attention. That is, a child for example would interrupt his father four or five times within a 30 sec. period. Typically, his interruptions were ignored until the father would finally give in and recognize the child's efforts to speak. Thus, the child appeared to "wear down" his father until he finally gained some attention (or power) for himself. Interestingly, the father would then often resort to the same strategy to regain attention.

A relatively frequent occurrence within problem families' discussions was their tangential discussion of other family matters. That is, problem families often left the topic of discussion to argue about past problems, gossip about relatives or friends or speak of seemingly unrelated subjects. This inability to stay with the topic at hand may reflect a lack of problem solving skills, or a reluctance to constantly deal with each other in areas which involved power. Or it may be that these digressions served as strategies to regain power when another family member appeared to be "winning" or controlling the discussion at hand.

A third area of importance deals with the inclusion of the child within the decision making process. Some problem families tended to ostracize the child almost completely. This attempt to relegate the child to a non-participating role in decision making deserves further study.

These, then, are some areas of importance which are deemed deserving of further study. All areas are felt to be relevant to the investigation of family interaction and the development of pathology within the family.

CHAPTER V

SUMMARY AND CONCLUSIONS

The present investigation resulted in a number of findings concerning the communication patterns of problem and non-problem families. First, it was found that interruptions, as interactional behaviors, are strong indicators of family pathology. The exact nature of the relationship between interruptions and pathological development is unclear, although a number of hypotheses may be useful as foundations upon which further research might be based. Interruptions may be symptomatic of power struggles within the family in that family members use the interruption as a means of controlling another member's behavior (Mishler and Waxler, 1968). A second explanation is that interruptions may be viewed as being detrimental to the development of the child's self-concept, instilling in him the belief that his verbal expressions of thought lack importance or potency. Finally, interruptions may serve to disrupt the information-getting procedures which are necessary for a child to mature and learn about his environment. Thus, the child grows up with an inability to converse profitably with other people and with a limited knowledge of his world. This explanation received support from the general finding of this study that non-problem families, especially children and fathers, tended to request clarification of other people's statements more than problem families do. This finding completed the pattern of non-problem families possessing undisrupted communication with

opportunities to clarify unclear messages sent by others.

Four classification systems, constructed on the basis of final prediction systems for each diagnostic comparison (comparisons of problem and non-problem families, fathers, mothers and children) were found to be quite successful in correctly diagnosing non-problem Ss (93% to 100% correct), but only moderately successful in correctly diagnosing problem Ss (63% to 69% correct). For all group comparisons, the Interruption category was the first variable entered into the final prediction system. The second variables entered into the final prediction systems were Request Clarification - Incomplete for the family and child groups, Request Clarification - Overgeneralization for the father groups, and Committment to Incomplete Sentences for the mother groups.

A comparison of the non-problem families with the problem families' two constituent sub-groups -- families with neurotic children and families with character disorder children -- found statistically significant differences between the character disorder and non-problem group and between the neurotic and non-problem group for the Interruptions category. All other categories, as well as family membership by diagnostic sub-group interactions, were found to be statistically non-significant. These non-significant findings were unexpected, and further research concerning the communication patterns of these two groups was recommended.

Other recommendations for further study involved the investigation of verbal communication and its relationship with family power structure, development of self-concept and information processing. Finally, the general relationship between verbal and non-verbal communication was felt to be an important area for further study.

SELECTED BIBLIOGRAPHY

Bateson, G., Jackson, D., Haley, J., and Weakland, J. A note on the double-bind. Family Process, 1963, 2, 154-161.

Bateson, G. and Reusch, J. Communication: The Social Matrix of Psychiatry. New York: Norton, 1951.

Bower, M. The use of family theory. Comparative Psychiatry, 1966, 7, 345-374.

Cheek, F. and Anthony, R. Personal pronoun usage in families of schizophrenics and social space utilization. Family Process, 1971, 10, 431-447.

Conrad, D. and Conrad, R. The use of personal pronouns as categories for studying small group interactions. Journal of Abnormal and Social Psychology, 1956, 52, 277-279.

Cooley, W. and Lohnes, P. Multivariate Procedures for the Behavioral Sciences. New York: Wiley and Sons, 1962.

Farina, A. Patterns of role dominance and conflict in parents of schizophrenic patients. Journal of Abnormal and Social Psychology, 1960, 61, 31-38.

Ferreira, A. and Winter, W. Decision making in normal and abnormal families. Family Process, 1968(a), 7, 17-36.

Ferreira, A. and Winter, W. Information exchange and silence in normal and abnormal families. Family Process, 1968(b), 7, 251-276.

Fiske, D. and Maddi, S. Functions of Varied Experience, Homewood, Ill.: Dorsey, 1961.

Goldman-Eisler, F. Speech production and the predictability of words in context. Quarterly Journal of Experimental Psychology, 1958, 10, 96-106.

Haley, J. The family of a schizophrenic: a model system. Journal of Nervous and Mental Disease, 1959, 129, 357-374.

Haley, J. Changing Families: A Family Therapy Reader. New York: Grune and Stratton, 1971.

Johnson, W. People in Quandries. New York: Harper and Row, 1946.

Kirk, R. Experimental Design: Procedures for the Behavioral Sciences. Belmont, California: Brooks/Cole Co., 1968.

Mabry, M. Language characteristics of scattered and non-scattered schizophrenics compared with normals. Journal of Psychology, 1964, 57, 29-40.

Maher, B. Principles of Psychopathology. New York: McGraw-Hill Co., 1966.

Mahl, G. Disturbances and silences in the patient's speech in psychotherapy. Journal of Abnormal and Social Psychology, 1956, 53, 1-15.

Mehrabian, A. Silent Messages. Belmont, California: Wadsworth Co., 1971.

Mishler, E. and Waxler, N. Interaction in Families. New York: Wiley and Sons, 1968.

Pemberton, W. Non-directive re-orientation in counselling. ETC, 1959, 16, 407-416.

Rao, C. Advanced Statistical Methods in Biometric Research. New York: Wiley and Sons, 1952.

Riskin, J. and Faunce, L. Family interaction scales. Archives of General Psychiatry, 1970, 22, 504-537.

Riskin, J. and Faunce, L. An evaluative review of family interaction research. Family Process, 1972, 11, 365-455.

Satir, V. Conjoint Family Therapy, Palo Alto, California: Science and Behavior Books, 1967.

Schuham, A. Power relations in emotionally disturbed and normal family triads. Journal of Abnormal Psychology, 1970, 75, 30-37.

Sullivan, H. S. Peculiarity of thought in schizophrenics. American Journal of Psychiatry, 1925, 82, 21-86.

Wells, R., Dilkes, T. and Trivelli, N. The results of family therapy: a critical review of the literature. Family Process, 1972, 11, 189-207.

Winer, M. The qualified pronoun count as a measure of change in family psychotherapy. Family Process, 1971, 10, 243-247.

Wynne, L. and Singer, M. Thought disorder and family relations of schizophrenics. Archives of General Psychiatry, 1963, 9, 191-206.

APPENDIX A

F VALUES AND ORDER OF SELECTION FOR INTERACTIONAL VARIABLES

F VALUES AND ORDER OF SELECTION OF VARIABLES FOR PROB FAM AND NO-PROB FAM GROUPS

Category - in order of selection	df	F value to remove
Interruptions	1,70	24.64***
Req. Clarif. - Incom.	1,69	4.65*
Give Feedback	1,68	1.91
Commitment - Incom.	1,67	1.34
Specification	1,66	1.19
Complete Sentence	1,65	.47
Commitment - Overg.	1,64	.21
No. Commitment - Overg.	1,63	.16
No. Commitment - Incom.	1,62	.23
Incomplete Sentence	1,61	.31
Req. Clarif. - Overg.	1,60	.06
Request Feedback	1,59	.04
Mixed Pronouns	1,58	.02
Overgeneralization	1,57	.00

*p < .05.

***p < .001.

F VALUES AND ORDER OF SELECTION OF VARIABLES FOR PROB FATH AND NO-PROB FATH GROUPS

Category - in order of selection	df	F value to remove
Interruptions	1,22	7.6486*
Req. Clarif. - Overg.	1,21	2.6057[a]
Request Feedback	1,20	1.7768
No. Commitment - Overg.	1,19	1.3031
Commitment - Overg.	1,18	1.9963
Specification	1,17	0.9963
Mixed Pronouns	1,16	0.2677
Complete Sentence	1,15	0.2540
Overgeneralization	1,14	0.4869
Commitment - Incom.	1,13	0.2803
No. Commitment - Incom.	1,12	0.1733
Incomplete Sentence	1,11	0.9214
Req. Clarif. - Incom.	1,10	0.5014
Give Feedback	1,9	0.0006

[a] $p < .25$.

*$p < .05$.

F VALUES AND ORDER OF SELECTION OF VARIABLES FOR PROB MOTH AND NO-PROB MOTH GROUPS

Category - in order of selection	df	F value to remove
Interruptions	1,22	12.2835**
Commitment - Incom.	1,21	2.2347[a]
Give Feedback	1,20	1.7924
Req. Clarif. - Incom.	1,19	1.1030
Request Feedback	1,18	0.7180
Commitment - Overg.	1,17	6.2060
No. Commitment - Incom.	1,16	1.6853
No. Commitment - Overg.	1,15	0.1369
Overgeneralization	1,14	0.4875
Specification	1,13	0.4166
Complete Sentence	1,12	0.3637
Incomplete Sentence	1,11	0.0381
Req. Clarif. - Overg.	1,10	0.0153
Mixed Pronouns	1,9	0.0055

[a] $p < .25$.

** $p < .01$.

F VALUES AND ORDER OF SELECTION OF VARIABLES FOR PROB CHILD AND NO-PROB CHILD GROUPS

Category - in order of selection	df	F value to remove
Interruptions	1,22	5.7176*
Req. Clarif. - Incom.	1,21	2.5512[a]
Commitment - Incom.	1,20	2.5432
Commitment - Overg.	1,19	1.9865
No. Commitment - Overg.	1,18	2.6300
Overgeneralization	1,17	1.9176
Complete Sentence	1,16	6.6686
Req. Clarif. - Overg.	1,15	7.4535
Incomplete Sentence	1,14	1.5071
Request Feedback	1,13	0.5982
Mixed Pronouns	1,12	0.1024
Specification	1,11	0.1116
No. Commitment - Incom.	1,10	0.0001

[a] $p < .25$.

*$p < .05$.

APPENDIX B

INTERACTIONAL CATEGORIES

Sender Category

a. Overgeneralization: Any statement in which the speaker fails to state that the opinions, feelings or information expressed are his own perceptions.

He may assume that one instance is an example of all instances: example "Everybody does it." "Nobody likes spinach." "It's like that everywhere I go."

He may assume that other people share his feelings, thoughts and perceptions: example "Of course he doesn't like spinach." "You did not write it the right way."

He may assume that his values and perceptions will not change: example "That's the way she is." "That's life."

He may assume that his perceptions are complete: example "Yes, I already know about that."

He may dichotomize: example "Either love it or leave it."

He may assume that characteristics which he attributes to others are part of them: example "She is selfish." "He is a nut."

He may assume that he can interpret other people's thoughts, feelings, and perceptions for them: example "I know just what you mean." "I will tell you what he was going through."

He may assume that others can interpret his own thoughts: example "You know what I mean." "You know I'm right."

b. Specification: Any statement in which the speaker states that his feelings, perceptions or information expressed are his own perceptions.

He qualifies statements to let the listener know who's perception or feeling are being expressed: example "I feel sick now." "It doesn't

look correct to me." "I can't understand what you are saying." Any self qualifier is scored as a specified statement, except when it is used to interpret other's thought or feelings. "I know what you mean."

c. Non-scorable (N.Ss): Any statement that fails to be included in the above two sub-categories: overgeneralization or specification, should be scored N.S.

Message Category

a. Complete Sentence: Sentence containing subject, verb and possible object which expresses a complete thought.

b. Incomplete Sentence: Communication which fails to include subject and verb and/or fails to express a complete thought.

c. Mixed Pronoun: Communication in which the pronouns are mixed and therefore the objects of the pronouns are unclear: example "He and she saw them and left when they were ready."

Reply Category

a. Commitment: Speaker indicates agreement or non-agreement with previous statement made by other speaker. May be made to either Overgeneralized or to Incomplete sentence.

b. No Commitment: Speaker ignores previous statement which calls for commitment. May be made to either Overgeneralized or Incomplete sentence.

c. Request Clarification: Speaker asks previous speaker to clarify his statement: "What do you mean by everybody hates you." May be made to either Overgeneralized or Incomplete sentence.

Insure Clarity Category

a. Interruption: Speaker gains attention by interrupting previous speaker's speech.

b. Request Feedback: Speaker checks the clarity of speech with others: example "Did you understand what I meant?"

c. Give Feedback: Speaker informs other speaker about the clarity of his communications: example "I don't quite understand what that means."

d. Clarify on Request: Speaker attempts to clarify his previous statements if asked to do so by others.

APPENDIX C

OBSERVERS' RELIABILITY

PERCENTAGE OF AGREEMENT BETWEEN OBSERVERS
FOR DISCUSSION STATEMENTS

Category	Percentage of Agreement
Overgeneralization	.84
Specification	.92
Complete Sentences	.92
Incomplete Sentences	.92
Mixed Pronouns	1.00
Commitment - Overg.	.92
No. Commitment - Overg.	.85
Req. Clarif. - Overg.	.98
Commitment - Incom.	.97
No. Commitment - Incom.	.92
Req. Clarif. - Incom.	.99
Interruptions	.95
Request Feedback	.98
Give Feedback	.99
Clarify on Request	no cases

CORRELATION COEFFICIENTS FOR OBSERVERS' AGREEMENT ON NUMERICAL SCORES

Category	Correlation of Agreement
Overgeneralization	.94
Specification	.71
Complete Sentences	.99
Incomplete Sentences	.87
Mixed Pronouns	1.00
Commitment - Overg.	.74
No. Commitment - Overg.	.77
Request Clarification - Overg.	.66
Commitment - Incom.	non-scorable
No. Commitment - Incom.	.75
Request Clarification - Incom.	.70
Interruptions	.94
Request Feedback	non-scorable
Give Feedback	non-scorable
Clarify on Request	non-scorable

APPENDIX D

DESCRIPTION OF MULTIPLE DISCRIMINANT FUNCTION ANALYSIS

Experimental Design

A step-wise multiple discriminant function analysis was used to analyze differences between PROB and NO-PROB groups of Ss. This analysis is a linear function analysis (Rao, 1952) and it provided a discriminant function for each group based on a weighting system which maximizes the variances between groups while minimizing the variances within groups (Cooley and Lohnes, 1962). This weighting system was comprised of 15 predictor variables (the 15 interactional categories). The discriminant function analysis provided a critical value which determined the probability of group placement into PROB and NO-PROB groups for each S. Specifically, that assignment was based upon that group whose critical score (mean discriminant function) was closest to the individual S's score.

The analysis also provided the order of selection of variables in discriminating between groups. An F test with g-1 and n-p-g df was used at each step to determine whether that variable contributed significantly in accounting for the remaining variance (n = no. of Ss; g = no. of groups; p = no. of predictors).

Upon completion of the initial phase of the analysis, those variables which appeared significant were included in a final predictor system. Because of the problem of shrinkage, the number of variables chosen for the final predictor system was limited to a maximum of five for the overall PROB FAM versus NO-PROB FAM phase of the analysis, and a maximum of two variables for the PROB FATH versus NO-PROB FATH, PROB MOTH versus NO-PROB MOTH and PROB CHILD versus NO-PROB CHILD phases of the analysis. At each step in the analysis an F statistic was computed to test significance of any variable in the prediction system at that step, given the

contribution of the remaining variables. The significance of any variable could change as other variables were added to the system.

The proportion of Ss statistically assigned to the same group as their prior classification (PROB or NO-PROB) was computed for group comparison after the final predictor system was determined. A χ^2 statistic was calculated at this point to determine the significance of the interactions point to determine the statistical significance of the overall classifications. In addition, the probability of a S being assigned to each group was calculated.

APPENDIX E

F VALUES FOR FAMILY MEMBERSHIP BY DIAGNOSTIC SUB-GROUP CLASSIFICATION

Appendix E presents the analysis of variance tables for the family membership (MEM) and diagnostic group (DIAG) classifications for each of the 15 variables.

OVERGENERALIZATION SCORES

Source	df	F value	
MEM	2	4.0482	$p < .05$
DIAG	2	0.2832	
MEM X DIAG	4	0.5729	
ERROR	63		
TOTAL	71		

SPECIFICATION SCORES

Source	df	F value
MEM	2	2.115
DIAG	2	0.7655
MEM X DIAG	4	0.5994
ERROR	63	
TOTAL	71	

COMPLETE SENTENCES SCORES

Source	df	F value	
MEM	2	5.5352	$p < .01$
DIAG	2	0.1916	
MEM X DIAG	4	0.7116	
ERROR	63		
TOTAL	71		

INCOMPLETE SENTENCES SCORES

Source	df	F value
MEM	2	1.7631
DIAG	2	1.2169
MEM X DIAG	4	0.3125
ERROR	63	
TOTAL	71	

MIXED PRONOUNS SCORES

Source	df	F value
MEM	2	0.5506
DIAG	2	2.4382
MEM X DIAG	4	0.1966
ERROR	63	
TOTAL	71	

COMMITMENT - OVERG. SCORES

Source	df	F value
MEM	2	3.1006
DIAG	2	0.2349
MEM X DIAG	4	0.1966
ERROR	63	
TOTAL	71	

NO. COMMITMENT - OVERG. SCORES

Source	df	F value
MEM	2	1.2202
DIAG	2	0.3547
MEM X DIAG	4	0.9837
ERROR	63	
TOTAL	71	

REQ. CLARIF. - OVERG. SCORES

Source	df	F value	
MEM	2	5.0644	$p < .01$
DIAG	2	1.0643	
MEM X DIAG	4	1.7442	
ERROR	63		
TOTAL	71		

COMMITMENT - INCOM. SCORES

Source	df	F value	
MEM	2	5.9774	$p < .01$
DIAG	2	0.9066	
MEM X DIAG	4	1.3472	
ERROR	63		
TOTAL	71		

NO. COMMITMENT - INCOM. SCORES

Source	df	F value
MEM	2	3.0647
DIAG	2	1.3018
MEM X DIAG	4	0.2793
ERROR	63	
TOTAL	71	

REQ. CLARIF. - INCOM. SCORES

Source	df	F value
MEM	2	2.7606
DIAG	2	0.7641
MEM X DIAG	4	0.7518
ERROR	63	
TOTAL	71	

INTERRUPTIONS SCORES

Source	df	F value
MEM	2	1.3756
DIAG	2	13.6018 $p < .001$
MEM X DIAG	4	0.2775
ERROR	63	
TOTAL	71	

REQUEST FEEDBACK SCORES

Source	df	F value
MEM	2	2.7227
DIAG	2	0.8444
MEM X DIAG	4	1.1509
ERROR	63	
TOTAL	71	

GIVE FEEDBACK SCORES

Source	df	F value
MEM	2	1.8572
DIAG	2	0.1429
MEM X DIAG	4	0.3571
ERROR	63	
TOTAL	71	

VITA

Thomas Kirk Sims

Candidate for the Degree of

Doctor of Philosophy

Thesis: AN EXAMINATION OF PROBLEM AND NON-PROBLEM FAMILY MEMBERS' VERBAL COMMUNICATION

Major Field: Psychology

Biographical:

Personal Data: Born in Milwaukee, Wisconsin, February 2, 1948, the son of Mr. and Mrs. M. B. Sims.

Education: Graduated from St. Pius X High School, Albuquerque, New Mexico, in June, 1966; received Bachelor of Arts degree in Psychology from the University of San Francisco in 1970; received Master of Science in Psychology from New Mexico Highlands University in 1972; completed requirements for the Doctor of Philosophy degree at Oklahoma State University in May, 1974.

Professional Experience: Graduate teaching assistant, Department of Psychology, New Mexico Highlands University, 1970-1971; graduate teaching assistant, College of Arts and Sciences, Oklahoma State University, 1972-1973; National Institute of Mental Health Trainee, College of Arts and Sciences, Oklahoma State University, 1971-1972.