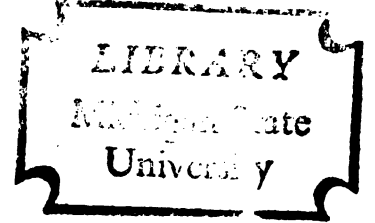TERRILL AND TERRILL'S METHOD FOR STUDYING
FAMILY COMMUNICATION: DOES IT PROVIDE A
MEANINGFUL ABBREVIATION OF COMMUNICATION?

Thesis for the Degree of M. A.
MICHIGAN STATE UNIVERSITY
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ABSTRACT

TERRILL AND TERRILL'S METHOD
FOR STUDYING FAMILY COMMUNICATION:
DOES IT PROVIDE A MEANINGFUL ABBREVIATION OF COMMUNICATION?

by Robert H. Tinker

While Terrill & Terrill have published a method
for abbreviating and studying family communication, there
has been no information presented which indicates to what
degree such a method provides a "meaningful" or "useful"
abbreviation of family interaction.

The present research is an attempt to demonstrate
the extent to which Terrill & Terrill's (T&T's) method is
a meaningful or useful abbreviation, by comparing the author's
($\underline{E}$'s) rankings of the functionality of family interaction with
another judge's rankings of the same interaction. $\underline{E}$'s rank-
ings were based on all available information about the fam-
ily's interaction, in contrast to the judge's rankings, which
were based only on T & T's ratings of 100 speeches of inter-
action placed in chart form. These ratings of the family
interaction into T & T's categories had been completed by
two independent raters. If the rankings of family inter-
action by $\underline{E}$ and the judge were significantly correlated,
it would indicate that rankings based only on the raters'
pooled and charted ratings of speeches might be "as good as"

rankings made directly from tapes and typescripts of family
interaction. Thus, such significant correlations would
indicate that T & T's method provides a meaningful or use-
ful abbreviation of family interaction.

Subjects were six four-member families. Interaction
data for each family consisted of 100 speeches taken from
a structured family interview (a speech is a relatively
continuous utterance).

It was also possible to determine the validity of E's
rankings, which essentially had served as a criterion by
which to evaluate the judge's rankings. The interaction of
the six families had been ranked from least to most patholog-
ical in a previous study (Moore, 1966), using a method which
discriminated at highly significant levels between a group
of eight normal and eight abnormal families. E's rankings
were correlated with Moore's ranking. If they correlated
significantly this would provide some evidence for the valid-
ity of E's ranking.   .

A ranking of the judge's "overall" functionality of
family interaction based on charts of 100 speeches rated
into T & T's categories, was also compared with Moore's rank-
ing, based on 90 minutes of interaction. If the judge's
ranking correlated significantly with Moore's ranking, this
would furnish further evidence that T & T's method is "as
good as" Moore's method for this particular ranking task.

The specific hypotheses tested were:

1. The rank order correlations between E's rankings and the judge's rankings of the functionality of the dyadic interaction within each family will be less than or equal to zero.

2. The rank order correlation between E's rankings and the judge's rankings of the functionality of the mother-father interaction across families will be less than or equal to zero.

3. The rank order correlation between E's rankings of the functionality of the father-child interaction across families will be less than or equal to zero.

4. The rank order correlation between E's rankings and the judge's rankings of the functionality of the mother-child interaction across families will be less than or equal to zero.

5. The rank order correlation between E's rankings and the judge's rankings of the "overall" functionity (excluding child-child interaction) of the six families will be less than or equal to zero.

6. The rank order correlation between the judge's "overall" ranking, and the ranking of the six families based on Moore's (1966) "family pathology score" will be less than or equal to zero.

7. The rank order correlation between E's "overall" ranking and the ranking of the six families based on Moore's (1966) "family pathology score" will be less than or equal to zero.

Hypothesis one was not rejected, but hypotheses two through seven were rejected ($p \leq .05$; one-tailed tests, right-tail critical). These results indicated that E's rankings and the judge's rankings of the functionality of dyadic interaction <u>within</u> families were not significantly correlated. The results do indicate, however, that when the functionality

of dyadic interaction was ranked <u>across</u> families, the rank-
ings by <u>E</u> and the judge were significantly correlated. The
results further suggest that <u>E</u>'s rankings were a valid criter-
ion to use to assess T & T's method, in that <u>E</u>'s "overall"
ranking of the functionality of family interaction was sign-
ificantly correlated with Moore's (1966) ranking of these
families based on his "family pathology score." Finally,
the results indicate that the judge's "overall" ranking
based only on charted ratings derived from only four minutes
of family interaction, were significantly correlated with
rankings based on Moore's (1966) "family pathology score,"
derived from 90 minutes of family interaction.

It was thus concluded that T & T's method of studying
family communication does provide a meaningful abbreviation
of family communication and could well be used profitably in
future research in interaction.

TERRILL AND TERRILL'S METHOD

FOR STUDYING FAMILY COMMUNICATION:

DOES IT PROVIDE A MEANINGFUL ABBREVIATION OF COMMUNICATION?

By

Robert H. Tinker

A THESIS

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To Marti, who happens to be a lovable wife.

ACKNOWLEDGMENTS

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STATEMENT OF THE PROBLEM

While Terrill & Terrill (1965) have published a
method for studying family communication, there has been
no information presented which indicates whether such a
method provides a "meaningful" or "useful" abbreviation
of family interaction. When family members interact to-
gether, the resulting communication occurs so quickly, is
so complex and interrelated, that it is necessary to limit
one's focus to only a relatively few aspects of the total
matrix of interaction. Thus it seems necessary to abbrev-
iate the family interaction in order to study it effectively.

A previous study, by Raush, Dittman & Taylor (1959)
provided suggestive evidence that a method similar to Terrill
& Terrill's (T & T's) furnishes useful information about
interaction patterns of young boys in a residential treat-
ment center. The method presented by Raush et al., and
the method presented by T & T are similar in that they
both are adaptations of Leary's (1957) interpersonal system,
using an interpersonal circle of eight categories arranged
around two orthogonal axes of dominance-submission, and
affection-hostility. T & T's method for studying family
communication and the method of Raush et al., seem to be
unique in that they focus upon the interpersonal aspects
of communication. Most other research in family interaction

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does not focus on such interpersonal aspects, or if it does focus upon interpersonal aspects, does not do so in a systematic fashion.

T & T's method and the method of Raush _et al_., also seem to be unique in that they capitalize on the two axes that other research indicates are major factors in interpersonal behavior: dominance-submission and affection-hostility (Adams, 1964; Foa, 1961, and Shaefer, 1959, 1961).

It would thus seem that research to determine the meaningfulness, usefulness or validity of T & T's method would be important; first because Terrill and Terrill have given no definite evidence with respect to the validity or meaningfulness of the method; secondly because the method focuses on interpersonal aspects of family interaction which are definitely important, but virtually unresearched in any systematic way.

The purpose of the present study, therefore, is to provide information on the degree to which T & T's method abbreviates family interaction in a meaningful or useful fashion. The study thus will provide information concerning whether it would be profitable to use T & T's method in future interaction research, or whether the method should be modified or abandoned.

REVIEW OF THE LITERATURE

This review will be addressed to the question: "What
is it important to attend to in family communication from
the standpoint of picking out aspects of interaction which
are associated with interactional disorders?" Analyzing
research with this question in mind will (hopefully) indicate
the current status of interaction research, and lead to ideas
as to what is needed in future research.

In attending to various aspects of interaction, in
order to test which aspects might differentiate between
say, families with a normal child and families with a
schizophrenic child, it is noticeable that some categories
(reported in research in the literature) are non-inferential
categories of interaction, such as who follows whom in
speaking, or the total amount of silence for a given period
of interaction. Other categories involve the use of very
low level inferences such as the number of disagreements in
a given interaction task. Still other categories could be
classified as making use of higher level inferences such
as a scale which rates communicational style with respect
to how communications focus upon a given topic.

Research in communication can be roughly grouped into
those studies which use categories which require predominantly

no inferences of low level inferences in their application, and those studies which predominantly use categories needing higher level inferences.

First, let us consider the studies which make use of higher level inferences. Since there are only a small number of these studies and they seem to have been especially productive, they will be considered in more detail.

An especially exciting piece of research of this nature was done by Morris & Wynne (1965). In their research, parental styles of communicating were studied by a judge who had no diagnostically relevant data about the family offspring. It was found that different forms or styles of parental communication patterns (in tape recorded excerpts from family therapy) could be discriminated from one another, and that these differentiations could be used to accurately deduce the psychiatric diagnosis and the form of communicating and expressing affect in the offspring. The deductions were found to be significantly correct when compared with independent clinical ratings of the offspring member.

Subjects were eight families with a young adult offspring member who had been hospitalized for psychological reasons. The judge listened to tape excerpts from family therapy. There were five or six excerpts about five minutes each, which were chosen as being periods of minimum participation by the offspring member. His comments were erased from

the tape excerpts and paraphrased by another person. After
making ratings of parental communication, from these tape
excerpts, the judge made blind deductions about the off-
spring member, knowing only that the patient had been hospital-
ized for psychological reasons, his approximate age, and sex.
The judge's deductions from the parental interaction, about
the patient, were compared with evaluations made by a psy-
chiatrist by means of an individual interview with only the
patient. Using the psychiatrist's evaluations of the indiv-
idual patient as a criterion, the judge's deductions of global
diagnosis for all eight offspring were "correct." Four
were called schizophrenic, and four were called non-schizoph-
renic. Deductions of "form of thinking" were also completely
"correct," with agreement that one patient showed amorphous
(loosely organized) thinking; one mixed thinking (both
amorphous and fragmented characteristics); and two patients
showed fragmented thinking (thinking that is fairly clear,
but lacks integration). While Morris & Wynne call this
category "form of thinking" it would seem that a more accur-
ate description of the category would take into account
that it is communications that they are attending to, and
that they are judging these communications with respect
to how consistently clear and precise they are about any
given topic. Deductions about the severity of the patient's
psychotic tendency were made using five categories for level
of severity. In six cases, deductions were exactly accurate,

while in two cases, there was a one step error. Lastly,
deductions were made concerning the form of "affect dis-
order." Again, it might be emphasized that this category
is attending to verbal communications, and the category
is actually concerned with vocal modifiers from which one
infers apathy, depression, excitement, etc. A five step
scale is used ranging from apathetic (communications) to
turbulent (communications). Again, six deductions were
exactly "correct," two deductions being one-step errors.

In each of the four categories above, the correlations
between the judge and psychiatrist were significant. There
thus seems to be a link between parental forms of communica-
tion and the communicational "disorder" that their disturbed
offspring manifests. Further, this disturbance was shown
to be deducible in this study, from the parental interaction.
Limitations of this particular study are that only one judge
has demonstrated such a deductive ability and only on a
small number of parent-offspring sets. No "normals" were
included, and an assumption seems to be that if it is pos-
sible to distinguish between two forms of emotional disturb-
ance, it will be possible to distinguish between a "normal"
group and groups of various "disturbed" parents. This as-
sumption really ought to be empirically tested.

Given the interesting results of this study,what, in the family communications, did Morris & Wynne regard as important to attend to? What they felt was most important in making these deductions was their "attention" scale, by which they attempted to measure "the manner or style in which family members share, or fail to share a focus of attention on the same ideas, feelings, or tasks." It might be emphasized this "attentional focus" was evaluated entirely through the verbal communications of the persons concerned. It thus might more accurately be called something like "communicational focus," rather than "attentional focus." A ten-point scale was used, ranging from (1) undirected attention, to (9) overfocusing of attention, and (10) manipulation of meaning.

Not only does it seem that these deductions about the disturbed offspring are possible from the actual parental interaction, but it also seems that it is possible to make such deductions from individually administered projective techniques given to the parents, when the parental responses to the projective stimuli are considered jointly as verbal transactions which would have an effect on an offspring member of their family (Wynne & Singer 1963a, 1963b; Singer & Wynne 1965a, 1965b). In this study, by Singer & Wynne, which is reported in four articles, much the same criteria are used for evaluating communications as Morris & Wynne

(1965) used in their more recent study. In the Singer &
Wynne research, deductions were made about thirty-five off-
spring patients from the typescripts of tests given to their
parents. Secondly, tests from thirty-three offspring patients
and three siblings were matched with tests from their parents.
Of the thirty-five offspring patients, twenty were young
adult schizophrenics, nine were borderline schizophrenics,
and six were severely neurotic young adults. All were dis-
turbed enough to be hospitalized. A battery of tests were
used, with the Rorschach and TAT being the main tests. De-
ductions about the offspring member from his parents' tests
were as follows: The deductions of global diagnoses (schizoph-
renic, borderline schizophrenic, non-schizophrenic) were
significantly correct $(p < .001)$. The deductions of "forms
of thinking" (amorphous, mixed, fragmented or constricted)
were significantly correct $(p < .001)$. Deductions of severity
of psychotic disorganization (a five-step scale) were sign-
ificantly correct $(p < .001)$. The criterion for "correctness"
was based on agreement with evaluations of the individual
offspring by hospital staff who were well acquainted with
the patients.

In the matching part of the study, tests from two to
five families were studied as a set (socioeconomic status
of parents, age and sex of offspring being constant within
each set). Then the psychologist was given the tests from

the patient members of these families and attempted to match
them blindly with their parents.

No. of families per set	No. of sets	No. of sets perfectly matched
2	2	2
3	6	4
4	1	1
5	2	1

The matchings of the offspring (thirty-three patients
and three siblings) with parents was significantly correct
(p =.000002). This furnishes further evidence that what the
researchers associated with Lyman Wynne are attending to in
communications is diagnostically important.

Block, Patterson, Block & Jackson (1958) gave indiv-
idually administered projective tests to the parents of
twenty schizophrenic children and to the parents of twenty
neurotic children. Tests used were the Rorschach, TAT and
MMPI. The two groups were very carefully matched (on age
of child, age of parents, number of children in the family,
the educational and socioeconomic level of parents, and
participation of the mothers in psychotherapy). It took
the researchers four years to obtain these matched samples.
Analyses of the tests were made and the analyses of the
mothers of schizophrenics were compared with those of mothers
of neurotics; the same procedure being followed with the

fathers of schizophrenics and neurotics. Essentially no differences were found between the two groups of mothers and fathers.

However, it is interesting to note that Singer & Wynne (1963), reanalyzed this data, adding another group of matched subjects (parents of twenty young adult schizophrenics) and got some positive results. A main difference in the two analyses of the same data was that Singer & Wynne considered the parents as a unit (who both would influence the child through their verbal transactions), comparing parents of schizophrenic children with parents of neurotic children, instead of comparing fathers with fathers and mothers with mothers as Block et al., did. The subjects in this study thus consisted of the parents of twenty schizophrenic children; the parents of twenty neurotic children (ten acting out children, ten withdrawn); the parents of twenty schizophrenics who became overtly ill in late adolescence of young adulthood. Considering the protocols of forty sets of parents of childhood schizophrenics and neurotics, thirty-four of the forty sets of parents were correctly differentiated, which is significantly different from chance expectation. Parents correctly identified as parents of neurotic children, were then differentiated as to whether they were parents of acting-out or withdrawn neurotics, the differentiations again being significantly correct.

The authors then set up TAT and Rorschach criteria
for differentiation between the different groups of parents.
Essentially these criteria seem to be preliminary groupings
which Singer & Wynne modified and refined in their later
research (Singer & Wynne 1965a, 1965b).

Most recently, Singer & Wynne (1966a) have published
Rorschach and TAT scoring manuals, setting forth in a very
complete and objective fashion, the scoring principles that
they used in their most recent research. The primary em-
phasis is upon the "attention" scale mentioned earlier. In
fairness to these researchers, it might be mentioned that
they no longer use the term "thought disorder" in their most
recent research, but write of "communication defects and
deviances," certainly a more accurate terminology. Yet to
be published, is a study (Singer & Wynne, 1967) comparing
parents of schizophrenics, neurotics and normals, using the
Rorschach and TAT scoring manuals. This yet unpublished
study should clear up a number of questions which their
earlier research has left unanswered: Can more than one
rater make accurate differentiations of the groups of par-
ents; how do parents of normals differ in their communica-
tions from parents of neurotics and schizophrenics?

In general, it would seem that what Morris, Singer
and Wynne are attending to, in a person's communications,
have been well substantiated by their research as being im-
portant communicational variables; important in the sense

that these specific aspects seem to be significantly as-
sociated with specific communicational and nosological dis-
orders in the family offspring.

It might be noted that giving projective techniques
to parents of families, who would interact to produce responses,
has been suggested by several researchers (Fisher, Boyd,
Walker & Sheer, 1959; Haley, 1960; Winter, Ferreira &
Olson, 1965; 1966). This procedure would eliminate one
level of inference, in that the researcher would not have
to deduce characteristics of say, parental interaction from
the individually administered parental protocols, but could
work directly from the actual interaction itself. Using a
test, such as the Rorschach or TAT, to elicit interaction
would have the advantages provided by a standardized situa-
tion, plus a good deal is already known about these tests
which might be put to good use in the study of family inter-
action.

Winter, Ferreira & Olson (1965 and 1966) have ad-
ministered family TAT's to 126 three-member families. There
were fifty families with normal children, forty-four with
emotionally maladjusted, sixteen with schizophrenic, sixteen
with delinquent children. The families were asked to produce
conjointly three TAT stories based on nine cards, which
were scored by the Arnold system of Story Sequence Analysis
(1962). In this system of analysis, the judge rated

sequential themes on a five point scale of imputed emotional maturity. Results revealed that the Arnold Score successfully differentiated Normal from Abnormal families, but that the three Abnormal groups did not differ from each other.

A second study using the same subjects and their stories, analyzed the data with respect to the relative amount of weighted hostility and the percentage of overt hostility in the themes, based on the Hafner-Kaplan system (1960). Analysis of the results revealed that the normal and schizophrenic groups produced stories which were low both in weighted hostility and overt hostility, whereas the stories of the families with emotionally maladjusted children were high in both variables. The delinquent child families scored high in weighted hostility but close to the normals in overt hostility.

It seems that the results of these two studies are difficult to interpret and are rather unspecific and gross analyses of the family interaction. One gets the impression that it would be very interesting to apply Wynne & Singer's Scoring for communication defects and deviances as set forth in their TAT manual (1966) to this data.

Another study which uses higher-level inferential categories is one by Levin (1966). This study contrasts the communicative behavior of a group of schizophrenic family members with a control group. The experimental group

consisted of seven schizophrenics, twelve fathers of schizo-
phrenics, fourteen mothers of schizophrenics. The control
group consisted of thirty subjects matched with respect to
age and sex, but the control group was of a higher socio-
economic status. This calls into question the validity of
the results, but the categories used remain of interest.
In this study, information about social interaction was sought
by isolating the subject and asking him to make a tape record-
ing which might be played subsequently to some specific
other person in the subject's family. His message would
enable that other person to carry out some simple task, us-
ually to produce a geometric figure. The tape recordings
generated are the data for later analysis. The subjects
performed the task twice. In the experimental group, the
parents spoke "to" their spouse and "to" the identified
patient. Patients spoke "to" a parent and "to" a friend.
Controls spoke "to" a friend and "to" an unidentified eight
year old boy. Two independent raters coded eighty-six
completed explanations. The major dependent variable was
unclarity, which was measured in three ways. The hypothesis
that the experimental group would produce more ambiguous
and less adequate explanations than the control group was
supported. It was confirmed at all three indices of unclarity.

While the methodology of this study calls its results
seriously into question, that Levin's focus was on the clarity
of communications is of interest. Morris, Singer and Wynne,

it can be recalled, found their "attention" scale most diagnostic, and this attention scale was concerned with how clearly communications focus around a given topic.

Another study which attempts to assess the clarity of communications, is one by Beavers, Blumberg, Timken & Weiner (1965), in which they compared the communication of nine mothers of schizophrenics with the communication of nine mothers of children with passive aggressive personality disorders. These mothers were given an individual open-ended, semi-structured interview, 45-60 minutes long, focusing on feelings of the mother concerning the patients birth, early childhood and adolescence, socialization and heterosexual contact, and the immediate interview. Transcripts of the taped interviews were scored by two independent judges. Scorable items consisted of responses to questions by the interviewer concerning the feeling state of the mother. These scorable items were placed into one of three categories:

1. Definite responses--were clear and related to the question.

2. Evasions--did not clarify the feeling state.

3. Shifts of meaning--of two kinds:

   a. The mother would indicate a feeling state, but when the interviewer tried to confirm this, an entirely different feeling state would be given.

   b. A direct contradiction of the feeling state from a previous answer.

It was found that the mothers of non-schizophrenics had a
higher percentage of definite responses, and a lower percent-
age of shifts and evasions. These findings suggest again,
that measures of communicational clarity can discriminate
parents (mothers) of schizophrenics from parents (mothers)
of children with other psychological disturbances.

Another study that used high-level inferences derived
from family interaction, is a doctoral dissertation by Moore
(1966) Subjects were eight "normal" families, and eight
clinic families (these families had a child referred to MSU
Psychology Clinic for psychological reasons). The families
all had four to five members each, and clinic and nonclinic
groups were matched on the usual variables except that fathers
of clinic families had more education (1.2 years more) than
nonclinic fathers. Families participated twice in an hour
and a half structured family interview, given eight to ten
weeks apart. Two trained raters rated each family after each
session on a Family Rating Scale consisting of forty-five
five point Likert Scales (1=most; 5=least pathological). An
hypothesis that ratings of family interaction observed in
the standardized interview would reveal differences between
normal and clinic families was confirmed for both interviews
(for both p=.005). It was tested by summing the consistently
rated Family Rating Scale items as an overall pathology score.

Group means were then compared by a t-test. A second hypothesis, that ratings of family interaction observed during interview one are relatively similar to ratings made during interview two, was only partially supported. Correlations were calculated between interview one and two for each family on the seventeen items rated consistently in both interviews. Seven of fifteen families showed significant stability in ratings. When group pathology scores were compared for the two interviews, normal families were rated as significantly less pathological in the second interview, while abnormal families were not. This finding fits in very well with comments in the literature that disturbed families seem to be more rigid in their interaction than normal families, which seem more flexible and adaptable.

Since this study used global ratings after ninety minutes of family interaction, a problem arises in that item content is not always associated with a specific behavior occurring during the interview. There seems to be a halo effect operating in the ratings, in that there were high intercorrelations between the items which discriminated between the two groups. It might be interesting to use more minute, discrete, less global ratings of the tape recordings to measure the temporal stability of the interaction. However, this dissertation is the <u>only</u> study which has attempted to measure the temporal reliability of family interaction thus far.

Although there was a halo effect, it might be interesting to look at what variables this study found it important to attend to, in the family interaction. There were six items which significantly discriminated between the clinic and nonclinic groups in both interviews:

1. Degree of consensus with the family spokesman (was higher for nonclinic families in both interviews).

2. Overall emotional maturity of father (higher for nonclinic fathers).

3. Cohesiveness (higher for nonclinic families).

4. Severity of negative sanctions by mother (less severe for nonclinic families).

5. Warmth (higher for nonclinic families).

6. Happiness (higher for nonclinic families).

A larger number of studies have concentrated their attention on lower level inferences about communication processes than the above studies, which emphasized higher level inferences. Studies making use of low level inferences have produced some very interesting results as well as promising further usefulness.

One of the earliest and most interesting studies on family or parental interaction was done by Fisher, Boyed, Walker & Sheer (1959). Subjects for their study were the parents of twenty male schizophrenic V.A. patients, parents of twenty male neurotics V.A. patients and parents of twenty non-psychiatric patients. The parents were given a number

of diagnostic measures, including individual interviews, projective questions, Rorschach and TAT, and a measure of parental interaction (parents interacted to produce a joint story to one TAT card). Of the twelve different methods used to analyze these tests and individual interviews, only the analysis of the sample of interaction discriminated significantly between the three groups of parents (other measures discri.inated only a normal-abnormal dichotomy). It was found that the parents of normals were most often in definite agreement in reaching a mutually agreeable story, and the parents of schizophrenics were least often in definite agreement. The authors concluded that since the individual measures didn't discriminate between the three groups of parents and the measure of interaction did, that it made more sense to study parental interaction rather than the individual parents, such as the "schizophrenogic mother." This study suggests that the amount of agreement may be an important variable to attend to in communication.

Farina, in a study of the communication of parents of schizophrenics (1960) used three samples: The parents of twelve good premorbid schizophrenic sons, the parents of twelve poor premorbid sons, the parents of twelve sons hospitalized for TB. The parents were interviewed to determine the premorbid adjustment of their sons (Phillip's scale of premorbid adjustment was used). Then the mother and father separately answered twelve hypothetical problem

situations, after which they interacted to resolve their disagreements. Indices of dominance and conflict were used to analyze the interaction. It was found from the interaction indices, that maternal dominance was most marked for the poor premorbid sons; paternal dominance most marked for the good premorbid sons. Extent of conflict was least for controls, greatest for poor premoribd sons. Indices of dominance were as follows: number of times person speaks first; number of times person speaks last; total of first and last; passive acceptance of solution; total time speaking, relative to other person; yielding. Indices of conflict were as follows: frequency of simultaneous speech, duration of simultaneous speech, interruptions by mother, interruptions by father, interruptions total, disagreements and aggressions by mother, disagreements and aggressions by father, disagreements and aggressions total, failure to agree, verbal activity. Farina & Dunham (1963) have also used these indices of dominance and conflict in later research.

Caputo (1963) studied the parents of male chronic schizophrenics, using for subjects, parents of twenty white male, chronic schizophrenics, and parents of twenty "normals" who had never been hospitalized for psychiatric reasons. Measures used were the Parent Attitude Inventory (PAI), consisting of fifty true-false opinion items; the semantic differential, consisting of ratings of "myself," "my son," "my marriage," etc. The PAI and the semantic differential were

given individually to the parents. Then the parents discussed their first ten disagreements on the PAI, with a view towards agreeing on a true or false opinion. Caputo found that the results from the parental interaction were in startling contrast to the benign picture of the family members given by the semantic differential. The parents of the schizophrenics were less able to agree on a single response than the parents of controls ($p < .001$). The Bales Interaction Process Analysis was applied to the parental interaction and its results support the notion of a hostile atmosphere in the home of the schizophrenic. Caputo concludes that both parents, in contrast to the mother alone contribute to the schizophrenogenic character of the home. Caputo's study lends corroborating evidence to the finding of Fisher et al., that the ability to reach agreement on a conjoint test, is an interactional variable of importance in discriminating different disagnostic groups of parents.

In a very interesting and well done doctoral dissertation, Lerner (1964) specifically studied how different groups of parents resolve intrafamilial conflict. The subjects were thirty-six pairs of parents, divided into three groups of twelve couples each. Twelve couples were controls, parents of sons hospitalized for non-psychiatric reasons. Initially the parents of twenty-four schizophrenic sons were dichotomized on the basis of their son's social maturity scores

(determined by means of a Social Competence Scale by Zigler & Phillips). Later the twenty-four sets of parents were redichotomized on the basis of their son's "thought disorder" (determined by Becker's Rorschach Genetic Level Score). The parents were individually given a thirty item questionnaire and asked to indicate agreement or disagreement with items about childrearing, husband-wife relationships, etc., and subsequently asked to resolve by discussion ten items on which they had had discrepant opinions. This "revealed difference" technique was originally used by Strodtbeck (1951), and is frequently used in interaction research. These tape recorded discussions were scored for five categories dealing with the resolution of intrafamilial conflict:

1. Compromise (both parents change from their original position).

2. Role induction--mother (mother is induced to change to the father's questionnaire position).

3. Role induction--father (father is induced to change to mother's position).

4. No agreement (conflict unresolved).

5. No agreement with distortion (the conflict is unresolved but the couple acts as if it has been resolved).

The two categories for role induction were further scored for three categories:

1. Yielding (both parents state their original position before one of them yields).

2. Passive acceptance of solution (one parent acquiesces without stating his original position).

3. Masking (a position is stated which is at variance with the questionnaire response).

When the parents of schizophrenics were dichotomized on the basis of their son's social competence, it was found that the control group was characterized by their significantly more frequent use of compromise, the absence of disproportionate patterns of parental dominance and submission, and the tendency to openly acknowledge disagreements between family members. The high socially competent group was characterized by less compromise, disproportionate patterns of paternal dominance and maternal submissiveness, and the tendency to fully recognize differences between family members. The low socially competent group was characterized by less compromise, disproportionate patterns of maternal dominance and paternal submissiveness, and the tendency to distort or not recognize disagreements between family members. The low socially competent group also differed significantly from the controls, the low group making greater use of masking. The high socially competent group used intermediate amounts of masking.

When the parents of schizophrenics were re-dichotomized on the basis of their son's genetic level score, Lerner found that compromise was used most frequently by the control group and least frequently by the low genetic level group.

In contrast, "No Agreement with Distortion" was used most frequently by the low genetic level group and least frequently by the control group. Also the low genetic level group used masking significantly more often than the controls, with the high genetic level group intermediate.

It is very interesting to note that when the schizophrenic sample was dichotomized on the basis of a social competence score, disproportionate patterns of parental dominance and submission appeared, and the sex of the dominant parent appeared to be related to the patient's premorbid level of social maturity. However, when the schizophrenic sample was dichotomized on the basis of the Rorschach Genetic Level score, similar patterns of disproportionate dominance and submission failed to emerge. One interpretation offered for this finding is that rather than the entire intrafamilial environment exerting an indiscriminant influence, family role structure (e.g. maternal or paternal dominance) could be specifically related to the offspring's social competence, while family masking and distortion could be specifically related to the patient's "thought" disorder. (Again "communication disorder" would be a better term than "thought disorder").

Also Lerner mentions that when the conflict categories were dichotomized into "reached a final agreement" and "reached

no final agreement" categories, that the control group and the low genetic level group differed significantly. This parallels the finding by Caputo (1963) who found that the parents of male chronic schizophrenics were significantly less able to reach agreement on a revealed difference test than were matched controls.

Another study which explored the family interaction of the schizophrenic was by Cheek (1964) who used a revealed difference technique to elicit family interaction and used the Bales Interaction Process Analysis to categorize the interaction. Subjects were sixty-seven family triads with a schizophrenic offspring member and fifty-six partially matched family traids. Cheek found higher mother-son agreement, more withdrawn and underactive interaction in schizophrenic families. Also the schizophrenic's mothers' higher support-permissiveness of the child (per questionnaire) turns out behaviorally to be merely greater tolerance in contrast to active support which normal mothers gave.

According to Haley (1964), the ideal data in family research should be the recording of observable events. Further he suggested that there should be no inference in this primary data, but that inferences should be made after the primary data has been collected. Applying this principle to research, he used an instrument recording of who followed whom in speaking in family triads. Subjects were forty normal family traids and forty disturbed family triads (one

or more members had sought or had been recommended for psy-
chological treatment). The family interaction was elicited
by means of a discussion of a questionnaire and by means
of joint efforts to make stories to TAT cards. Reasoning
that two-person sequences of speaking would be more flex-
ible (random) in normal families and more rigid (less random)
in disturbed families, it was found that the normal group
differed from the disturbed group at the .00003 level of
significance, the normal families being at the more flexible
end of the continuum. Although this is a very interesting
finding, research which will be subsequently discussed has
not substantiated it.

Riskin has discussed a methodology for studying family
interaction (1963) and has developed a set of scales for
categorizing family interaction (1964). Riskin has applied
these scales to the interaction of nine families ranging from
"normal" volunteer families to families with a schizophrenic
member. While statistical data has not been presented,
descriptive data has been presented, and Riskin states that
through examination of only the interaction ratings, it is
possible to make many inferences about family interaction
and functioning. Each family, among other things, was asked
to plan something to do together as a family, and was left
alone in the room to do this. The first seventy-six and
last seventy-six speeches were used as data (a "speech" is
a relatively continuous utterance by an individual). One

hundred fifty-two speeches comprise four to six minutes
of interaction. The six, essentially tri-partite scales are
the following: clarity, topic change, commitment, agreement,
intensity, and relationship. The judge would rate each speech
on each of the six scales. In using the relationship scale,
for example, he would label the speech as friendly, neutral,
or attacking. More rigorous, less descriptive research with
Riskin's scales remains to be reported.

Stabenau, Tupin, Werner & Pollin (1965) compared
the interaction patterns of families of schizophrenics with
families of delinquents and families of normals, using a
semi-structured family interview, individual interviews with
family members, and individual testing of the family members
(the Rorschach, MMPI, TAT, the Object Sorting Test and a
revealed differences test were used). All families were
four member families, one child being the patient, the other
child serving as a control. Fifteen families participated,
five in each diagnostic classification. Most significant
of the findings was an analysis of the TAT stories of the
parents, which differentiated the three diagnostic groups
($p < .001$). This TAT analysis focused on the nature of the
parent-child interaction contained in the stories. While
the normal parents, in their stories allowed the child a
realistic amount of independent action, the parents of

delinquents used strict discipline and expected immediate obedience, and the parents of the schizophrenics produced stories which suggested that the child primarily filled the emotional needs of the parents. No statistically significant differences were found on interaction measures from the revealed differences test. The interaction measures used were the following: interaction time, total number of times family members spoke, overlaps per minute, interruptions per minute, pauses per minute. These were recorded for four of the revealed difference questions. However, a global estimation of communication clarity was made, which, when the results were rank ordered, revealed that the schizophrenic families were least clear, the normal families most clear in their verbal communications. This final result corresponds with the previously cited research which suggested that measures of clarity are important to attend to.

Ferreira & Winter (1965) in another study of family interaction were particularly interested in three rather simple questions:

1. How much agreement was there among family members with respect to what they liked and what they didn't like?

2. How much time did the families take to reach all seven decisions required in the study?

3. How appropriate were these family decisions in terms of fulfilling the wishes of the individual family members?

The subjects were family triads, consisting of fifty normal family triads and seventy-five abnormal triads, with the abnormal family traids broekn down into fifteen schizophrenia producing families, sixteen delinquency producing families and forty-four maladjusted families. Each family member separately answered a questionnaire which consisted of a number of situations for which there were ten alternatives from which they indicated the three they best liked and the three they least liked (e.g. ten famous people you might like to meet). The results indicated that normal families differed in specific ways from the abnormal families. The normal families had a much greater agreement in what their members liked and disliked, prior to any exchange of information; had to spend less time in reaching family decisions; and were able to arrive at more appropriate decisions in terms of a better fulfillment of the family members' individual choices.

Lennard, Beaulieu & Embrey (1965) have reported on some partially completed research, comparing schizophrenic family interactionwith the family interaction of controls. In their research they are mainly concerned with the amount, rate and direction of intrafamilial communication. Who speaks, and to whom is recorded. Also rate and success of intrusions are recorded. An intrusion is defined as an entry by a third person into a dyadic interaction, which is not requested or

elicited by the interacting dyad. Two other aspects of
interaction attended to, are the interpersonal referents
of parental communication in interaction with the child
(does the parent focus on himself, the child, or someone
else?), and whether the parents' communications concern
feelings, experiences, thoughts of their own, their child's,
or someone else's. These last two measures seem especially
interesting, with respect to the interpersonal learning im-
plications for the child.

Ferreira, Winter & Poindexter (1966) author another
study focusing on low level inferences from family communica-
tions. In this study their interest is on the questions:
How much, and in what ways, do abnormal families differ from
normal families with respect to who talks the most, who talks
the least, how much overlap there is, how much time the fam-
ily remains silent. Subjects were 126 family triads, fifty
normal family traids, seventy-six abnormal triads (sixteen
schizophrenic, sixteen delinquent, and forty-four maladjusted
families). Interaction was elicited by the family members
interacting to produce three stories to nine TAT cards. It
was found that abnormal families required more time than normal
families to perform the family task of arriving at a TAT
story, and that there was greater silence in the abnormal
group than in the normal group (p<.001). It thus seems that
abnormal families talk less and exchange less information

per unit of time than normal families. Haley's earlier

finding (1964) that abnormal families are less random (and

less flexible) in their interaction sequences than normal

families was not supported.

Mishler & Waxler (1966), while they have not yet

reported their results, have reported on their research

design, which is about the most complete design so far

reported in the literature. The design in this study in-

cludes male and female schizophrenics with good and poor

premorbid histories and their parents, as well as normal

families of both male and female offspring. Intrafamilial

controls were also provided with the inclusion of a well

sibling of the patient, of the same sex and approximately

the same age, in a separate experimental session with the

parents. A revealed differences technique was used to elicit

forty-five to sixty minutes of discussion. A number of dif-

ferent scales are applied to categorize the interaction, and

the design of the study allows for rather complex analyses of

data.

Goodrich & Boomer (1963) have developed a Color Match-

ing Technique which has been used to elicit couple inter-

action (Ryder & Goodrich, 1966). In this technique, follow-

ing each of twenty color matching tasks, the experimenter

asks the couple to discuss their choices and arrive at an

agreement as to the best possible match, stressing that only

their agreements count toward their score in the experiment.

In half of the series, the couple is deceived; in these instances the colors are so arranged that no agreement is possible. The data consists of the couple's discussions as they search for a mutually acceptable solution for each of the twenty color matching tasks. Subjects were forty-nine white, middle class, volunteer couples, each of whom had been married three to four months. The final typescripts of the recorded sessions were coded independently by two raters for forty-seven variables, seventeen of which are discussed in the study. It was found that there is a striking tendency to alter or distort choices in order to avoid disagreements ($p < .001$ for both husbands and wives). A factor analysis revealed four factors, three of which have been replicated in subsequent research (Ryder, 1966); affectivity-rationality; verbal fluency, and husband versus wife leading or assertive behavior. Many of the categories that Ryder & Goodrich use are specific to the experimental set up of the color matching technique and will not be discussed in the present review.

Turning again to our question, "What is it important to attend to in family interaction from the standpoint of picking out aspects of interaction which are associated with interactional disorders?" it becomes evident from a close appraisal of the literature that measures of clarity and

measures of agreement seem to have been most clearly related to specific interactional disorders.

With respect to clarity, Morris & Wynne (1965), Singer & Wynne (1965 & 1966), Beavers et al., (1965), Lerner (1964) and Levin (1966) have found that different measures of clarity differentiate between parents of schizophrenics, neurotics and normals, with parents of schizophrenics being least clear in their communication and parents of normals most clear. With respect to agreement, Fisher et al., (1959), Caputo (1963), and Lerner (1964) have found that parents of schizophrenics have most difficulty in reaching definite agreement on various tasks, and that parents of normals are most able to reach definite agreement.

Although family interaction is definitely an interpersonal process, it is evident from this review of the literature, that the categories which have been used so far, do not stress the interpersonal nature of this interaction. Rather interest has centered on such structural characteristics as clarity and agreement. While these variables are of demonstrated importance, it would seem that attention to how persons in the family relate to each other and how they seem to feel about each other, as derived from their communicational behavior, could be a very productive approach. While some researchers have directed attention in this

direction (most notably Stabenau et al., who found that TAT
stories, when analyzed with an eye to the nature of parent-
child interactions, discriminated between parents of schizo-
phrenics, delinquents and normals), there has been little
evidence accumulated so far about the value of an interpersonal
analysis of family interaction.

There are, however, two papers which indicate on a
descriptive level that the interpersonal analysis of family
communication might be a very productive approach. Guerney
and Guerney (1961) posited that the understanding of a given
family member depends upon understanding his interpersonal
interactions with the other family members, and suggested
that Leary's interpersonal theory (1957) was most appropriate
for this. They applied Leary's concepts to the case of a
family with a "disturbed" nine year old girl. Jackson, Riskin
& Satir (1961) presented a blind analysis of a tape recorded
five minute segment of parental interaction, and tried to
deduce the characteristics of the son of these parents. Their
analysis focused upon the individual's perception of self,
his perception of the person he is talking to, and his per-
ception of the other in relation to the self. Descriptive
statements about the parents and the son seemed to be fairly
accurate.

There also are two researches which have utilized Leary's
system in a somewhat more controlled methodology. The first
is by Raush, Dittman & Taylor (1959), in which the authors

used Leary's system to obtain descriptions of the quality,
frequency, and intensity of behaviors of six disturbed boys,
age eight to ten, in a residential treatment center. Ob-
servations of behavior were made two times in six different
settings for each of the boys, with the same observational
procedure being followed eighteen months later. One observer
watched the child for about eight minutes in one setting, then
dictated his observations. His observations were coded into
Leary's system by two raters working together. By comparing
interaction from the first group of observations, with the
interaction from the observations made eighteen months later,
it was possible to obtain a measure of interaction change.
It was found, for example, that the major changes in inter-
action occurred with adults, with a decrease of hostile-
dominant behavior, and an increase in friendly-passive be-
havior directed toward adults by these boys. The authors
concluded that Leary's schema for coding interpersonal be-
havior has some measure of utility. While this study has a
number of methodological shortcomings, its emphasis on changes
in interpersonal behavior as a result of treatment (instead
of changes on less direct measures, such as Q-sorts, psy-
chological tests) is excellent.

Terrill & Terrill (1965) have modified Leary's system
in order to apply it more readily to tape recordings of family
interaction. Terrill & Terrill's method is based on rating

each "speech" (a speech is a relatively continuous utterance by an individual), into one of eight interpersonal categories. These eight categories are arranged in a circle around two orthogonal axes: a dominance-submission axis and a hostility-affiliation axis. A number of reviews of the literature (Adams, 1964; Foa, 1961 and Shaefer, 1959, 1961) have suggested that a large number of studies converge in their findings toward such a simple ordered structure of interpersonal behavior. According to Adams (1964), the "findings suggest a circumplex structure around two orthodogal axes of dominance-submission and affection-hostility." Terrill & Terrill added four neutral categories for rating speeches which couldn't be rated into one of the eight interpersonal categories, and applied their system of interpersonal analysis of communication to ten families. Two raters had an average agreement of 78% in their ratings. The authors also gave a case illustration of the method.

The purpose of the present study is to determine to what extent Terrill & Terrill's analysis is a meaningful or useful abbreviation of the total matrix of family interaction, by comparing the author's ($\underline{E}$'s) rankings of the functionality of family interaction with another judge's rankings of the functionality of family interaction. $\underline{E}$'s rankings were based on all available information about the family's interaction ($\underline{E}$ observed each family's entire structured interview, used the tape recordings and the typescripts of the interaction),

in contrast to the judge's rankings which were based only
on Terrill & Terrill's (T & T's) ratings of interaction
placed in chart form. These ratings of the family interaction
into T & T's categories had been completed by two independent
raters. Assuming such rankings of family interaction are
useful or meaningful to psychologists, if $\underline{E}$ and the judge
are in significant agreement in their rankings of family
interaction, it could be concluded that T & T's scales are
"meaningful" abbreviations of the total matrix of family in-
teraction. If $\underline{E}$ and the judge are not in significant agree-
ment in their rankings, this might call into question the
usefulness of T & T's approach to family interaction (or it
might call into question various other aspects of the re-
search design).

The specific hypotheses tested were:

1. The rank order correlations between $\underline{E}$'s rankings
   and the judge's rankings of the functionality of
   the dyadic interaction within each family will
   be less than or equal to zero.

2. The rank order correlation between $\underline{E}$'s rankings
   and the judge's rankings of the functionality of
   the mother-father interaction across families
   will be less than or equal to zero.

3. The rank order correlation between $\underline{E}$'s rankings
   and the judge's rankings of the functionality of
   the father-child interaction across families will
   be less than or equal to zero.

4. The rank order correlation between $\underline{E}$'s rankings
   and the judge's rankings of the functionality of
   the mother-child interaction across families will
   be less than or equal to zero.

5. The rank order correlation between E's rankings and the judge's rankings of the "overall" function- ality (excluding child-child interaction) of the six families will be less than or equal to zero.

6. The rank order correlation between the judge's "overall" ranking, and the ranking of the six families based on Moore's (1966) "family pathology score" will be less than or equal to zero.

7. The rank order correlation between E's "overall" ranking and the ranking of the six families based on Moore's (1966) "family pathology score" will be less than or equal to zero.

METHOD

Subjects

The subjects were six, four-member families (father, mother, and two children). These families had lived together for at least four years prior to their participation in the research, had children ranging from ages eight to sixteen, and had at least one male child between those ages. The fam- ilies ranged from "normal" (no member ever recieved or had been recommended to receive any type of psychological treat- ment for an emotional or behavioral disorder), to "abnormal" (families which were waiting for psychotherapy at the MSU Psychological Clinic, involving both parents and sometimes one or more children). The abnormal families initially con- tacted the clinic because a male child between age eight and twelve had been referred for underachievement and/or lack of behavior control in school. Of the six families in the

present study, three were classified as normal families
and three as abnormal families. These six families were
selected from a larger research project (Moore, 1966), in
that they were the first six families employed in the
doctoral research, having just two children. Table A in the
Appendix gives more complete sociological information about
each family.

Procedure

The family interaction of the four-member families
was tape recorded in a ninety minute structured interview
in the MSU Psychological Clinic, conducted by a doctoral
candidate in clinical psychology. All families interacted
to perform a number of tasks, two of which furnished the
interaction data for the present study. In the first task,
the whole family was instructed to "Plan an activity you
could all do together; it should be something you might
actually do" (Moore, 1966). In the second task, the family
was asked to discuss the following question with the inter-
viewer present: "Suppose _____ and _____ (used names of
children) are very angry with each other; how should they
let each other know how angry they are?" (Moore, 1966).

Typescripts were made by _E_ from the two relevant parts
of the tape recordings in order to facilitate the rating
process. It required about two hours to transcribe five to
ten minutes of family interaction. It was relatively dif-
ficult to disentangle the complex conversational strands of

family interaction, as this process required painstaking listening and re-listening.

The behavioral unit of analysis for making ratings in the present study was that of a "speech," according to the definition used by Terrill & Terrill (1965): "<u>A scorable speech consists of a relatively continuous utterance by an individual which is either uninterrupted, or if interrupted, apparently uninfluenced by the interruption</u>. In this definition, the term "relatively continuous" means that there are no pauses or breaks in the speech longer than four seconds. It also means that the speaker does not abruptly shift from speaking to one person to speaking to another. Thus, if a person starts out talking to another person but then abruptly turns to someone else and addresses him, this would be counted as two separate speeches, even though the speech is uninterrupted. The term "apparently uninfluenced" refers to situations where a person begins a sentence or a train of thought, is briefly interrupted, but continues with the same sentence or thought as if he had not heard the interruption."

<u>E</u> broke up the interactions into speeches, consecutively numbering each speech on each family typescript, starting with the first speech in the "plan something" excerpt, and ending with the last speech in the "anger expression" discussion. The first fifty and the last fifty speeches in this combined sample furnished the rating data for each family. One hundred speeches comprises about four minutes of interaction.

By listening to the tapes, and by using the typescripts, E
also determined who was speaking to whom. When it was unclear
to whom the speech was addressed, the speech was considered
directed to all family members.

Two independent raters, both advanced graduate students
in clinical psychology, rated each speech according to Terrill
& Terrill's (T & T's) system. Practice ratings were made on
one four-member family (excluded from the statistical analy-
sis of the present study) in order to familiarize the raters
with the interaction categories. The preliminary training
on the scales consisted of fifteen to twenty hours spent rating
about three hundred speeches, and reconciling differences in
the application of the categories. It was found that the inter-
rater agreement quickly reached 50-60% agreement on ratings
of one hundred speeches, but improved little with further
practice. Because prolonged training was resulting in only
very small improvements in reliability it was decided to pro-
ceed with this limited degree of interrater agreement.

In T & T's analysis of communication, each speech is
placed into one of Leary's eight interpersonal categories.
T & T have written formal definitions, based on the two
principal dimensions of the interpersonal circle, affection-
hostility and dominance-submission, in addition to using
adjectival category descriptions, which are more open to
ambiguity. T & T considered the vertical axis of the circle

as a status dimension which indicated the status position the speaker was taking in a given speech, and the horizontal axis as indicating the emotional attitude which the speaker was expressing toward the person to whom he was speaking. Each speech is considered to have both a status and an emotional component. In using T & T's complete Scoring Guide (obtained in a personal communication from James Terrill,)one must first decide which of fourteen descriptive categories (e.g. ask question, answer question) the speech falls into before rating it into one of the eight interpersonal categories. The Scoring Guide is presented in Table B in the Appendix.

As preliminary ratings suggested that this seemed to be unnecessarily complicated, in the present research the rater primarily inferred the status and emotional dimensions of each speech in order to rate the speech into one of the eight interpersonal categories. The categories, a brief description, and the status and emotion components as per T & T's formal definitions are presented in Table 1.

In order to rate each speech, the rater first assigned a preliminary rating to it, using only the typescript. He then listened to that same speech on the tape recording and if necessary, modified his original rating on the basis of the vocal elements of the speech. When still in doubt about the proper category, the rater employed the complete Scoring Guide.

Table 1

T & T's Categories and Their Definitions

Category	Description	Status	Emotion
AP	Leading, controlling behavior	High or dominant	Neutral to slightly positive
BC	Defensive, competitive	High or dominant	Negative
DE	Critical, attacking	Slightly high to equal	Negative
FG	Passively resistant, passively critical	Low or submissive	Negative
HI	Self-effacing, yielding	Low or submissive	Slightly negative to neutral
JK	Positive conforming-following	Low or submissive	Neutral to positive
LM	Agreeable-affiliative	Slightly low to equal	Positive
NO	Supportive-benevolent leading	High or dominant	Positive

As Terrill & Terrill found that some speeches did not fit readily into the eight interpersonal categories, they added four neutral scoring categories as described in Appendix C to make their coding system more comprehensive. Thus, a total of twelve mutually exclusive categories, the eight interpersonal plus these four neutral, were utilized for rating speeches.

The six families were randomly assigned the letters A through F and were presented in random order EDCFAB to Rater A, and in random order CADBFE to Rater B. The one hundred speeches for each family were separately rated to ascertain interrater agreement.

Then, each rater, using the tape recordings of the one hundred speeches of interaction for each family, the typescripts of the same speeches, and his own (untabled) ratings of the speeches for each family, made a number of rankings about the functionality of the interaction in the six families. When it was found, that the two raters had no agreement in their rankings of family interaction, the research design was modified. With the goal of clarifying the criteria for making rankings of intra-and inter-family interactions, minor changes were made in the ranking tasks. Secondly, E, who had rather extensive familiarity with the families (he had observed the ninety minute family interviews and made the typescripts from the tape recordings of the family interviews), made rankings of the interaction of the six families. These rankings made by E were subsequently used, and the rankings made by the two raters were discarded.

The new research design compared E's rankings of family interaction with another judge's ranking of family interaction. E's rankings were based on the total matrix of family interaction; that is, the tapes and typescripts of the one hundred speeches for each family, plus a general

impression of each family's interaction recalled from observing the ninety minute interview. The judge's rankings, in contrast, were based solely on the two raters' pooled and charted ratings.

This research design permitted an assessment of the extent to which T & T's method furnished a "meaningful abbreviation" of the more complete family interaction, by comparing rankings made from listening to the actual family interaction with rankings made from T & T's charted ratings. Thus, if $\underline{E}$ and the judge had significantly correlated rankings, it would suggest that making rankings from T & T's charts might be "as good as" making rankings from listening to the actual interaction. That is, the abbreviation which is involved in rating each speech into T & T's categories before making rankings would not result in the loss of pertinent information, making T & T's method inferior to rankings made from listening to the tapes of the actual interaction.

Thus, if the rankings from T & T's charts correlate significantly with $\underline{E}$'s rankings (the criterion rankings), it would suggest that the abbreviation of interaction to the manageable proportions that T & T's analysis affords, is a "meaningful" or "useful" abbreviation. However, it might be noted that a demonstration of its meaningfulness is limited, first of all, by the meaningfulness of the ranking tasks, secondly by the meaningfulness of the criterion itself.

Some evidence will be presented indicating to what extent the criterion rankings (E's rankings) are meaningful. The usefulness or meaningfulness of the ranking tasks will depend upon the specific research done in the future, but being able to rank family interaction on some sort of continuum from good to bad would seem to be of general importance for a wide variety of researches which might be done.

The rankings which were made by E and the judge were as follows (the judge was a Ph.D. clinical psychologist, who had extensive experience and acquaintanceship with Leary's system, having previously done research with it):

1. Rank order the six dyads in each family from most to least functional.

2. Rank order the mother-father dyads (M-F; F-M) from most to least functional across the six families.

3. Rank order the father-child dyads (two for each family) across the six families. This entails comparing the functionality of two dyads in one family (e.g. F-D, D-F and F-S, S-F) with the functionality of the two dyads in each other family to obtain one final ranking from one to six.

4. Rank order mother-child dyads (two for each family) across the six families from most to least functional. One final ranking from one to six is obtained.

5. Sum the three rank scores assigned to each family for the father-mother, father-child and mother-child interaction and obtain an "overall" functionality-dysfunctionality ranking for each family. (A ranking was not obtained for child-child interaction because the amounts of child-child interaction were uniformly so small--eight speeches or less--as to preclude an indication of the nature of the interaction.

In considering the functionality-dysfunctionality dimension in making the preceding rankings, a three-part scale of functionality was used, based upon the <u>quality</u> and the <u>quantity</u> of the interaction:

1. Most functional dyadic interaction is considered as interaction which is predominantly positively toned (but optimally containing <u>both</u> positively and negatively toned interaction), and consisting of "appropriate" amounts of interaction for that dyad. Suggested general standards for "appropriateness," based on observations of family interaction are as follows:

    a. Parents interact with each other for at least one-sixth of the speeches (there are six dyads in each family). If the parents interact in less than one-sixth of the speeches, this is taken as indicative of interpersonal distance between the parents.

    b. Parents interact in approximately equal amounts with their two children.

    c. Small amounts of child-child interaction are considered as appropriate in this interaction setting.

2. Moderately functional dyadic interaction is considered as predominantly negative interaction (quality) which occurs in appropriate amounts (quantity), <u>or</u> predominantly positively toned interaction (quality), occurring in too small amounts (quantity).

3. Dysfunctional dyadic interaction is considered as predominantly or completely negatively toned interaction, occurring in inappropriate amounts, i.e. too much or too little.

<u>E</u>'s rankings and the judge's rankings were essentially independent, as the judge's rankings were made on the basis of T & T's charted ratings of the family interactions, while <u>E</u>'s rankings were made from his own evaluation of the tapes and typescripts. It remains to explain how <u>E</u> made his evaluation

of the tapes and transcripts and to describe the charts
that the judge employed in making his rankings.

As the functionality-dysfunctionality continuum was
concerned with the quality and quantity of interaction, $\underline{E}$
summed the number of speeches given by, say, the mother to the
father, and by the father to the mother. This was done for
each dyad in the family. Then after listening to the quality
of the interaction in the dyad, $\underline{E}$ made a summary statement
concerning the dyadic interaction, i.e., both the mother and
the father made predominantly positively toned speeches to
each other; e.g.:

```
M-F    12 predominantly positively toned
F-M    18 predominantly positively toned
       30 total speeches
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These summary statements about the quality of the interaction
in the dyad and the amount of interaction in the dyad fur-
nished the data used by $\underline{E}$ for ranking the dyads within each
family and for ranking the dyads among the six families.

After the raters had rated each speech for each fam-
ily, their ratings were placed in chart form; one chart for
each family. The chart for Family A is presented in Table 2.
These six charts provided the data used by the judge for mak-
ing his rankings of the functionality of the family inter-
action. All six of the charts are presented in Table D of
the Appendix.

Table 2

T & T's Ratings by Two Raters in Chart Form

Family A
  S_1 age 12
  S_2 age 8

Speeches Given by Father to:

	M A	M B	S_1 A	S_1 B	S_2 A	S_2 B	All A	All B	$S_{1\&}S_2$ A	$S_{1\&}S_2$ B	Total A	Total B
AP		1			2	6	1	6		1	3	14
BC			1	2	1						2	2
DE									1		1	0
FG											0	0
HI	1	1		1		1					1	3
JK	1	1			1		1				3	1
LM	2	2	1				2				5	2
NO	1				5	4					6	4
LI	2	2	1	1			3	1			6	4
UM											0	0
NT											0	0
NX			1		2						3	0
TTL	7		4		11		7		1		30	30

Speeches Given by Mother to:

	M A	M B	S_1 A	S_1 B	S_2 A	S_2 B	All A	All B	$S_{1\&}S_2$ A	$S_{1\&}S_2$ B	Total A	Total B
AP	2	3		2		7	1	2			3	14
BC	1	1		1	1	3					2	5
DE		1	1		5	1					6	2
FG					1						1	0
HI					1	1					1	1
JK											0	0
LM					1						1	0
NO	2		2		6	3	1				11	3
LI					2	2					2	2
UM											0	0
NT											0	0
NX											0	0
TTL	5		3		17		2				27	27

Table 2 Continued

Speeches Given by Son$_1$ to:

	F A	F B	M A	M B	S A	S B	All A	All B	Total A	Total B
AP		1	1	1	1	1		1	2	4
BC		1					1		1	1
DE		1			1	1			1	2
FG	1	1		1					1	2
HI	1		3	1					4	1
JK	1	1	1	2					2	3
LM									0	0
NO	1								1	0
LI			1		2	2	2	2	5	4
UM				2					0	2
NT									0	0
NX	1		1						2	0
TTL	5		7		4		3		19	19

Speeches Given by Son$_2$ to:

	F A	F B	M A	M B	S A	S B	All A	All B	Total A	Total B
AP	5	8	2	4			1	1	8	13
BC		1	3	2					3	3
DE					1				1	0
FG	1								1	0
HI			1	1	1				1	2
JK			2	2					2	2
LM	1		1						2	0
NO									0	0
LI	1	1	1	1					2	2
UM		1							0	1
NT									0	0
NX	3		1	1					4	1
TTL	11		11		1		1		24	24

The first of the two columns under each heading = Rater A
The second of the two columns under each heading = Rater B

In making comparisons between E's rankings and the
judge's rankings, five null hypotheses were made. For
each of the five rankings, the hypothesis was that the cor-
relation between E's rankings and the judge's rankings would
be less than or equal to zero. One-tailed tests, right tail
critical, were used, in that maximum power was desired to
reject the hypothesis if the rank-order correlation was greater
than zero. That is, only a significant positive correlation
would indicate that T & T's system is a useful shortened form
of the total matrix of family interaction; a large negative
correlation was assumed to be meaningless.

An external criterion for determining the extent to
which T & T's rating method is a useful abbreviation of
family interaction was also available. Moore's research
project (1966) included all six families used in the present
research. He used a Family Rating Scale (FRS) as his princ-
ipal method of rating family interaction, which was based on
global judgments made by raters immediately after observing
the ninety minute family interview. The FRS was shown to
discriminate between eight normal and eight abnormal famil-
ies (employing only consistently rated items) at the .005
level of significance, on each of two separate interviews.
FRS ratings were also employed to obtain an overall "family
pathology score." It was possible to obtain a ranking of
the six families using this "family pathology score," and
compare this ranking with an "overall" functionality ranking

of family interaction from the present study. Again the null
hypothesis was that the rank order correlation would be less
than or equal to zero. If the null hypothesis was rejected,
i.e., if the correlation was greater than zero, it would
indicate that, for this specific ranking of family interaction,
T & T's analysis of interaction based on only _four_ minutes of
interaction, furnishes data highly correlated with Moore's
FRS, which was based on _ninety_ minutes of interaction, and
which discriminated between groups of normal and abnormal
families at a highly significant level. Positive evidence of
this kind would support T & T's method as a useful condensa-
tion of family interaction.

It would also be possible to compare $\underline{E}$'s "overall"
ranking of functionality with Moore's "family pathology score"
in order to determine the extent to which $\underline{E}$'s rankings could
serve as a _valid_ criterion by which to evaluate T & T's method.
If there were a significant correlation between $\underline{E}$'s ranking
and Moore's ranking, it would suggest that $\underline{E}$'s rankings pro-
vided a valid criterion, in that they would be correlating
with a method which discriminated between a group of normal
families and a group of abnormal families, on two different
occasions, at a highly significant level.

The specific hypotheses were as follows:

1. Hypothesis one: The rank order correlations be-
tween $\underline{E}$'s rankings and the judge's rankings of the functional-
ity of the dyadic interaction within each family will be less
than or equal to zero.

2. Hypothesis two: The rank order correlation between E's rankings and the judge's rankings of the functionality of the mother-father interaction across families will be less than or equal to zero.

3. Hypothesis three: The rank order correlation between E's rankings and the judge's rankings of the functionality of the father-child interaction across families will be less than or equal to zero.

4. Hypothesis four: The rank order correlation between E's rankings and the judge's rankings of the functionality of the mother-child interaction across families will be less than or equal to zero.

5. Hypothesis five: The rank order correlation between E's rankings and the judge's rankings of the "overall" functionality (excluding child-child interaction) of the six families will be less than or equal to zero.

6. Hypothesis six: The rank order correlation between the judge's "overall" ranking, and the ranking of the six families based on Moore's (1966) "family pathology score" will be less than or equal to zero.

7. Hypothesis seven: The rank order correlation between E's "overall" ranking and the ranking of the six families based on Moore's (1966) "family pathology score" will be less than or equal to zero.

Edwards' (1961) formulas and tables were used to determine the significance of the rank-order correlations.

RESULTS

The amount of agreement that the two raters demonstrated on each individual speech is presented in Table 3. An examination of Table 3 indicates that the two raters had rather limited exact agreement on each speech, ranging from 50% exact agreement with Family C, to 32% with Family E; having a mean of 40%. However, when one-step errors were added to the exact agreements, the mean amount of agreement went up to 62%, and when one and two-step errors were added to the exact agreements, the mean amount of agreement went up to 74%. This suggests that while the raters had low exact agreement on each individual speech, they were often in essential agreement, in that their ratings were frequently in closely adjacent categories on the interpersonal circle. In fact, complete disagreements (three or four-step errors were considered as complete disagreements), on assigning speeches to different interpersonal categories ranged only from 8-15%, with a mean of 10%, this being a fairly small percentage of complete disagreement among interpersonal categories. It should be mentioned, however, that there were somewhat more conflicts where one rater assigned a speech to one of the

four neutral categories, while the other rater assigned the same speech to one of the eight interpersonal categories. This sort of discrepancy ranged from a low of 8% with Family B to a high of 25% with Family C; and a mean of 16.3%. In general then, the raters were in essential agreement on 73.7% of the speeches rated, and disagreed on 26.3%, or about one-quarter of the rated speeches.

With respect to the seven hypotheses formulated in the present study, the following results were obtained:

Hypothesis one: The rank order correlations between $\underline{E}$'s rankings and the judge's rankings of the functionality of the dyadic interaction within each family will be less than or equal to zero. This hypothesis could not be rejected. No correlation reached significance at the .05 level. The correlations for families A through F were as follows: -.829, +.600, +.714, -.771, -.257 and +.143. Since this hypothesis could not be rejected, it could mean that T & T's ratings are not "useful" abbreviations of family interaction, for this particular task, or it could mean that other aspects of the research design are at fault (If, for example, a second judge had ranked the family dyads using the same charted interactions as the first judge, and their rankings were not significantly correlated, then it would call into question, not T & T's system, but rather the process by which the judges had derived rankings from it).

Table 3

Percentages of Agreement Between Two Raters
Separately Using T & T's Method

Family	Exact Agreement	Exact and 1-Step Error Agreement	Exact, 1-step and 2-step Error Agreement	Disagreements (3- and 4-step Errors)	Neutral vs. Interpersonal Disagreements
A	43	68	84	4	12
B	44	62	77	15	8
C	50	62	67	8	25
D	34	61	69	9	22
E	32	61	69	12	19
F	34	59	76	12	12
Mean	39.50	62.2	73.7	10.0	16.3
Range	32-50	59-68	67-84	4-15	8-25

Hypothesis two: The rank order correlation between E's rankings and the judge's rankings of the functionality of the mother-father interaction across families will be less than or equal to zero. This hypothesis was rejected. The rank order correlation was +.89, a correlation significantly different from zero (p < .02).

Hypothesis three: The rank order correlation between E's rankings and the judge's rankings of the functionality of the father-child interaction across families will be less than or equal to zero. This hypothesis was rejected. The rank order correlation was +.77, which is significantly different from zero (p=.05).

Hypothesis four: The rank order correlation between E's rankings and the judge's rankings of the functionality of the mother-child interaction across families will be less than or equal to zero. This hypothesis was rejected. The rank order correlation was +.83, which is significantly different from zero (p < .03).

Hypothesis five: The rank order correlation between E's rankings and the judge's rankings of the "overall" functionality of the family interaction (excluding child-child interaction) across families will be less than or equal to zero. This hypothesis was rejected. The rank order correlation was +.99, which is significantly different from zero (p < .008).

Hypothesis six: The rank order correlation between the judge's "overall" ranking, and the ranking of the six families based on Moore's (1966) "family pathology score" will be less than or equal to zero. This hypothesis was rejected. The rank order correlation was +.79, which is significantly different from zero (p < .05).

Hypothesis seven: The rank order correlation between E's "overall" ranking and the ranking of the six families based on Moore's "family pathology score" will be less than or equal to zero. This hypothesis was rejected. The rank order correlation was +.83, which is significantly different from zero (p < .03).

All actual rankings are presented in Table E in the Appendix.

These results indicate that E's rankings and the judge's rankings of the functionality of dyadic interaction within families were not significantly correlated. The results do indicate, however, that when the functionality of dyadic interaction was ranked across families, the rankings by E and the judge were significantly correlated. The results further suggest that E's rankings were a valid criterion to use to assess T & T's method, in that E's "overall" ranking of the functionality of family interaction was significantly correlated with Moore's (1966) ranking of these

families based on his "family pathology score." Finally
the results indicate that the judge's "overall" ranking based
only on charted ratings derived from only four minutes of
family interaction, were significantly correlated with rank-
ings based on Moore's (1966) "family pathology scores,"
derived from ninety minutes of family interaction.

DISCUSSION

What conclusions can be drawn when rank-orders based
on different methods of analysis of family interaction are
significantly correlated? It would seem that the two dif-
ferent methods of analysis used to make the rankings, could
be regarded as equivalent, at least for the particular rank-
ing tasks on which the correlations were significant. Thus,
when it was found that E's rankings of interaction across
families were significantly correlated with the judge's rank-
ings, it could be concluded that the methods used by E and
the judge for making the rankings were equivalent, at least
for those particular ranking tasks. In this case, it could
be concluded that T & T's method of analysis was equivalent
to the method used by E, on the ranking of interaction across
families. Or, putting it another way, little information
was lost when rankings were made from T & T's ratings placed
in charted form, in comparison to rankings made directly from
the actual tape recordings of family interaction.

Not only did the judge's "overall" ranking correlate significantly with E's "overall" ranking, but the judge's ranking also correlated significantly with Moore's ranking of these six families. In other words, for a ranking task involving ranking the overall family interaction from most to least functional (pathological) for the six families, T & T's method, based on four minutes of interaction, was as good a method as Moore's FRS, based on ninety minutes of interaction. This is rather striking evidence that T & T's method is an efficient abbreviation of a small amount of family interaction. Thus, one does not need ninety minutes to make an assessment of the overall functionality of family interaction, but can make such an assessment from merely four minutes of interaction, using T & T's method.

How valid a criterion was provided by using E's rankings as a criterion in the present study? Using Moore's "family pathology score" as a basis by which to evaluate the validity of E's Rankings, it was found that E's "overall" ranking of the interaction of the six families correlated significantly with Moore's ranking (p < .03). Since E's "overall" ranking was a composite of the separate rankings of the different dyads in the family (except for the child-child dyad), this gives some evidence that E's rankings across families were valid. However, it gives no information as to how valid E's rankings within families were.

It thus seems logical to conclude that T & T's method is an abbreviation of family interaction which is meaningful or useful. It is an "abbreviation" in that it attends only to a specific facet of family interaction, that of the relationship expressed. It is "meaningful" in that it correlates with a method which is not so abbreviated and about which there is external evidence of validity.

One limitation of the present study is that it demonstrates that T & T's analysis provides useful information only with respect to the specific ranking tasks used in the present study. If the sort of ranking tasks used in the present study are not useful in future research, then the present research provides less tenable evidence of the usefulness of T & T's method.

A second limitation in the present study is that of the small sample size. Since only six families were used, it perhaps would be better to interpret the results cautiously and regard the present study as providing only suggestive evidence concerning the meaningfulness of T & T's method.

A third limitation of the present study is in the nature of its methodology. The study sought only to demonstrate whether T & T's system of analysis provides a useful abbreviation of the larger matrix of family interaction. In this task, it falls short of being a study of concurrent validity, unless the term is stretched somewhat. If

concurrent validity is involved with correlating the results of a rating method with an external criterion, it can be noted that the present study had no criterion which is purely external. Such a criterion would involve a different segment of interaction for each of the two persons making rankings. In the present research $\underline{E}$'s and the judge's rankings were based on the same one hundred speeches, and these speeches were part of the ninety minute interview. Since Moore (1966) had two interviews with each family, spaced eight to ten weeks apart, and the present study used segments only from the first interview with each family, Moore's ranking of the families from the second interview could serve as a criterion, with which the overall ranking of the present study could be compared. There is only one problem with this: It would be a good criterion only if the interaction were perfectly stable over time. Moore's research indicated that it was not. Actually, a rank order correlation was computed between $\underline{E}$'s and the judge's combined "overall" ranking of the family interaction in the present study, and the ranking of families based on their "family pathology score" from the second interview. This correlation was +.48, which is non-significant. It is probably non-significant because the family interaction is not stable; but this is not definitely known. In summary, though, the present research falls short of being a study of concurrent validity, which involves comparing rankings with an external criterion, because there is no purely external criterion in the present research.

In comparison with T & T's study on interrater agreement, the present study's average agreement of 40% is rather paltry compared to their 78%. Reasons for this difference can only be speculated at, but here are a few speculations: First of all T & T do not mention how much pre-training their raters had, or whether they participated in the development of the rating system. The raters in the present study spent about twenty hours in the pre-training, and although difficulties still weren't completely ironed out between the two raters, time limitations dictated going ahead with the rest of the study. Thus it may be that the raters started out with less pre-training on the system or at least less pre-study agreement on the rating system than T & T's raters.

One difficulty that posed problems for the raters in the present study is one related to the nature of inferences that can be made about an individual speech. If for example, the mother begins the "plan something" interaction by asking her child what he wants to do, is she primarily encouraging her child; or merely trying to gain time to think about the situation while he answers, or is she really doing something else? After listening to many interactions, one could probably get a pretty good idea about what she's "really" doing. But raters, because of personal bias or different personal experiences, may easily interpret such a speech differently,

even with extensive training. Maybe the thing to do is get raters who "think alike."

Another speculation would involve the extent to which the scoring guide adequately presents what T & T's raters were really doing. Maybe their understanding or use of the guide was clearer than that of the raters in the present study. For example, the scoring guide was unclear about what to do when a person gives an opinion (which would mean using one column of the Scoring Guide) but also praises and agrees with another person (which would mean using another of two columns in the Scoring Guide). Which of these three columns should be used to determine the interpersonal category?

After having used the rating system, some of its short-comings are clearer and it is possible to suggest modifications or improvements for it.

There seem to be a number of problems involved in using adjectival descriptions of categories. They are often vague and open to misunderstanding. Some interpersonal behaviors might not be included in the list of adjectives, might not seem to fit a cluster of adjectives, or might seem to fit in several categories on the basis of the descriptions. It might improve the system to do away with adjectival descriptions entirely, and instead, rate each speech on the two axes, (dominance-submission and affection-hostility) which have been validated by researches previously cited. One way this might

be done is to divide the dominance-submission scale into high, medium, low status categories, and the affection-hostility scale into negative, neutral, positive, emotional categories. This means the system would have nine categories ranging from high status, negative emotion through medium status, neutral emotion, to low status, positive emotion. Speeches could thus be rated just using the status and emotion axes without using adjectives to define the categories.

A problem with the rating of each speech, is whether each speech is equally meaningful or important. It does seem that some speeches are more meaningful or important than others. What does one do about this?

Despite the limitations of the present study in design and size of sample, and despite the limitations of the particular rating system used, it does seem that analysis of interaction is a productive approach in psychology, and that emphasizing the relationship aspects of such interaction is also productive. The findings of the present study suggest that T & T's method of analysis is useful in the present form, and could be put to use in future research where the aim is to analyze the interpersonal aspects of verbal interaction. It is further suggested that with modifications, such an approach as T & T's might be made an even more effective research tool. Ultimately it may be possible to lawfully specify the interpersonal consequences of various types of antecedent interpersonal behavior.

APPENDIX

Table A

Specification of Family Characteristics

	Father		Mother		Children		
Family	Occupation	Education	Occupation	Education	Sex	Age	Group
A	Mechanical Engineer	17	Housewife	14	M M	8 12	Abn.
B	Postal Clerk	12	Secretary	12	M F	12 16	Nor.
C	Tool and Die Maker	12	Housewife	12	M M	11 14	Nor.
D	Pet Store Manager	15	Housewife	12	M M	8 12	Abn.
E	Bricklayer	12	Housewife	12	M F	15 10	Nor.
F	Graduate Student	17	Housewife	13	M F	10 13	Abn.

Table B

Terrill & Terrill's Complete Scoring Guide

HIGH	NEUTRAL TO SLIGHTLY POSITIVE	DIRECT ATTEMPT guide, persuade, urge, exhort	GIVE DIRECTION lead	TEACH, INFORM, ADVISE, INSTRUCT EXPERT LEADERSHIP
HIGH	NEGATIVE	REJECT, EXCLUDE repulse idea or person ESTABLISH INDE* PENDENCE (CHASTIZE)	DEFEND POSITION but doesn't have to be hostile DEFENSIVE ACTION on guard, ration- alizing	NARCISSISTIC, COMPETITIVE ACTS, showing off, boast ing COMPETITIVE, override conversation, interfere w/ speech NO---BUT
SLIGHTLY HIGH TO EQUAL	NEGATIVE	THREATENING ACTION (MILD CRITICISM) VERBAL ACTIVE ATTACK, belittle, ridicule, sarcasm		
LOW	NEGATIVE	PASSIVE AGRESSIVE ACTION, thwarts, balks, obstructs, w/holds resources refuses ST to other AVOID STAND	PASSIVE W/HOLDING ACTION, "cool", "Hard to please, hard to get", re- maining close- mouthed, silent PASSIVE COMPLAINT	PASSIVE REBELLION in response perceived authority, noncompliant unwilling, stubborn, negative SKEPTICAL, DISTRUST, DOUBT
LOW	SLIGHTLY NEGATIVE TO NEUTRAL	SUBMISSIVE RES* PONSE TO AUTHOR- ITY, allow self be talked down, surrender, yield, submit, apologize	SELF CRITICAL REACTIONS, self effacing TIMID, SHY	SIGNS OF WEAKNESS, FEAR, INABILITY
LOW	NEUTRAL TO POSITIVE	EXPRESSIONS OF RESPECT, admir- ation, awe, es- teem	DEPENDENT ACTS, place responsi- bility on other	
SLIGHTLY LOW TO EQUAL	POSITIVE	GREETINGS AND FRIENDLY GESTURES COOPERATIVE EX* CHANGES	ATTEMPTS TO ESTABLISH ALLIANCES, talk as equals ACTS OF ATTRACTION LOVE, AFFECTION	GIVE CREDIT SHOW ENTHUSIAM FOR OTHERS' VIEWS FRIENDLY LAUGHTER
HIGH	POSITIVE	OFFER HELP, ASSISTANCE, GIVE ST SHARING	REASSURE, SUPPORT, TREAT GENTLY PATERNAL, MATERNAL DIRECT EN* COURAGEMENT	SUPPORTIVE ACTION in form of reflection clarifying, indirect encouragement OPEN ENDED, NON* DIRECTIVE LEADS AND QUESTIONS	ATTEMPTS BY INFERENCE TO UNDERSTAND, INTERPRET ACTS ARBITRATION AND CONCILIATION

STATUS	EVAL (QUALITY)	ASK QUESTION (SEE NEUTRAL CATEGORY)	ANSWER QUESTION	ASK OPINION	
HIGH	NEUTRAL TO SLIGHTLY POSITIVE	In demanding way, pushing for answer; has ST do w/ grp task	as expert; as spokesman for others	in demanding way; as leader	
HIGH	NEGATIVE				
SLIGHTLY HIGH TO EQUAL	NEGATIVE				
LOW	NEGATIVE	as passive criticism; cast doubt, find fault			
LOW	SLIGHTLY NEGATIVE TO NEUTRAL				
LOW	NEUTRAL TO POSITIVE	in form of asking for permission; in dependent way; look to other as expert		in dependent way; ask aid; look to other as expert	;
SLIGHTLY LOW TO EQUAL	POSITIVE		See N/X (May be NX)	as a bid for alliance	
HIGH	POSITIVE	in friendly supportive way; concern w/ feelings; encouraging response	See N/X (May be NX)	in nurturing, supportive way; indirect encouragement; in form of suggestion	

STATUS	EMOTIONAL QUALITY	GIVE OPINION	GIVE SUGGESTION	GIVE INFORMATION
HIGH	NEUTRAL TO SLIGHTLY POSITIVE	as expert, in positive, assertive way, as statement	as expert, authority, in positive, assertive way	as expert, authority, w/ elaboration, assertive, positive
HIGH	NEGATIVE	as personal preference w/ hostility or attention getting tone; narcissistically		
SLIGHTLY HIGH TO EQUAL	NEGATIVE			
LOW	NEGATIVE	give and take back idea by finding fault w/ idea (ST accompanied by laughter)		
LOW	SLIGHTLY NEGATIVE TO NEUTRAL	give and take back idea by disparaging self	?	
LOW	NEUTRAL TO POSITIVE			
SLIGHTLY LOW TO EQUAL	POSITIVE	as a bid for friendly alliance	as a bid for friendly alliance	
LOW	POSITIVE	in offering way rather than as statement; tentative, with pauses, halting, UNLESS there is topic shift, then AP	in offering way, in questioning tone rather than as statement "How about.." "Can we.." "What about.." shall we	w/ elaboration and w/ friendly tone

STATUS	QUALITY	GIVE PERMISSION	CONTROL OTHER	CORRECT	CRITISIZE
P HIGH	NEUTRAL TO SLIGHTLY POSITIVE	in positive assertive way; grants, con- sents, gives freedom to do	as leader, boss lead, dictate; routine control requests routine; as spokesman; delegate authority	as expert, in informative way; deal w/ idea	straightfor ward, tws idea rathe than perso raise obje tion to su astion
C HIGH	NEGATIVE		autocratic and exploitive, w/ hostility, direct		chastize
⇒ SLIGHTLY HIGH TO EQUAL	NEGATIVE			as attack on person	direct, ove hostile cr tws person can be mil too
LOW	NEGATIVE		as passive w/ holding act	as passive resistant, ob- structionistic act	by complain ing, findin fault, in- direct; YES...BUT
LOW	SLIGHTLY NEGATIVE TO NEUTRAL				
LOW	NEUTRAL TO POSITIVE				
SLIGHTLY LOW TO EQUAL	POSITIVE				
HIGH	POSITIVE	in friendly, supportive, in- dulgent way	as benevolent leader; deal with person s feelings rather than ideas	in friendly, benevolent way	benevolent {very rare}

STATUS	QUALITY	PRAISE	BLAME	AGREE	DISAGREE
HIGH	NEUTRAL TO SLIGHTLY POSITIVE	as expert, leader, tws idea more than person		as expert, from position of authority; give info, confirm	as expert, and giving info; twd idea, w/ no hostility
HIGH	NEGATIVE				w/ condescension, as personal preference, in narcissistic way;
SLIGHTLY HIGH TO EQUAL	NEGATIVE		in overtly hostile way		overtly, directly w/ idea; can be mild in form, and tws person
LOW	NEGATIVE		as passive complaint; indirect		w/ whiney tone, w/holding, obstructionistc way; indirect
LOW	SLIGHTLY NEGATIVE TO NEUTRAL			in self effacing way; yield	
LOW	NEUTRAL TO POSITIVE	in respectful way, w/ awe		as requested, positive conformity; with respect	
SLIGHTLY LOW TO EQUAL	POSITIVE	in affiliative way		in affiliative, siding way; concur, assent, approve (to person)	
	POSITIVE	in supportive, indulgent way, direct, tws person		in encouraging, supportive way	

Table C

T & T's Neutral Scoring Category Descriptions

1. <u>Neutral Exchange Speeches</u> (NX) ". . . consists of those speeches which appear to be oriented primarily toward further-ing the group task and which involve either the seeking of or the giving of factual information. These messages are delivered in such a way that the speaker appears to be taking a neutral position in regard both to his own status and to the value he attributes to the person being addressed. The following are examples of two such speeches:

      Son to Father: How long would it take us to drive from here to Santa Cruz? (Spoken in a neutral tone)

      Father to Son: About one hour, depending on the traf-fic conditions. (Also spoken in a neutral tone)."

2. <u>Unclear Meaning Speeches</u> (UM) ". . . consists of speeches delivered in a relatively neutral tone which are unclear in meaning because of the language used or because of the ap-parent incongruity with the context of the conversation. Because the rater does not understand exactly what content meaning the speaker is trying to convey, the rater is unable to make a judgment about the interpersonal aspects of the mes-sage. Speeches in this category may range from those which are vague or garbled without seeming peculiar or unusual to those which not only are unclear, but also seem quite bizarre in terms of their lack of fit with the context of the

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discussion. The following is an example of a speech which

is unclear, but not particularly bizarre:

> Son to Parents: We don't--we don't go--where do we
> go? You say we've got to have something
> for the family. Where are we going to
> go? We're going to go someplace--
> some relative's house. (Spoken in
> relatively neutral tone)."

3. <u>Neutral or Ambiguous Tone Speeches</u> (NT) ". . . consists

of those speeches which seem relatively clear in their content

(lexical) meaning, but in which the interpersonal aspects are

ambiguous primarily because of the flat or neutral tone of

the speech.

In some instances, the ambiguous tone of the speech may

make it difficult for the rater to decide just how the speaker

intended the statement to be taken. For example, one mother

in the context of a discussion about a trip to Mexico, sug-

gested that the family go "below Mexico City." The oldest

son responded to this suggestion with the comment, "Let's

get out in the sticks." The flat, ambiguous tone of this

comment made it difficult for the raters to know whether he

was really supporting his mother's suggestion, or whether he

was being sarcastic and critical.

Another kind of neutral tone speech consists of re-

marks which might be described as "musings," or "asides."

For example, one daughter, after the family had been talking

about the possibility of a visit from the grandparents, said,

"I wonder if she'll (grandmother) come out here?" This speech was delivered in a quiet, musing tone, almost as if she were talking to herself or thinking out loud. In some cases, these musings or "asides" seem to represent an acknowledgement of or a reflection upon the preceding speech. The tone of the speech is such, however, that the speaker appears to be avoiding any clear-cut position in regard to the previous speech.

Although the neutral tone category may appear to include a rather wide variety of speeches, they do seem to have a common property in terms of the interpersonal stance taken by the speaker. The ambiguous or neutral tone employed seems to represent either a toning down or an avoidance of a clear-cut interpersonal position vis a vis the person being addressed."

4. <u>Speeches Lacking Information</u> (LI) ". . . consists of those speeches which lack sufficient information for the rater to judge the interpersonal meaning. They may be either too brief, (one or two words long), or incomplete (the entire speech may be just a fragment of a sentence). An example of the former would be, "Uh, oh," and an example of the latter would be, "Well, that's the way. . . " (trails off).

Table D

Speeches Rated Into T & T's Categories and Placed
in Charted Form; for Families A Through F

Family A
S_1 - Rick, 12
S_2 - Ted, 8

Speeches Given by:

Mother to:

Father to:

Father to:

	M A	M B	S_1 A	S_1 B	S_2 A	S_2 B	All A	All B	S_1&S_2 A	S_1&S_2 B	Total A	Total B
AP		1			2	6	1	6		1	3	14
BC	1	2			1	1					2	2
DE	1							1			1	0
FG											0	0
HI	1	1	1			1	1				1	3
JK	1	1			1		2				3	1
LM	2	2									5	2
NO	1				5	4	3				6	4
LI	2	2	1					1			6	4
NM	1										0	0
NT											0	0
NX	1				2						3	0
Tot.	7				11		7		1		30	

Mother to:

	F A	F B	S_1 A	S_1 B	S_2 A	S_2 B	All A	All B	Total A	Total B
AP	2	3		2		7	1	2	3	14
BC	1	1		1	1	3			2	5
DE		1	1		4	1			6	2
FG					1	1			1	0
HI					1				1	1
JK									0	0
LM					1				1	0
NO	2		2		6	3	1		11	3
LI					2	2			2	2
NM									0	0
NT									0	0
NX									0	0
Tot.	5		3		17		2		27	

Son₁ to:

	F A	F B	M A	M B	S_2 A	S_2 B	All A	All B	Total A	Total B
AP	1	1	1	1	1	1		1	2	4
BC	1								1	1
DE	1	1			1	1			1	2
FG	1		1	1					1	2
HI	3		1	1					4	1
JK	1	1	1	2					2	3
LM									0	0
NO	1								1	0
LI	1		1		2	2	2	2	5	4
NM				2					0	2
NT									0	0
NX	1		1						2	0
Tot.	7		5		4		3		19	

Son₂ to:

	F A	F B	M A	M B	S_1 A	S_1 B	All A	All B	Total A	Total B
AP	5	8	2	4			1	1	8	13
BC		1	3	2					3	3
DE	1				1				1	0
FG									1	0
HI			1	1		1			1	2
JK			2	2					2	2
LM	1		1						2	0
NO									0	0
LI	1	1	1	1					2	2
NM				1					0	1
NT									0	0
NX	3		1		1		1		4	1
Tot.	11		11		1		2		24	

Family B
D - Susan, 16
S - David, 10

Speeches Given by:

Father to:

	M A	M B	D A	D B	S A	S B	All A	All B	Total A	Total B
AP	1	1	1	2	2	3	3	2	6	8
BC	1	1							1	1
DE	1	1	1		1			1	2	1
FG	1	2	1		1	2	1	1	3	6
HI		1	2				1	1	4	0
JK		1	3				2	1	7	1
LM	1	1	2	2	5		2	1	4	9
NO	3	2	2	2	1	1		3	3	8
LI	3	3			2	1			5	4
UM					1				1	0
NT									0	0
NX					2				2	0
Tot.	10		7		12		9		38	38

Mother to:

	F A	F B	D A	D B	S A	S B	All A	All B	S&D A	S&D B	Total A	Total B
AP		2					1	2		1	1	5
BC	3	2			1	1	1				5	4
DE		1		1	1	1	1				1	0
FG	2	1	1								3	1
HI	1	1		1	1	1		1	1		3	2
JK						1					0	2
LM	1	1	2	1				1			3	3
NO				1	1						1	1
LI	1	1			2	2	2	1			5	4
UM											0	0
NT											0	0
NX											0	0
Tot.	8		3		5		5		1		22	

Daughter to:

	F A	F B	M A	M B	S A	S B	All A	All B	Total A	Total B
AP	2	4							2	5
BC	1			1		1			1	2
DE	1				2				3	0
FG	1	1	1						1	1
HI									0	0
JK									0	0
LM	2	1	1	1	1	1			3	3
NO									0	0
LI	1	1	1	1					2	2
UM		1	1						1	0
NT									0	0
NX									0	0
Tot.	7		3		3				13	

Son to:

	F A	F B	M A	M B	D A	D B	All A	All B	Total A	Total B
AP	1	3		1					2	5
BC	2			2					1	2
DE		1		2					3	0
FG		1				1			1	1
HI									0	0
JK									0	0
LM	6	1	1	1	2	1	1	1	3	3
NO	1		1	1					0	0
LI	2	2	1	1			4	4	2	2
UM	1		1			1		1	1	0
NT									0	0
NX									0	0
Tot.	13		6		2		6		13	27

Family C
S_1 – Steve, 14
S_2 – Jeff, 11

Speeches Given by:

Father to:

	M A	M B	S_1 A	S_1 B	S_2 A	S_2 B	All A	All B	Total A	Total B
AP	11	11	1	1	3	1			15	13
BC		4		1		2			0	7
DE					1	1			1	1
FG				1					0	1
HI	1								1	0
JK						1			0	1
LM									0	0
NO	1								1	0
LI	2		2						4	0
UM									0	0
NT									0	0
NX	3					2			3	2
Tot.	18	15	3	3	4	7			25	25

Mother to:

	F A	F B	S_1 A	S_1 B	S_2 A	S_2 B	All A	All B	S_1&S_2 A	S_1&S_2 B	Total A	Total B
AP	6	4		1	1	2	1	3			8	10
BC		1				1					0	2
DE	1						1				2	0
FG					1		1				2	0
HI					1			1			1	1
JK	3	7						1			3	8
LM						1		1			0	2
NO	1		2	2	1	1	1		1	1	6	4
LI			2	1		1					2	2
UM	1				1		1	1			3	1
NT											0	0
NX	3						1	1			4	1
Tot.	15	12	4	4	5	6	6	8	1	1	31	31

Son₁ to:

	F A	F B	M A	M B	S_2 A	S_2 B	All A	All B	Total A	Total B
AP	2	5	2	2			1	1	5	8
BC				2			1	1	1	3
DE	2								2	0
FG	1								1	0
HI				1				1	0	2
JK	1	2		1					1	3
LM	1	3						1	1	4
NO									0	0
LI	2	1	1	1	3	2	1	1	7	5
UM			2						2	0
NT			1						1	0
NX	3						1		4	0
Tot.	12	11	6	7	3	2	4	5	25	25

Son₂ to:

	F A	F B	M A	M B	S_1 A	S_1 B	All A	All B	Total A	Total B
AP	4	4	1	2					5	6
BC	1	1	1	3					2	4
DE									0	0
FG									0	0
HI			1	1	1				2	1
JK			2	2		1			2	3
LM								2	0	2
NO					1				1	0
LI							1	1	1	1
UM									0	0
NT									0	0
NX	6	2							6	2
Tot.	11	7	5	8	2	1	1	3	19	19

Speeches Given by:

Family D
S₁ - Tony, 12
S₂ - Mike, 7

Father to: / Mother to:

Father to:

	M		S₁		S₂		All		S₁&S₂		Total	
	A	B	A	B	A	B	A	B	A	B	A	B
AP	3		7	6	4	7		1			12	17
BC			2	7	1	1					2	8
DE	1		1	2	1						2	3
FG			4			3					0	7
HI							1		1	1	1	1
JK	1	2			2	1	1				1	4
LM	2				1						0	1
NO	7				8	1	1				18	1
LI	4	3									4	3
UM	1				1						1	0
NT											0	0
NX	1				2		1				4	0
Tot.	5		22		16		1		1		45	45

Mother to:

	F		S₁		S₂		All		S₁&S₂		Total	
	A	B	A	B	A	B	A	B	A	B	A	B
AP	1	1					1		1	1	1	1
BC						1				0	0	1
DE											0	1
FG											0	0
HI	1	1								1	1	1
JK	1	1								1	1	0
LM	1									2	1	2
NO			1	1	1	1	1	1		3	3	3
LI											0	0
UM											0	0
NT	1		1		1		1		1	3	3	0
NX	3		1		3		1		1	9	9	
Tot.												

Son₁ to: / Son₂ to:

Son₁ to:

	F		M		S₂		All		S₁&S₂		Total	
	A	B	A	B	A	B	A	B	A	B	A	B
AP	5	2					1				7	2
BC	3	5									3	5
DE	4										4	0
FG	1										0	1
HI	3			1							1	3
JK	4	1	1				1				4	5
LM	3										1	3
NO	1	1									1	1
LI	4										3	4
UM	1										1	0
NT							2				0	2
NX	1	2					2				1	0
Tot.	22										26	

Son₂ to:

	F		M		S₁		All		S₁&S₂		Total	
	A	B	A	B	A	B	A	B	A	B	A	B
AP	4	3									4	3
BC	4	5									4	5
DE						1					0	1
FG		2									0	2
HI		1		1							0	2
JK	1	2									1	2
LM		2									0	2
NO		2									0	2
LI	5	2			2	1					7	3
UM											0	0
NT	3				2						0	0
NX		1	1		2						4	0
Tot.	17				2						20	

Family E
S - Martin, 15
D - Stephanie, 10

Speeches Given by:

Father to:

	M A	M B	S A	S B	D A	D B	All A	All B	Total A	Total B
AP	1	2	2				1	2	4	4
BC						2			0	2
DE	1								1	0
FG		1	1		1	1			2	1
HI			1	1					1	1
JK			2	1					1	3
LM	2							1	5	1
NO	2								2	0
LI	1	1			1	1			1	2
UM	1	1							0	2
NT	1								0	1
NX									0	0
Tot.	9		5		1		2		17	

Mother to:

	F A	F B	S A	S B	D A	D B	All A	All B	Total A	Total B
AP	6	5	1	4	1	6	3	4	11	19
BC			3	1	3	1		1	6	3
DE	2		2		6				8	0
FG		2	2	1	2	5			5	8
HI									0	0
JK	1	2	1	1					0	3
LM								1	0	3
NO	2						1		3	0
LI			4	3	1	3	1		7	6
UM									1	0
NT									0	0
NX					1				1	0
Tot.	10		11		15		6		42	

Son to:

	F A	F B	M A	M B	D A	D B	All A	All B	Total A	Total B
AP	3		6						3	6
BC	2	1	3		1				3	4
DE	1								2	0
FG	1	1	1		3				0	5
HI	1	1	1						1	1
JK			1						1	0
LM	1	1	1						1	2
NO	1	1	1						3	0
LI	2	1	1	2	2				4	3
UM	1								0	1
NT									0	0
NX	1	1	2						4	0
Tot.	4		12		6				22	

Daughter to:

	F A	F B	M A	M B	S A	S B	All A	All B	Total F&M A	Total F&M B
AP	1	1	3	4	1	2			5	7
BC	1	1	2	2	1				4	3
DE			1		1				2	0
FG			1	2	1	1			1	4
HI									0	0
JK			1		1				1	0
LM			1		1				1	0
NO							1		2	0
LI	1			1	2	1	2		2	2
UM									0	3
NT			1				1		1	0
NX									0	0
Tot.	2		9				6	2	19	

Family F
D – Karen, 13
S – Tom, 11

Speeches Given by:

Father to:

	M A	M B	D A	D B	S A	S B	All A	All B	S&D A	S&D B	Total A	Total B
AP		1		1	2	5	2	2		2	3	10
BC				1	1	1	1	1	1		1	2
DE											0	0
FG					1		1				1	0
HI	2				1	1	1		1		5	0
JK					2	2	2		4	4	7	5
LM	1		1	1	2	1	1	1			5	4
NO			1								1	2
LI					1		1	1			1	1
UM											0	0
NT											0	0
NX											0	0
Tot.	3		3		9		6		6	6	24	

Mother to:

	F A	F B	D A	D B	S A	S B	All A	All B	S&D A	S&D B	Total A	Total B
AP		1				2		1	1	1	1	5
BC				1	2						2	1
DE											0	0
FG			1	2		1					1	3
HI											0	0
JK				1							1	2
LM			1	1	1	1	2	1		1	5	7
NO			2		4				1		7	1
LI				1	1	1	1	1			2	1
UM											0	0
NT											0	0
NX					1						1	0
Tot.	1		5		9		3		2		20	

Son to:

	F A	F B	M A	M B	D A	D B	All A	All B	Total A	Total B
AP	2	3	1	2	1	1	1	3	6	9
BC	1		1	1				1	2	6
DE								1	3	0
FG	1								0	1
HI			2	2					1	1
JK	1	4	2						1	3
LM	1	1	2	6	1				4	4
NO			3		1	2	2		2	0
LI	2	1	3	1					7	5
UM									0	0
NT									0	0
NX									3	0
Tot.	8		12		3		4		29	

Daughter to:

	F A	F B	M A	M B	S A	S B	All A	All B	Total A	Total B
AP	4	1	3	2	2	1	1	1	4	9
BC	1	1	3	1	1	1			2	1
DE	1								1	1
FG	1				1				3	0
HI		1	1						2	2
JK	3	1							2	6
LM	3	1	1		1	1			5	6
NO	1	1							3	0
LI	1	2	2		1	1	1	1	5	2
UM									0	0
NT									0	0
NX	2	1							0	0
Tot.	9		9		5		2		27	

Table E

Actual Rankings of the Functionality of Family Interaction

Rankings of the six dyads in each family from most to least
functional: 1 = most functional; 6 = least functional

Family	Dyad	E	Judge	r'	Family	Dyad	E	Judge	r'
A	F-M	5	1	-.829	D	F-M	6	3	-.771
	F-S_1	3	3			F-S_1	5	1	
	F-S_2	1	5			F-S_2	4	2	
	M-S_1	4	4			M-S_1	3	4	
	M-S_2	6	2			M-S_2	1	5	
	S_1-S_2	2	6			S_1-S_2	2	6	
B	F-M	5	6	+.600	E	F-M	2	2	-.257
	F-D	2	2			F-S	3	4	
	F-S	1	1			F-D	5	1	
	M-D	6	3			M-S	1	6	
	M-S	3	5			M-D	6	5	
	D-S	4	4			S-D	4	3	
C	F-M	1	1	+.714	F	F-M	6	6	+.143
	F-S_1	2	4			F-D	1	4	
	F-S_2	5	3			F-S	3	1	
	M-S_1	4	5			M-D	5	3	
	M-S_2	3	2			M-S	4	2	
	S_1-S_2	6	6			D-S	2	5	

Rankings of the various dyads across the six families from
most to least functional:

Family	M-F Dyad E	Judge	F-C Dyad E	Judge	M-C Dyad E	Judge	"Overall"-all dyads (excl. child-child) E	Judge
A	4	3	4	5	6	5	5	5
B	3	4	1	2	2	2	2	2
C	1	1	3	1	1	1	1	1
D	6	5	6	6	5	4	6	6
E	2	2	5	4	4	6	4	3.5
F	5	6	2	3	3	3	3	3.5
r'		+.89		+.77		+.83		+.99

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Comparison of $\underline{E}$'s and the judge's rankings of the "overall" functionality of family interaction with Moore's (1966) ranking.

Family	Judge	Moore	$\underline{E}$
A	5	5	5
B	2	1	2
C	1	3	1
D	6	6	6
E	3.5	4	4
F	3.5	2	3
r'		+.79	+.83

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