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   THE EFFECTS OF FOCUSED VIDEOTAPE
   FEEDBACK ON FAMILY COMMUNICATION
   PATTERNS DISPLAYED IN PROBLEM-SOLVING
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   The University of North Carolina at
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   Home Economics

THE EFFECTS OF FOCUSED VIDEOTAPE FEEDBACK ON

FAMILY COMMUNICATION PATTERNS DISPLAYED
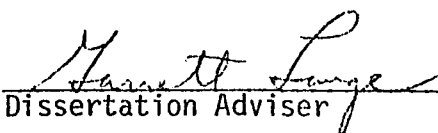
IN PROBLEM-SOLVING TASKS

by

Richard M. Blackstock

A Dissertation Submitted to
the Faculty of the Graduate School at
The University of North Carolina at Greensboro
in Partial Fulfillment
of the Requirements for the Degree
Doctor of Philosophy

Greensboro
1975

Approved by

_____
Dissertation Adviser

APPROVAL PAGE

This dissertation has been approved by the following committee
of the Faculty of the Graduate School at the University of North
Carolina at Greensboro.

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Committee Members _____
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BLACKSTOCK, RICHARD MAYNOR. The Effects of Focused Videotape Feedback on Family Communication Patterns Displayed in Problem-Solving Tasks. (1975) Directed by: Dr. Garrett Lange. Pp. 96

It was the purpose of this study to investigate the effects of videotape feedback for normal families in facilitating a more equalitarian pattern of verbal interaction and better group and individual score performance when engaged in a problem-solving task requiring group consensus. It was hypothesized that families with adult members scoring low on the short-form dogmatism scale (Troldahl & Powell, 1965) and exposed to feedback from a videotape of their first group session would display more equalitarian patterns of verbal interaction from pretest to posttest than families comprising the other three groups (i.e., feedback group-high dogmatic; no feedback group-low dogmatic; and no feedback group-high dogmatic). In addition, it was hypothesized that videotape feedback for normal families would be instrumental in producing better group and individual score performance on the second of the two experimental tasks requiring group consensus.

The subjects were 32 white, middle-class, protestant families. Each family consisted of father, mother, and two children (between the ages of 12 and 18). The researcher used Hollingshead's (1957) Two Factor Index of Social Position to insure that each of the 32 families were of middle-class occupational and educational levels.

The data were collected through the use of two experimental tasks-- the NASA Moon Survival Problem (Hall, 1963), and the Desert Survival Problem (Experiential Learning Methods, 1973). Group and individual

scores for these two tasks were analyzed with a four-factor analysis of variance. In addition, a numerical tabulation of the frequency of verbal communications made by each family member during the pretest and posttest group sessions served as an individual's verbal contribution score. In order to measure the equality of verbal contributions within families, a standard deviation was calculated to assess the variability of the four individual verbal contribution scores per family in both the pretest and posttest sessions.

The significance level was set at the $p < .05$ level for a two-tailed test. Hypothesis one, which stated that low dogmatic families exposed to video feedback from their first group session would display more equalitarian patterns of verbal interaction pretest to posttest than the other three groups, was not confirmed. Hypotheses two and three, which stated that low dogmatic families exposed to video feedback would display better group and individual score performance pretest to post-test than the other three groups also was not confirmed. Contrary to the hypothesis concerning individual score improvement, family members in the no feedback group made significant improvement on their individual score performance from pretest to posttest (LSD = $p < .05$), while the individual score performance for family members in the feedback condition decreased from pretest to posttest (LSD = $p < .05$).

The results of the present study do not bear on the long-term potential of videotape feedback; they simply point to its short-term limitations in bringing about significant change in the equality of verbal interaction patterns among family members and their subsequent

rate of improvement in group score performance when the family is required to operate on the basis of group consensus.

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CHAPTER I

INTRODUCTION

The development and utilization of videotape feedback as a method
of self-confrontation has received widespread attention recently. Most
of the research in this area has focused on the effects of videotape
feedback for individuals (teachers and counselors), while comparatively
little research has been conducted to test the effects of videotape
feedback on the behavior of small groups. A comprehensive search of the
literature (Aikire, 1969; Baker, 1970; Cotrell & Doty, 1971; Fuller &
Manning, 1973; Nielsen, 1964) revealed no research related to videotape
feedback for the purposes of self-confrontation with normal families
using both parents and two children.

The principal purpose of this investigation was to determine the
effects of videotape feedback for normal families in facilitating a
more equalitarian pattern of verbal interaction and better group score
performance when engaged in a problem-solving task requiring group
consensus.

An investigation of the literature indicates that a variety of
populations have been used to test the effectiveness of video feedback
as a method of self-confrontation including the following: families
in therapy (Alger & Hogan, 1967; Kaswan & Love, 1969; Paul, 1966;
Perlmutter et al., 1967; Satir, 1964; Spring, 1974); alcoholics
(Carrere, 1954, 1955, 1958; Munoz, 1972; Paredes & Cornelison, 1968);

criminals (Berner, Grunberger, & Sluga, 1971); adolescent boys on probation (Kidorf, 1963); groups involved in brainstorming (Dillon et al., 1971); psychiatrists (Berger, 1970); basketball players (Cooper, 1970); and salesmen (Brophy, 1971).

In addition, a variety of teaching and academic disciplines have investigated the potential of videotape self-confrontation for training purposes: agriculture (Hedges, 1970); counseling (Cerra, 1969; Ivey, Normington, Miller, Morrill, & Haase, 1968; Poling, 1965; Yenawine & Arbuckle, 1971); mathematics (Gall et al., 1971); karate (Burkhard, Patterson, & Rapue, 1967); engineering (Perlberg, 1970); vocational-technical education (Cotrell & Doty, 1971a; Perlberg et al., 1968); language (Calabro, 1969; Dugas, 1967; Eder, 1971); interpersonal communication (Solomon, Perry, & Devine, 1970); religion (Hemrick, 1971); and drama (Weber, 1967).

However, it is in the field of teacher training that videotape self-confrontation has been most extensively used. Specifically, pre-service teachers are either expected to, or are required to, make use of this particular learning device (Fuller & Manning, 1973). Educators, as well as other professionals, speak enthusiastically of the ability of videotape feedback to effect behavior change (Alger & Hogan, 1969; Berger, 1969-1970; Carleton College, 1966; Hess, 1967; Hoops & Neil, 1970; Kalick, 1971; Lynch, 1969; Marshall & Hegrenes, 1970; Sanford, 1969; Stroh, 1969).

Nature of the Study

While videotape feedback has been used with varying degrees of success to effect behavior change in individuals in a number of populations, further study is needed to determine its effects for the interaction occurring in a small group setting (Spring, 1974).

Nielsen (1964) and Stoller (1968a, 1968b) contended that videotape feedback provides a unique perception of self in interaction with others that is not possible through other means. That is, through videotape feedback group members gain the opportunity to realize a unique perception of self in the context of a group setting--an environment favorable to evaluation of self and possibly subsequent behavior change. Alger and Hogan (1967) reported that families in therapy exposed to videotape feedback experienced long-range benefits including increased sensitivity to communication patterns and cooperative activity. The question arises as to whether or not similar patterns of benefit would result for families not in therapy.

The present study focused on the feasibility of using videotape feedback with normal families in order to facilitate a more equalitarian pattern of verbal interaction when engaged in a problem-solving situation. It was hypothesized by this researcher that family members, when presented with videotape feedback (the independent variable) of their group interaction, while completing a survival problem task requiring group consensus, would subsequently achieve better performance (lower score) on a posttest group survival problem task. In addition, it was hypothesized that family members exposed to videotape feedback of

their group pretest session, would evidence a more equalitarian pattern of verbal contributions during the group posttest session. These expected shifts in performance by family members should occur due to the experienced discrepancy observed between intended behavioral goals and actual behavior recorded on videotape during the group pretest session and later presented as a form of feedback to each subject. Reports of practicing psychotherapists, as summarized by Jervis (1966), suggest that people prefer to think of themselves as "democratic" in their interactions with others, and thereby seek to avoid being labeled by others as "dogmatic" or "rigid." Instead they seek, to some degree, to be seen as "democratic" or "equalitarian."

Festinger (1957) elaborated on the above discrepancy in his discussion of cognitive dissonance. Festinger postulated that an internal consonance existed when a person's beliefs about a given situation differed from the actual situation, cognitive dissonance occurred and the person tended to move toward consonance by altering either the situation or his belief about the situation. Similarly, Osgood (1957) and Rosenberg and Abelson (1960) observed a tendency on the part of persons to maintain a consistency among the affective, cognitive, and behavioral aspects of their personality when perceiving a given situation. When one or more of these three aspects were inconsistent with each other, internal dissonance occurred and the person began to modify these aspects in an effort to restore consonance or consistency.

The survival tasks used in the pretest and posttest sessions required subjects to decide and rank, in order of their importance for

survival, 15 items necessary for their survival either on the lighted surface of the moon or in the Sonora Desert. Successful performance on these problem-solving tasks occurred when individual and group scores of the subjects corresponded to the score (i.e., rankings) made by an expert in each of the two respective areas: (a) survival on the lighted surface of the moon; and (b) survival in a desert climate.

Mace and Mace (1974), Satir (1964), and Lederer and Jackson (1968) suggested the need for preventive measures for normal families to handle problems and crises rather than waiting until therapy is needed. Hopefully, this study will contribute further understanding as to the directions to be pursued in preventive family therapy.

Assumptions

The following assumptions were made in this study:

1. While it is possible that a family could arrive at a score similar to the expert's without any effort toward equality of verbal contributions by family members, it is highly unlikely since past use of these tasks with over 4,000 subjects indicates that a group's ability to score higher or lower is only marginally dependent on the amount or quality of information group members bring with them when they enter the task situation. It is assumed that successful performance on these tasks is much more dependent upon the processes used by group members to arrive at consensus as defined in the task itself, i.e., the degree to which family members participate to equal degrees in task solution.

2. Dogmatism is a variable associated with one's beliefs about equalitarianism and the way a person reacts to dissonance when beliefs

or goals and actions are incongruent. The subjects in the present study found to be highly dogmatic, as indicated by their scores on the short-form dogmatism scale, were assumed to be less inclined toward an equalitarian pattern of verbal interaction within the family when compared to low dogmatic families.

Definitions

Stoller (1968a) defined _feedback_ as verbal and nonverbal responses from others to a unit of behavior, provided as close in time to the behavior as possible, and capable of being perceived and utilized by the individual initiating the behavior. It may serve to steer and give direction to subsequent behavior. It may also serve to stimulate changes in the behavior, feeling, attitude, perception, and knowledge of the initiator (p. 30). A modification of Stoller's definition was used in this study. Whereas Stoller speaks of the responses to a particular behavior being given as close in time to the behavior as possible, this researcher modified the response (videotape feedback) by delaying it for a time to be specified later in the study.

More specifically, _self-confrontation feedback via videotape_ was defined as the playback to a client or subject of some videotaped activity in which the subject was engaged--in this case, stressful interaction (Nielsen, 1964) within a small group.

Focusing of the videotape feedback was defined as "highlighting" important elements of the feedback (Skinner, 1938). In the present study, focusing was accomplished by asking each subject to list desired or expected behaviors prior to the completion of the experimental task

by the group (family). This list was then used to "highlight" certain elements of the videotape feedback when observed by the respective subject (Jensen, 1968). Every subject in the study was asked to list these goals even though only those subjects receiving videotape feedback used the goals as a focusing device when viewing the videotape. Those subjects not receiving videotape feedback used their stated goals in conjunction with score results in a group discussion.

A family, as the unit of study here, was defined as father, mother, and two children between the ages of 12 and 18 years.

An equalitarian pattern of interaction was defined by the degree to which all family members showed similar frequencies of verbal contributions when discussing the ranking of the survival items in the pretest and posttest sessions. A verbal contribution was defined as one or more words that a subject spoke while engaged in the group rankings of items on the survival problem tasks. In addition, the type of verbal contribution was defined as the nature of the comment with regard to one of three categories: (a) agreement; (b) clarifying statements or questions; and (c) disagreement.

Statement of the Problem

Although a considerable body of research has been amassed concerning the effects of videotape feedback for purposes of self-confrontation with a variety of populations, there is little information bearing on the efficacy of such a technique for family interaction. There is reason to believe that the normal family, as a specialized small group, would derive positive benefit in terms of behavior change of individuals

when exposed to focused videotape feedback of a problem-solving situation.

Hypotheses

The present study involved an analysis and comparison of the effects of videotape feedback given to 16 families in the experimental group with 16 families in the control group (no videotape feedback). The experimental group (receiving videotape feedback) was further divided into two categories: (a) eight families containing adults-- both of whom scored high in dogmatism; and (b) eight families containing adults--both of whom scored low in dogmatism. The control group was likewise divided: (a) eight families containing adults--both of whom scored high in dogmatism; and (b) eight families containing adults-- both of whom scored low in dogmatism.

The following hypotheses were tested in order to investigate the problems cited above:

1. Families with (a) adult members scoring low on the dogmatism scale and (b) exposed to feedback from a videotape of their first group session will display more equalitarian patterns of interaction (as measured by the frequency and type of verbal contributions made by each family member) from pretest to posttest than families comprising the other three groups (i.e., feedback group-high dogmatic; no feedback group-low dogmatic; and no feedback group-high dogmatic).

2. Families with (a) adult members scoring low on the dogmatism scale and (b) exposed to feedback from a videotape of their first group session will display higher levels of group score improvement from

pretest to posttest on the survival problem tasks than families comprising the other three groups (i.e., feedback group-high dogmatic; no feedback group-low dogmatic; and no feedback group-high dogmatic).

3. Families with (a) adult members scoring low on the dogmatism scale and (b) exposed to feedback from a videotape of their first group session will display better average individual score improvement than families comprising the other three groups (i.e., feedback group-high dogmatic; no feedback group-low dogmatic; and no feedback group-high dogmatic).

4. The frequency of verbal contributions made by adults (relative to the verbal contributions of other family members) who scored high on the dogmatism scale in both the feedback and no feedback groups will be significantly higher than for adult members who scored low on the dogmatism scale in both the feedback and no feedback groups.

Dependent Measures

The dependent measures employed in the present study included the following: (a) numerical tabulation of the frequency of verbal contributions made by each subject during the group ranking portion of the Desert Survival Problem (DSP) and Moon Survival Problem (MSP) in both pretest and posttest sessions; (b) group scores on the DSP and MSP for pretest and posttest sessions comparing subjects in the feedback and no feedback conditions; and (c) pretest and posttest means of individual scores within each family on the DSP and MSP in order to evaluate the average individual score improvement.

CHAPTER II

RELATED LITERATURE

Decision-making in the family is a very complex, yet necessary
task. The factors involved in the family decision-making process have
received considerable attention in recent family literature (Burchinal &
Bauder, 1965; Heer, 1962; Hill, 1965; King, 1969; Olson, 1969; Rollins,
1963; Schlesinger, 1962; Smith, 1967). However, most of the studies
regarding familial power have concentrated on the decision-making
aspects relative to the marital dyad. Consequently, a large gap is
present in research related to the total configuration of the family.
Safilios-Rothschild (1970) suggested that total configuration would mean
taking into account all of the possible areas influenced by the exercise
of power in the family. The present study investigated the parent-
child relationship as well as the marital dyad with regard to the
decision-making process occurring within the family. The results of
the present study should contribute information needed to begin to fill
this gap in research related to the contextual study of the family in
the decision-making process.

Conceptualizations of Interpersonal Interaction

Some degree of success has been achieved toward a contextual view
through observational techniques such as the Simulated Family Activity
(SIMFAM) (Bahr, 1969; Straus & Tallman, 1966) and the Inventory of

Marital Conflicts (IMC) (Olson, 1969). In each of these techniques, members of the family are observed as they interact under conditions of stress to simulate actual family experiences. A major advantage of the use of these observational techniques lies in their ability to identify possible child-to-parent influence during the decision-making process.

Use of the observational technique with families in reference to decision-making was reported by Murrell and Stachowiak (1965). The results of their study confirmed Parson's (1955) description of family roles: Family power is ascribed to the parents rather than the children. Furthermore, it was reported by these investigators that effective family leadership depends upon a greater influence of parents, as opposed to children, acting in a mutually supportive, cooperative fashion--with one parent usually taking a more dominant leadership role.

Strodtbeck (1954) reported that familial power is directly related to high participation. Since parents usually control the verbal interaction with regard to who speaks and for how long, this finding by Strodtbeck confirms a typical familial pattern. Lang (1969), however, found that potential danger lies in a situation in which either parents or children exercise the major part of decision-making power to the exclusion of the other. The author found that in families where parents are the sole participants in the exercise of power, children are more likely to experience responsibility as external to themselves. Conversely, in families where children are allowed to exercise major power, they tend to be preoccupied with their own unmet needs and ignore or remain indifferent to the needs of others. Lang (1969)

concluded that the optimum condition is shared power situation in which children can experience a sense of power and recognize their responsibility for its wise use.

A number of theoretical frameworks have been put forth to explain the dynamics of interpersonal processes occurring as families engage in their decision-making activities. Blood and Wolfe (1960) suggested a "resource theory" whereby decisions in the family are greatly influenced by the relative resources of education, occupation, income, and social participation of the husband and wife. Rodman (1972), in refining the "resource theory" for its applicability in various cultural contexts, noted that where norms are flexible enough to permit some negotiation of the use of marital power, a positive correlation exists between the husband's status and his power. This finding holds true in several countries including Germany and the United States. The difficulty with this framework arises from its lack of reference to the influences of children and other significant persons constituting the family structure. Burgess and Locke (1953), elaborating on Ogburn's contentions concerning the decline of family functions, suggested that a change or shift had occurred as opposed to a decline. Ogburn (1964) contended that family functions have been lost to other institutions. Among those lost are these: economic, recreational, religious, community power, and protection. Vincent (1966), in an attempt to specify the conditional validity of Ogburn's loss of family functions hypothesis, suggests that the loss pertained only to the traditional content and form. Vincent contended that the basic functions were changed (e.g., the economic

production function was changed to the economic consumption function) with reference to traditional content and form--not lost as Ogburn had postulated during the time when America was still a rural nation. Burgess and Locke, building upon Ogburn's perception of a shift occurring with regard to these family functions, argued that the function of companionship had taken on major importance in the family concurrent with the decline of the above-mentioned functions. Consequently, Burgess and Locke viewed this shift to closer interaction between family members as a unifying factor. This resulting unity would more often lead to a greater ability to arrive at family decisions based upon democratic procedures.

Hill (1949), as a result of his studies with families, concluded that

> . . . successful family living depends upon the use of the consultative process in decision making, and that democratic family forms are well prepared to carry out that process (p. 347).

Interactional Processes of Small Groups

Bales and Strodtbeck (1951) were able to test decision-making hypotheses with small groups that simulated typical family activities requiring group consensus. Using Bales' (1968) Interaction Process Analysis to observe results, the following hypotheses were postulated:

1. There are three phases of preoccupation with the problem itself: (a) orientation--identifying the problem, (b) evaluation-- questions and statements of appraisal, and (c) control--heightened pressure to secure agreement.

2. A steady increase in both negative and positive reactions in the interpersonal area will occur as the problem-solving is in process.

The authors found support for both hypotheses.

Turner (1970) noted that although the study by Bales and Strodtbeck did not deal with families, it is quite likely that the three phases described do occur in family decision-making as well. However, Turner suggested that portions of each phase have been resolved prior to the specific problem-solving session in question. Thus, orientation and evaluation, having been resolved to some extent, become secondary while control plays a disproportionately large part in the interaction. Turner would hypothesize that consensus within a family would occur most often where a greater degree of mutual understanding of individual values exist. In order to facilitate this sense of understanding, listening skills should be of prime importance, and hence, operative with family members desiring consensual agreement.

Goffman (1959), speaking of interactional processes between and among individuals in a group, defined a working consensus as this:

> Together the participants contribute to a single over-all definition of the situation which involves not so much a real agreement as to what exists but rather a real agreement as to whose claims concerning what issues will be temporarily honored. Real agreement will also exist concerning the desirability of avoiding an open conflict of definitions of the situation (p. 10).

Thus Goffman's definition of a working consensus more nearly agrees with Turner's (1970) definition of accommodation:

> More common (than consensus) is the kind of decision in which some members give assent in order to allow a decision to be reached and not because they are privately convinced that the decision in question is best (p. 98).

Mead's (1934) theory of symbolic interaction would suggest that with each family member engaged in problem-solving, the social transactions occurring would provide for the establishment, maintenance, and alteration of the self. Mead proposed that meaning, achieved through the symbolism involved in the interaction, would vary to some degree for each person. The degree to which meaning is similar for the individuals involved would determine the effectiveness and accuracy of the social communication.

Stimulated by Burgess' view of the family as a unity of interacting persons, Farber (1962) developed a classification system of family types subsequently used to study family organization: (a) child-oriented family; (b) home-oriented family; and (c) parent-oriented family. These categories led to greater understanding of how families organize their respective interactions to bring about a consensus of meaning--a key variable in Mead's theory of symbolic interaction

Hess and Handel (1959), studying nonclinical midwestern families, used interaction theory as a basis for establighing a framework for analysis of family interactions. The authors concluded that (a) families are in constant process of moving through patterns of separateness and connectedness; (b) families structure their interactions around themes that tend to unify their image as a family; (c) families develop modes of interaction into central family concerns or theses; (d) each family establishes limits, goals, and expectations that are continually tested as new situations arise; and (e) families deal with the significant biosocial issues inherent in family life.

Small group leadership studies provide further information as to the nature of problem-solving interactions. Although this literature does not address itself directly to the family group, it does provide information as to what might be expected in family interaction patterns.

King (1962), gathering results from thirteen small group experiments, found that a group will be highly cohesive and perform well in goal achievement when members of the group realize (a) that some existing personal need can be fulfilled by functioning with the group; (b) that some personal gain may be attained through belonging to the group; (c) that possibilities of obtaining personal prestige are possible for him in the group; (d) that mutual assistance can be expected as the members interact in a cooperative manner; and (e) that all members share a common fate or future. This set of criteria is, for the most part, a reality present to some degree in many nonclinical American families.

Phillips and Erickson (1970) suggested that for families who work toward consensus in their problem-solving attempts, the context is this:

> The essence of the whole business, of course, is the impact that the various members have on each other. If they can mutually affect each other so that common ground and common decision are established then the group output is usually both satisfactory and workable. If they clash, this does not mean that the output will necessarily be inferior, but it may mean that they are unable to function together as a group. Clash results when the rhetoric of conciliation and consensus fails (p. 171).

Thus, in a family where past associations and interactions with each other contribute toward the establishment of common ground and a common decision, one would expect that particular family to be able to engage

in consensual problem-solving--given that the mutual interaction is positively rewarding.

Penland and Fine (1974) noted the importance of feedback to group members in the following discussion on the need for recognition:

> Perhaps the most devastating experience in a group is to have one's contributions ignored. An angry answer is tolerable; no answer is humiliating to the individual and results in a loss of input to the group. When a member makes a comment or offers a suggestion, he needs to gauge its quality by group reaction. When he gets no response, the contributing member cannot know if he is getting his point across, whether he was understood and his point tacitly accepted or rejected, or whether it was even relevant to the discussion. In any event, his self-image has been damaged (p. 25).

It is this danger of damage to the self-image leading to psychological withdrawal that could occur within a family. The inevitable result would be a lack of consensus in problem-solving.

Zander and Wolfe (1964) and Zajonc (1963) were able to specify the types of feedback useful to group members. These authors found that the more complete the feedback the better performance on subsequent group tasks requiring consensual agreement. Members of groups who were given data about (a) the success or failure of the entire group; (b) his own individual performance; and (c) the performance of each other group member--performed at a higher level than members of the control group who received less or no feedback. The specificity of feedback noted above is especially helpful in reference to the present study since its basic premise posits a cause and effect relationship to behavior change as the feedback is presented in its total context through the medium of videotape.

The Functions of Videotape Feedback
in Altering Behavior

A large body of research related to videotape feedback has been
concerned with such issues as the technique's potential for: (a) pro-
ducing stress and arousal anxiety in clinical settings (Fuller &
Manning, 1973); (b) producing inhibitory responses during psychotherapy
(Staines, 1969; Truax, 1966); and (c) emphasis on body and voice aware-
ness (Fuller & Baker, 1970; Lawrence, 1971). The literature cited
below focuses upon the effects of videotape feedback on the self-
perception, task performance, and interpersonal openness of individuals
who, in most cases, represent the normal population.

Self-esteem

Studies concerned with self-esteem suggest no positive effects of
an enduring nature that could be attributed to videotape feedback.
Although several studies do report significant increases in self-esteem,
such increases did not appear to be sustained over time. Goldman
(1969), in a study of preservice female education undergraduates,
found microteaching (teaching involving a small increment of learning)
video feedback resulted in higher self-esteem and more discriminatory
attitude toward cliches commonly used in education and teaching
contexts.

Members of groups receiving video feedback in three studies had
greater degrees of self-esteem than members of the respective control
groups (Murff, 1973; Smith, 1971); however, the increase in one of those

three groups (concerned with learning sensitivity training skills) was not confirmed during subsequent investigation (Loper, 1971).

No evidence of increase in positive self-concept was reported in eight studies (Barden, 1973; Blount & Pedersen, 1970; Dieker et al., 1968; Edwards, 1970; Elbert, 1970, Fadale, 1970; Paredes et al., 1969; Roberts, 1972), but in contrast, two studies reported decreases in self-concept. Danet (1968b) reported that subjects experiencing video feedback in group psychotherapy were less positive in their self-evaluations than subjects in the control group. Dieker (1968) indicated that, contrary to the stated hypothesis, a student control group's self-ratings were closer to their ideal ratings than were those of the experimental group receiving video feedback. Given this body of research, this investigator would conclude that self-confrontation does not foster self-esteem. Rather it would appear that persons with a high degree of self-esteem are not threatened by video feedback and thus are better able to profit from the experience.

Realism About the Self

A study by Braucht (1970) indicated that video feedback may be instrumental in increasing the degree of accuracy of self-perception. This would support the contention that self-confrontation, in many cases, tends to verify a difference between expected and actual performance--possibly leading to a change in behavior in order to decrease the observed discrepancy.

A number of studies suggested that the base rate for realism, as verified by self-confrontation, tends to be low and in the direction of

over--versus underestimation. Wolff (1943), provided feedback for persons regarding their impressions and recognition of their own voices, gaits, hands, profiles, and handwriting. Feedback was in the form of still and motion pictures. Results of the study indicated that judgments of self were considerably more intense and more favorable than judgments made about others performing the same behaviors. This finding has been substantiated by DeBacy (1969) and Hirschfeld (1968) who reported that subjects have consistent tendencies to overestimate when rating behaviors of self as compared to ratings of their behavior by observers.

Increased accuracy when evaluating self using video feedback was reported for these people: psychiatric patients (Braucht, 1970); women golfers (DeBacy, 1969); and counselors in training (Walz & Johnston, 1963).

Herring (1969) found that increased sensitivity and awareness to one's gestures and mannerisms developed as a consequence of video feedback to students in education. Smith and Knight (1959) found that realism about self, defined as self-insight, increased in direct proportion to the amount of time spent in feedback activities.

In contrast to the studies cited above, two studies reported no increased congruence in self-other ratings due to video feedback. Robinson and Jacobs (1970) found that mental patients' ratings of self did not become more congruent with ratings of them by others when given video feedback. Similar results are reported for student teachers (Murff, 1973).

Openness

Openness was defined as either receptivity to feedback from others or the ability to share perceptions of self and others.

It would appear that ability to benefit from video feedback would depend upon receptivity to feedback, yet only one study was reported using the first definition of openness as cited above. In this study (Fuller, Menaker, Peck, & Bown, 1967), openness in an elementary school classroom was defined as more questions asked by teachers and more student verbal responses. When openness was so defined, teachers did become more receptive to feedback. However, it was not possible to attribute this change solely to video feedback since other variables such as counseling and special teacher placement were also employed.

It is difficult to draw conclusions as to the effect of video feedback on openness using the second definition as stated above since such limited numbers of research studies have been conducted in this area. However, Roberts (1971) and Mitchell and Namenek (1972) both reported that video feedback had little effect on the ability of subjects to increase the amount of sharing perceptions of self and others.

Performance

The permanency of behavior change due to video feedback has not been conclusively established. Conflicting results have been reported by various researchers usually attributed to a lack of specificity in defining the target behaviors during the training phase. Schaefer, Sobell, and Sobell (1972) found no differences in social functioning

or drinking behavior of alcoholics 12 months following video feedback when compared to a control group. In contrast, Borg (1972), using a pretest-posttest design without a control group, reported improvements in precisely specified behaviors (i.e., classroom teacher's use of higher cognitive questions; amount of time during class in which teacher was talking as opposed to listening) three years following video feedback.

Under certain conditions, video feedback has proven successful in modifying complex social behaviors. Haines and Eachus (1965), training military males in interaction skills, found that self-confrontation was superior to verbal coaching. Moore (1970) reported that both schizo-phrenic and depressive reaction patients were significantly more improved after viewing video feedback than patients in nonviewing groups. In a study of video feedback to subjects with encounter group experience, it was found that the group exposed to video feedback made more behavior changes than the group receiving just the encounter group experience (Weiss, 1972).

Perhaps the most pertinent literature to be covered here concerns cooperative efforts within a group using video feedback. Martin (1971) found that when cooperative climate was defined as decreased group variance in verbal output (the verbal ones talked less--the silent ones more), group cooperation and mutual sharing behavior decreased following video feedback. Martin used three experimental groups--the first decreased in group cooperative effort, the second recorded no change, and the third group showed slight improvement. These findings lend

further support to Danet (1968a) and Searle (1969) who indicated that
video feedback may have a disruptive and negative effect on groups.
The positive potential of this stress reaction and disruption could be
the initial steps toward behavior change if the feedback is discrepant,
depending upon type--incongruent-discrepant (different from what the
subject experienced) or deficient-discrepant (different from what the
subject intended).

Attitudes About Self

A basic assumption underlying the value of self-confrontation is
that some previously suspected discrepancy between intended or desired
and actual performance will be identified for the viewer. This experi-
ence is the potential for activating the system and initiating behavior
change. Low self-esteem, however, will decrease the probability that
the subject will experience dissonance between present behavior and
future valued goals. Winter, Griffith, and Kolb (1968) reported that
subjects indicating a desire for a goal with subsequent awareness of
whether or not the goal was achieved were successful in attaining self-
directed behavior change. Those subjects identified as unsuccessful
did not desire goal achievement feedback and were characterized by
confusion or tentativeness about the present self. Thus, a tentative
conclusion from this study would be that low self-esteem appears to be
associated with certain aspects of highly dogmatic behavior--one of
which is the rejection or negation of feedback when the feedback is
essential for success in a given task. The findings of this study by
Winter, Griffith, and Kolb confirm the basic hypothesis of dissonance

theory (Brehm & Cohen, 1962) and is consistent with Erikson's research in the area of identity diffusion (1959). Given this theoretical base, one would predict that subjects with low self-esteem would be less aware of any discrepancy (dissonance) and therefore, would derive less benefit from feedback via videotape than individuals with high self-esteem. In addition, one might suspect that those with low self-esteem might become further depressed following video feedback if they are convinced that behavior change is impossible for them.

Salomon and McDonald (1970) lend support for this rationale. In their study it was found that teachers who were interviewed after the teaching, but prior to the video feedback, expressed a high degree of satisfaction with their teaching performance and significantly increased their ratings of themselves as professionals after the video playback. Subjects that had indicated low satisfaction with their performance following the teaching, but prior to viewing, did not increase their ratings following video feedback. In fact, some teachers' original ratings were lower after the video feedback presentation. A basic assumption made by Salomon and McDonald in this study was that an expression of their degree of satisfaction about the teaching perform-ance is an accurate reflection of satisfaction with self.

Another factor to be considered as a possible influence on how the self-concept affects video feedback results is the degree of other-orientation. If one is anxious due to anticipated responses of others as they view him, it is quite likely to influence subsequent performance. When video feedback occurs that person becomes the other and views

himself with this anticipatory attitude (Kagan & Krathwohl, 1967).
This behavior could culminate in the familiar self-fulfilling prophecy
if the person performs up to his expectations. Thus, in terms of
attitudes about the self with regard to video feedback, those who are
initially psychologically rich (high self-esteem) seem to get richer
and those who are psychologically poor (low self-esteem) get poorer
(Garfield, 1971).

Capacity to Change

Video feedback appears to have the ability to present behavior
discrepancies provided the person is not too anxious, closed to new
experiences, stressed, or distracted. The discrepancy is usually one
of two types: (a) incongruent discrepancy--where a difference is
noted between what he thought he was doing and what he was actually
doing; or (b) deficient discrepancy--a difference is noted between what
he was doing and what he intended to do. In order for the person to
consider reducing either of these discrepancies, some degree of capacity
for change must exist.

If this assumption is true, one would expect that persons posses-
sing greater aptitude, intelligence, skill, and positive attitudes
toward the task would benefit more from video feedback than others.
Although no study has attempted to test this hypothesis directly,
inferential support is available and disconfirmation is sparse.

Stech (1969) hypothesized that individual differences in behavior
change among subjects experiencing video feedback and self-evaluation
were related to academic achievement and aptitude and total course

work. Results measured by multiple correlations between behavior change and intellectual variables supported the stated hypothesis.

Eachus and King (1965) reported that U.S. Air Force military advisors expressing positive attitudes toward the culture learned communication skills related to that culture at a faster rate under video feedback conditions.

Dogmatism

Dogmatism and related constructs such as closemindedness and authoritarianism may affect the degree of stress inherent in video feedback (Adorno, Frenkel-Brunswik, Levinson, & Sanford, 1950; Rokeach, 1960). In his earlier investigations Rokeach was able to link anxiety with one's personal belief system supported by a network of defense mechanisms which were resistant to change (Rokeach, 1960). Subsequent investigations by others have confirmed Rokeach's basic hypothesis yet have led to a greater degree of specificity of conditions (Druckman, 1967; Erlich, 1961a, 1961b, Erlich & Lee, 1969). It is likely that dogmatism could be related to a person's capacity to perceive and thus receive the feedback being presented. This idea is supported by Kaplan and Singer (1963) who found that a direct relationship exists between openness to sense impressions and openness to new ideas including a willingness to examine and critically analyze those thoughts and ideas. Therefore, the conclusion could be drawn that some degree of openness is a precondition for video feedback receptivity.

Further support for the negative effect of dogmatism on video feedback was reported by Vacchiano, Strauss, and Hochman (1969). The

authors indicated that highly dogmatic subjects were more threatened

by belief-discrepant data and thus avoided exposure to such feedback

when compared with those subjects measured to be low dogmatics. Tosi,

Fagan, and Frumkin (1968a, 1968b) reported high dogmatics tended to

perceive a personality testing situation as more threatening than did

low dogmatics. Furthermore, it was reported that a negative correlation

existed between self-disclosure and dogmatism/authoritarianism

(Halverson & Shore, 1969). Baker (1970) found a similar negative

correlation between the ability to separate one's self-concept and one's

ideal self and scores measuring the degree of dogmatism/authoritarianism.

Characteristics of Participants in Video Feedback

Garfield (1971) uses two acronyms to sum up the factors leading to

success or failure in video feedback situations. According to Garfield,

the person most likely to benefit from video feedback is the YAVIS:

Young, attractive (and possibly anxious), verbal, intelligent, and

·successful. In addition, if the YAVIS is female, the chances for

benefit are even better. Conversely, the person least likely to

benefit from video feedback, according to Garfield, is the HOUND:

homely, old, unattractive, nonverbal, and dumb.

This rationale would explain why microteaching experiences with

teachers have proven so effective--given the criteria Garfield suggested.

The population exhibiting YAVIS characteristics seem to be quite

responsive to video feedback while the HOUND population perceives the

video feedback as threatening and thereby suffer negative results.

The Importance of Focus

The bulk of video feedback literature points to the need for some device to "highlight" in Skinner's words (1938), the behavior desired as one views the playback. Research studies almost unanimously report little, if any, change in behavior due to video feedback when no focusing device is present (Bush & Allen, 1967; Geertsma & Reivich, 1965; Karasar, 1970; Morse, Kysilka, & Davis, 1970; Pease, 1972; Staines, 1969; Stoller, 1968a; Young, 1968).

Types of focus range from systematic observation training (Kautz, 1970), interaction analysis training (Bondi, 1969) to modeling (Eder, 1971) and goal-setting and self-evaluation (Jensen, 1968). It was this latter type of focusing that was used in the present study.

Regardless of the type of focus utilized, the greater the quantity of information the person has about expectations for changes in behavior the more likely that person is to actually change in the desired direction (French, Sherwood, & Bradford, 1966, Gelfand et al., 1971; Gibb, 1971). Murff (1973) found that when evaluative focus (highlighting discrepancies between expected and actual behavior) was compared with solitary feedback, no feedback, and a loosely structured counseling oriented focus, the evaluative focus increased realism more than in the other three conditions.

There are indications that the kind of focus has influence on the outcome. Grzegorek (1971) reported that when a group of prison counselors focused on their own process and its effects, a different outcome resulted as compared with the other group of counselors whose

focus was the affect of the clients. A focusing on feedback emphasizing feeling responses as opposed to task-oriented responses proved more effective in reducing defensive behavior in small problem-solving groups (Gibb, Smith, & Roberts, 1955). Koran (1968) found that when a model was used for focusing, it seemed necessary for a similarity of the model to the subject to be present if the focusing was to result in the desired outcome.

The lack of any specific focus could have adverse effects--one of which might be a focusing on self with no attendant concern for specific behavioral acts (Bedics & Webb, 1971). The purposeful focusing on self in response to others might prove highly beneficial in providing opportunity for awareness of discrepancies between actual and intended performance.

The Necessity of Focus

Dissonance theory (Festinger, 1957) would hypothesize that when a person views video feedback alone with no focus, a low level of dissonance would exist. This results from a lack of discrepancy between actual and intended or expected behavior--hence, no anxiety or tension since no comparison is made due to lack of focus. Moreover, low dissonance feedback would tend to reward present behavior leading to no behavior change. In contrast, focusing would provide reinforcement to select out of the total context, certain behaviors for repetition while others would tend to be extinguished. Under these focusing conditions behavior does change.

Focus serves a very pragmatic function--it provides objective data to the person. In specific terms, it indicates the desired behavior and its subsequent rewards as well as the direction the person should take to obtain the desired reward.

It should be noted that in the present study all subjects were provided with focus. The focus consisted of the intended or expected behavioral goals written down by subjects prior to the group ranking in the pretest and posttest sessions.

Kagan (1970a) suggested still another explanation for the need to focus the video feedback. Kagan concluded that each person behaves toward himself with the same protectiveness that we have learned to use with others. As we interact with others and sense an incongruence between their verbal and nonverbal messages, we appear to believe their words yet in reality have believed their nonverbal messages. We have protected their self-esteem by not confronting them with the observed discrepancy. Kagan sees each person using these same devices (operating on a level out of our awareness) to protect his own self-esteem while viewing video feedback. In a nonverbal message of self is too threatening, he does not confront self with the discrepancy. Because there is no focus to force a conscious, aware recognition, no change will occur. However, once focus is introduced, it calls overt attention to the incongruence between verbal and nonverbal behavior in the video feedback and enhances the possibility of behavior change.

Theoretical Explanations for the Effect of
Video Feedback on Behavior Change

Self Theory

Self theory, according to Combs (1965), posits a necessary rela-
tionship between realism and behavior change. According to the
perceptual viewpoint, increasing awareness is a primary goal related
to the growth of the self. Kagan and Krathwohl (1967) reported that
the use of video feedback increased the degree of awareness and
realism for the subjects under study.

Since one outcome of video feedback related to subsequent behavior
change is a person's realism or lack of it, the perceptual self and
what it experiences is crucial from the standpoint of perceptual
theorists. A large discrepancy between experienced performance and
observed performance would indicate a lack of realism. According to
perceptual theory, the person experiences reality quite differently
from what an observer might report of his behavior. Hence, the value
of video feedback would be to provide the person with a perception
which has the potential of increasing awareness—especially if a
discrepancy exists between experienced and observed performance.

Attribution Theory

According to attribution theory (Ronchi & Ripple, 1972), the
increase in motivation leading to the consideration of behavior change
following video feedback reinforces a belief in personal causality.
Prior to feedback the subject sees himself responding to situations.
That is, he is a social behaviorist with reference to his own behavior.

Conversely, he views the behavior of others as deriving from consistent personality characteristics--thus he is a trait theorist with regard to others. During video feedback he sees himself as he sees others and shifts to a trait theorist concerning self; he begins to attribute his behavior, to some degree, to his own personality traits. A possible explanation for this shift in perspective is that the actor, when performing, focuses visually on the surrounding environment since observation of self is impossible, whereas the observer can see the actor and focuses on him (Storms, 1971).

Freudian Theory

It is possible that a psychoanalytic theory best explains the behavior change due to video feedback. The person receiving video feedback perhaps experiences a transference reaction to himself. Instead of a typical transference that occurs over time, this transference might occur rapidly. Tagiuri (1958) lends support for this possibility by reminding us there is no such thing as a new relationship. Kagan and Krathwohl (1967) suggested that the video feedback situation is an instant adaptation of the Freudian concept of transference.

Another consequence of video feedback and possible motivation for behavior change is arousal--a subject of specific concern for Freudian theorists. Arousal, occurring as the result of discrepancies between experience and goal and experience and observed behavior, can lead to motivation to change, provided other necessary conditions exist such as ego strength or capacity to change.

Discrepancy Hypothesis

The discrepancy hypothesis was used by this researcher as a theo-retical rationale for the present study. The work of Piaget reported by Wadsworth (1971), with relation to the concept of accommodation, and Festinger's (1957) development of "dissonance theory" provide a frame-work with which the effects of video feedback might be adequately explained. Piagetian theory postulates that a person confronted with a new stimulus (e.g., video feedback) will try to assimilate it into existing schemata (structures of cognitive development). If the stimulus does not fit into an existing schemata, an individual may modify existing schemata so the stimulus can be assimilated accordingly. Accommodation is the term Piaget employs to describe cognitive change when a discrepancy is observed between intended and actual behavior. This process of accommodation would be used by the person observing incongruent video feedback to reconcile the behavioral discrepancy. With different terminology, Festinger (1957) referred to the discrepancy hypothesis in his discussion of cognitive dissonance. Festinger postulated that an internal consonance existed when a person's beliefs about a given situation coincided with the actual occurrence. Con-versely, cognitive dissonance occurred when the person's beliefs were incongruent with his actual behavior in that situation. Festinger hypothesized that a person experiencing cognitive dissonance tended to move toward consonance by altering either the situation or his belief about the situation. Thus the person viewing video feedback who finds incongruence between his beliefs about self and his actual behavior

would, according to Festinger, experience cognitive dissonance. The person experiencing cognitive dissonance would then tend to move toward consonance by either altering the situation or his beliefs related to that situation. Osgood (1957) and Rosenberg and Abelson (1960), in similar fashion, have developed and further clarified the discrepancy hypothesis as a result of their research efforts. These researchers observed a tendency on the part of persons to maintain a consistency among the affective, cognitive, and behavioral aspects of their personality when perceiving a given situation. When one or more of these three aspects were inconsistent with each other, internal dissonance occurred and the person began to modify these aspects in an effort to restore consonance or consistency. The person receiving video feedback who observes a discrepancy between expected or intended behavior and actual behavior, would experience internal pressures to reduce the dissonant element. Hence, some form of accommodation would occur in order to accept as reality what is perceived--the greater the discrepancy perceived, the more intense would be the internal pressure providing motivation to reduce the dissonance (discrepancy) in order to restore psychological equilibrium.

It is the latter of these theoretical explanations that this researcher used as a rationale for the present study. The discrepancy hypothesis provides a framework that should explain the behaviors resulting from video feedback in a clear and concise manner.

CHAPTER III

METHODS OF PROCEDURE

The present study focused on the feasibility of using videotape
feedback with normal families in order to facilitate a more equalitarian
pattern of verbal interaction between family members when engaged in a
problem-solving situation.

In order to provide a clear understanding of the methods and
procedures, this chapter is partitioned into four major sections:
(a) subjects, (b) tasks and materials, (c) experimental design, and
(d) procedures. The tasks and materials section is further parti-
tioned into two subsections: (a) instruments, and (b) experimental
tasks.

Subjects

The respondents used in the experimental phase of this investiga-
tion consisted of 32 white, middle-class, protestant families from the
city of Greensboro, North Carolina. Each family consisted of father,
mother, and two children. The children in each of these families were
between the ages of 12 and 18 years. The researcher used Hollingshead's
(1957) Two Factor Index of Social Position to insure that each of the
32 families were of middle-class levels. Prior to the first session
the adult subjects were tested with the short-form dogmatism scale,
and their status on Hollingshead's Two Factor Index of Scoial Position
was determined. These two forms were mailed or hand delivered to the

subjects' homes with specific instructions to complete the forms
individually and return to the researcher by mail. A self-addressed,
stamped envelope accompanied each set of forms. In order to obtain the
89 sets of parents needed for the study the researcher contacted the
pastors of several large protestant churches (Presbyterian, Methodist,
and Baptist) in the city of Greensboro, North Carolina. After explain-
ing the purpose and procedures of the study the researcher then asked
each minister for a list (name, address, and phone number) of those
member families meeting the basic qualifications of having two children
between the ages of 12 and 18 years of age. After obtaining several
lists, the researcher then made contact with each prospective family
by phone and made the following invitation:

> Hello, Mr.(Mrs.)____, my name is Rich Blackstock. I'm a graduate
> student in the Department of Child Development and Family Relations
> at UNC-G. I am currently doing a study to see how families make
> decisions together. I was mentioning my need for families to
> participate in the study to the pastor of your church, Rev.____,
> and he suggested that I call you and personally invite you and
> your family to be in the study. Let me briefly tell you something
> about the study and then you can decide if you'd like to be a part
> of it. I'm interested in seeing how families make decisions
> together as a group. In order to study that process, I'm asking
> families consisting of father, mother, and two children between
> 12 and 18 to sit down together at UNC-G for three one-hour sessions
> spaced over a period of a week or so. The meeting times would be
> based primarily upon your availability and convenience. During
> these three sessions you'd be involved in making some decisions
> together as a family, concerning a task that I've arranged. I
> think it might prove to be both meaningful and fun for the whole
> family.

At this point the parent would either say "No" or "Let me check
with the rest of the family--please call back tomorrow." If, when
checking back the parent responded positively, the experimenter said:

Mr.(Mrs.)____, before we can arrange the first session, it's necessary for you and your wife(husband) to complete a brief questionnaire that will take about 10 minutes of your time. If it's okay, I'll drop the questionnaires by your house and leave a stamped, self-addressed envelope so you can return them to me when you're finished. Once I receive the questionnaires I will call you to arrange a date and time for the first session. Thank you so much for your help--goodbye.

If the parents' scores on the dogmatism scale were in the middle range (middle third of the distribution) and therefore unacceptable, the experimenter called that parent and said:

Hello, Mr.(Mrs.)____, this is Rich Blackstock calling back about the study of family decision making. Thank you for completing the questionnaires, I appreciate your help. The reason I'm calling, Mr.(Mrs.)____, is to tell you that I'm sorry but because of the limitations of time I won't be able to test every family who completed the questionnaire. Unfortunately, your family was not selected to participate further in the study. However, you will receive a letter detailing the results of the study on or about September 1, 1975. Once again, thanks for your help--goodbye.

If the parents' scores on the short-form dogmatism scale were high or low (acceptable), then the experimenter called the parents and said:

Hello, Mr.(Mrs.)___, this is Rich Blackstock calling back about the study of family decision making. I want to thank you for completing the questionnaires. I'm wondering if there is a convenient time we might get the family together for the first session. (At this point, the researcher and the parents would work out a mutually acceptable time and date for the first session. In addition, directions were given to the parent for locating the testing site on UNC-G campus.) Thanks for your help, Mr.(Mrs.)____, I'll be seeing you and the family on (date and time), goodbye.

The 89 sets of parents were pretested with the short-form dogmatism scale (Troldahl & Powell, 1965) (See Appendix A) in order to obtain subsamples of 16 high dogmatic families (i.e., parent sets) who scored in the upper third of the distribution of average dogmatism scores per parent set and 16 low dogmatic families who scored in the

lower third of the distribution of average dogmatism scores per parent to achieve the total experimental sample of 32 sets of parents and their respective families. The distribution of the average dogmatism scores, per parent set, is shown in Table 1. The mean and standard deviation for the total group of parents sets was 62.22 and 13.18, respectively. Only those families in which both parents scored at the high or low extremes of the dogmatism scale were randomly assigned to the experimental and control groups. Families with parents who scored in the middle third of the dogmatism score range or in cases where one parent scored high and the other parent scored low were told that because of the limitations of the research some of the families tested would not be selected to participate further in the study.

Tasks and Materials

Instruments

An extensive review of the literature concerned with videotape feedback studies revealed effective and consistent use of Rokeach's Dogmatism Scale, Form E (Baker, 1970; Halverson & Shore, 1969; Johnson, 1974; Kaplan & Singer, 1963; Murff, 1973; Tosi, Fagan, & Frumkin, 1968a, 1968b; Vacchiano, Strauss, & Hochman, 1969). Form E consists of 40 negatively-worded items based upon a six-point Likert rating scale. Two exemplary items are as follows:

> In this complicated world of ours the only way we can know what's going on is to rely on leaders or experts who can be trusted.

> It is only when a person devotes himself to an ideal or cause that life becomes meaningful.

Table 1

Mean Dogmatism Scores for Each Set of Parents

Mean Score for Each Set of Parents	f	A = Acceptable (High, Low) NA = Not Acceptable (Middle Range)
32.5	1	A
36.5	1	NA
40.0	1	A
41.5	1	A
43.5	1	A
45.5	1	A
46.0	1	A
48.0	4	A (3), NA (1)
49.0	1	A
49.5	1	NA
50.0	1	A
51.5	1	A
52.5	1	A
53.0	1	A
55.5	2	A (1), NA (1)
56.5	2	A (1), NA (1)
57.5	2	NA
58.0	5	NA
58.5	1	NA
59.0	2	NA
59.5	2	NA
60.0	2	NA
60.5	2	NA
61.0	2	NA
61.5	5	NA
62.0	5	NA
62.5	2	NA

Table 1 (continued)

Mean Score for Each Set of Parents	f	A = Acceptable (High, Low) NA = Not Acceptable (Middle Range)
63.0	3	NA
63.5	1	NA
64.0	3	NA
65.0	1	NA
65.5	2	NA
66.0	1	NA
66.5	2	NA
67.0	1	A
67.5	2	A (1), NA (1)
69.0	2	A
70.1	1	NA
71.0	2	A (1), NA (1)
71.5	1	NA
72.0	1	A
73.5	2	NA
74.0	2	A (1), NA (1)
74.5	1	A
75.0	2	A (1), NA (1)
75.5	1	A
79.5	1	A
80.0	1	A
80.5	1	NA
84.0	1	A
86.0	1	A
90.5	1	A
95.0	1	A

$\overline{x}$ = 62.22	Total = 89	A = 32
SD = 13.18		NA = 57

Note. Maximum (low dogmatism) and minimum (high dogmatism), possible scores range from 20 to 140.

In this scale, a higher score (e.g., a score of 240 out of a possible 280--which represents the totally closed or dogmatic mind) is indicative of a greater degree of dogmatism. Form E appears to be based upon careful conceptualization and has been shown to have a moderate degree of test-retest reliability (+.68 - +.93). Rokeach, Gladin, and Trumbo (Rokeach, 1960), conducted two construct validity studies using known high and low dogmatic groups. In the first of these two studies, graduate students were nominated by their college professors for inclusion in one of two possible groups (high or low dogmatic). No differences nearing significance were found. However, in the second study, using students nominated by psychology students as most and least dogmatic, significant differences were obtained. Haiman and Duns (1964) were able to establish a moderate degree of predictive validity-- specifically related to high dogmatics. Observers were asked to predict subjects' scores on Rokeach's Dogmatism Scale, Form D from observed interaction behavior in public speaking courses. Korn and Giddan (1964) reported moderate evidence of concurrent validity: for 195 Stanford freshmen, correlation coefficients of -.24 to -.38 between Form D and the California Personality Inventory scales measuring well-being, tolerance, and flexibility were found.

Troldahl and Powell (1965) developed a modified short-form version of Form E and found the short-form scores to correlate +.94 with the 40-item version. In view of this finding and in the interest of time to be used for testing families, the short-form 20-item scale was used in the present study.

Experimental Tasks

The researcher asked each family member to perform two paper and pencil tasks: (a) the NASA Moon Survival Problem (MSP) Hall, 1963, and (b) the Desert Survival Problem (DSP) (Experiential Learning Methods, 1973) (see Appendix C). Each task problem was administered to the subjects twice: first in individual form, and subsequently in group (family) form. Each task contains 15 items (e.g., "two 100-lb. tanks of oxygen," "Stellar map of the moon's constellations," "magnetic compass," and "portable heating unit") that were ranked by subjects in terms of their importance for a person's survival on either the lighted surface of the moon or on the desert. The DSP includes such items as: "plastic raincoat," "cosmetic mirror," "sectional air map of the area," and a "red and white parachute." A high or low score on either task was determined by a comparison of the subject's score (ranking) with a ranking performed by experts in each of the two respective areas (MSP ranking by M. Radnofsky and Dr. R. B. Voas of the National Aeronautical and Space Administration, Manned Spacecraft Center, Houston, Texas; DSP ranking by A. W. Pond, former Chief of the Desert Branch of the Arctic, Desert, Tropic Information Center of the Air Force University at Maxwell Air Force Base, Montgomery, Alabama). The individual score for each of the two experimental tasks was computed by totaling the numerical difference between the subject's ranking of the same item. Only the difference was calculated--plus or minus factors were not considered. For example, if the subject ranked an item "7" and the expert ranked that same item "4" the score for that

item would be "3." The sum total of the difference for each of the 15 items comprised the individual score. The group score was computed in the same manner. The difference between the individual and group score (family group ranking) lies in the process of how the ranking was achieved. The individual ranking of the 15 items needed for survival was completed by each member of the family working by himself with no communication with the other family members. In the case of the group score, ranking of these same 15 items needed for survival was achieved through a consensual process involving the joint participation of each member of the family.

Experimental Design

A four factor design with repeated measures on the fourth factor was used to analyze the data collected in this experiment. The basic design consisted of two levels of videotape feedback (feedback, no feedback) x two levels of adult subject's status on the short-form dogmatism scale (high dogmatic, low dogmatic) x two levels of order of administration of the experimental tasks (MSP-DSP, DSP-MSP) x two levels of survival problem tasks (pretest, posttest). Based on the adult family members' scores on the dogmatism scale, families high and low in dogmatism were randomly assigned to the feedback and no feedback conditions yielding four cells of the design. The order of administration of the experimental tasks was accomplished through the use of a table of random numbers--assigning all families having an even identification number to the MSP-DSP order and the DSP-MSP order for all odd-numbered families yielding then eight cells.

Procedures

The task performances of each family group were conducted in three sessions over a period of approximately one week. In the first session, the family was administered the individual and group forms of one of the two survival problems according to random assignment. Group performance during this first session provided baseline data for subjects to evaluate their subsequent performance in the posttest session and also to serve as the source for the videotape feedback. Fifteen minutes were allotted for the completion of the individual form and 30 minutes were allotted for the completion of the group form.

It should be noted that all subjects in this experiment had the benefit of a focusing device. The device used was the establishment of expected or intended behavioral goals that the family members desired of themselves as they participated in the group pretest and posttest sessions. Each member of the family wrote three specific behavioral goals on the back side of the pretest and posttest individual worksheets prior to the group ranking session.

First Session

The testing was conducted in a nondistractive setting located in the Family Research and Counseling Center of the Department of Child Development and Family Relations of the School of Home Economics on the campus of the University of North Carolina at Greensboro. The room used for the experiment was equipped with a one-way mirror covering most of the area of one wall. The videotape equipment was situated behind the one-way mirror--out of range for the subjects to either see or hear the

machine during its operation. The testing room was furnished as a living room with a large table in the middle close to the one-way mirror. Four chairs, arranged in a semi-circle around the table faced toward the one-way mirror. The father and mother in each family were seated opposite each other in the end chairs closest to the one-way mirror. The two children in each family were seated in the two chairs between their parents farthest from the one-way mirror.

After each family was seated in the testing room the experimenter said:

> Welcome! I'd like to share with you how important it is that you do not talk with any of the other families involved in this study about what you are doing and what they are doing. After the study is over, you may feel free to talk about the experiences as much as you'd like. However, please refrain from talking about it before it's completed--thank you. During this first session you and your family will be videotaped as you perform part of the exercise planned for this session. This videotape recording will be available for you and your family to view at a later date. After the study is over, the videotape recording will be erased-- no one will see it except you and your family and myself. Just to acquaint you with the videotape equipment and procedure, I'd like to show you a short film clip on the monitor of what a family similar to yours looks like on videotape. (The experimenter then showed a 5-minute clip of a family of four--father, mother, and two children between the ages of 12 and 18 involved in singing a song.) Now I would invite you to inspect the video equipment I'll be using during this study. (The experimenter then lead the family members to the door leading to the video equipment and allowed them to observe and inspect the equipment. After they were seated again the experimenter handed out the individual form for either the MSP or DSP and a pencil to each member of the family.) In the task today, you are to pretend that your family is stranded (on the lighted surface of the moon; or on the Sonora Desert). Your task is to rank order the 15 items necessary for your survival listed on the sheet in front of you by yourself. Do not ask anyone for help once the task is begun. You will have 15 minutes to complete the ranking. If you finish before the allotted time, please turn your ranking sheet face down on the table. You are then invited to look at a magazine located on the table until the other members of the family are finished. Let's read the

instructions together--please follow along with me as I read
them aloud. (The experimenter then read the instructions aloud.)
Are there any questions? Ready--begin.

At the end of the 15-minute period (or sooner if all had finished)
the experimenter said:

Stop--please do not change any of your answers. In the next phase
of this exercise you'll be ranking these same items as you did on
the individual forms, but you'll be doing it as a family. Before
you begin, however, I would like for each of you to list three
goals or expectations you have for yourself that you would like
to accomplish as you work together as a family to reach a group
ranking. (The experimenter then suggested two examples: "I want
to find out how the other members of my family ranked the items
before I make up my mind" and "I will work hard so we can do well.")
Please write your own goals--not the ones used as examples on the
back side of your individual ranking sheets. Are there any
questions? Ready--begin.

After each family completed the goal-setting (focusing), the
experimenter passed out one group ranking sheet for the DSP or MSP and
four copies of the instructions and said:

Let's read the instructions together for the group ranking portion
of this exercise. Please follow along as I read them aloud.
(The experimenter then read the instructions aloud--answering
any questions pertaining to procedure.) You will have 30 minutes
to complete this exercise--a clock is provided for your convenience.
You are free to use your individual ranking sheets in your group
discussion but please do not change your answers on the individual
rankings under any circumstances. If you finish before time is
called, please feel free to read a magazine located on the table
until time is up. Ready--begin.

At the end of the 30 minutes the experimenter said:

Stop. Please put your pencils down. Both the individual and group
rankings will be scored against the rankings made by experts in
the area of (moon survival, or desert survival). The results of
this exercise will be announced to you on (date and time) when you
come for the second session. Thanks so much for your time and
cooperation.

Second Session Control Group

For families in the control group, the experimenter seated .the

family members and said:

> Welcome again! Tonight we are going to share the results of the
> individual and group rankings you completed during the first session.
> Although a videotape recording was made as you completed the group
> ranking, it will not be available for your viewing until after the
> study is completed. (The experimenter then distributed the score-
> sheets for both the individual and group rankings and the individual
> lists of goals and expectations completed by each member of the
> family.) I would like you to discuss, as a family, the results
> you have in front of you. Please discuss the results in terms of
> what you had hoped would happen as expressed in your list and what
> actually happened. You have one hour to discuss the results. Are
> there any questions? Ready--begin.

At the end of the hour the experimenter said:

> Stop. Please leave your scoresheets and lists of goals on the
> table. Thank you for your participation. The next session will
> be conducted on (date and time). I will be seeing you then--
> goodbye.

Second Session Experimental Group

For the families in the experimental group, the experimenter

seated the family and then said:

> Welcome again! Tonight we are going to share the results of the
> individual and group rankings you completed during the first
> session. In addition, you will be shown a videotape recording
> of your family as you performed the group ranking exercise. (The
> experimenter then distributed the scoresheets for both the
> individual and group rankings and the lists of goals and expecta-
> tions completed by each family member.) I would like you to
> discuss and then view, as a family, the results of the exercise
> as recorded on the videotape, the scoresheets, and the lists of
> goals you made for yourself. Please discuss the results in terms
> of what you had hoped would happen as expressed in your list of
> goals and what actually happened. You have one hour to discuss
> and view the results. Are there any questions? Ready--begin.

At the end of the hour, the experimenter said:

> Stop. Please leave your scoresheets on the table. Thanks so much for your participation. The next session will be conducted on (date and time). I will be seeing you then--goodbye.

Third Session

The following procedures apply for both the experimental and control groups except where otherwise noted. The subjects were scored individually for completing the individual ranking in the second of the two experimental tasks. Subjects were tested as a family unit when completing the group ranking for the second of the two experimental tasks. After each family was seated in the testing room the experimenter said:

> Welcome for the third and final session! As in the first session, you will be videotaped as you complete the group ranking portion of the exercise planned for your tonight. You may view the video-tape recording at a later date. As in the first session, you are to pretend that your family is stranded (on the lighted surface of the moon; or in the Sonora Desert). Your task is to rank order the 15 items necessary for your survival listed on the sheet in front of you by yourself. Do not ask anyone for help once the task is begun. You will have 15 minutes to complete the ranking. Once again, if you finish before time is called, please turn your scoresheet face down on the table. You are then invited to look at a magazine located on the table until the other members of the family are finished. Let's read the instructions together--please follow along with me as I read them aloud. (The experimenter then read the instructions aloud.) Are there any questions? Ready-- begin.

At the end of the 15 minute period (or sooner if all had finished) the experimenter said:

> Stop. Please do not change any of your answers. During the next phase of the exercise, as in the first session, you and your family will be ranking the same 15 items now as a group. And just as before, would you take a few minutes to list for yourself three goals or expectations you have that you would like to accomplish

as you work together as a family to reach a group ranking. (The experimenter would then repeat the two examples given previously: "I want to find out how the other members of my family ranked the items before I make up my mind," and "I will work hard so we can do well.") Please write your own goals--not the ones used as examples, on the back side of your individual ranking sheets. Are there any questions? Ready--begin.

After each family completed the goal-setting (focusing), the

experimenter passed out one group ranking sheet for the DSP or MSP and

four copies of the instructions and said:

Let's read the instructions together for the group ranking portion of this exercise. Please follow along as I read them aloud. (The experimenter then read the instructions aloud--answering any questions pertaining to procedure.) You will have 30 minutes to complete this exercise. A clock is provided for your convenience. You are free to use your individual ranking sheets in your group discussion, but please do not change your answers on the individual rankings under any circumstances. If you finish before time is called, please feel free to read a magazine located on the table until time is up. Ready--begin.

At the end of the 30 minutes the experimenter said:

Stop. Please put your pencils down. Both the individual and group rankings will be scored against the rankings made by experts in this area (desert survival, or moon survival). The results of this study will be announced to you by letter soon. Thanks so much for your help with this study. Goodbye.

CHAPTER IV

RESULTS

The purpose of this chapter is to present the results of the study for the 32 families--half of which were exposed to videotape feedback of their own group performance (in addition to participation in group discussion) in a problem-solving task requiring a solution agreed upon by all family members. The other 16 families, serving as the control group, did not receive videotape feedback of their first (pretest) group performance session prior to their posttest session. Instead, these families participated in a group discussion (of longer length than the feedback group) of the results of their pretest session which included: (a) individual and group score performance on the pretest experimental task; (b) the list of three behavioral goals or objectives written down prior to the group rankings; and (c) the list containing the expert ranking for each of those respective items.

The group ranking scores (both pretest and posttest) for each family were converted to z scores to permit a more accurate evaluation of improvement due to videotape feedback. This procedure served to counteract any possible sequence effects due to the order in which the two problem-solving tasks were administered in the pretest and posttest sessions.

Group Score Performance in the Pretest
and Posttest Sessions

The group ranking portion of the Desert Survival Problem and the Moon Survival Problem provided the basis for a group score (pretest and posttest) for each family. That is, the group score reflected the degree to which the family group rankings of the importance of the 15 items needed for either moon or desert survival corresponded to the rankings made by an expert in each of the two areas (moon and desert survival). The average discrepancy (i.e., difference score) between the family's rankings for each of the 15 items and the expert's rankings of these items comprised a family's group score. According to previous research, group scores are assumed to be related to how effectively the family is able to operate on the basis of group consensus. Thus, the purpose of the videotape feedback manipulation used here was to effect greater cooperativeness and equality of input from family members. It was hypothesized in this study that increases in the equality of participation from pretest to posttest problem-solving tasks would result in corresponding increases in the accuracy of the groups' problem-solving performance after video feedback. The means and standard deviations of these group scores (in raw score form; lower scores reflect more accurate performance) are shown in Table 2. A four-factor analysis of variance was performed on the z transformed group scores. This analysis included the between group factors of feedback (videotape feedback vs. no videotape feedback), dogmatism (high dogmatic parent couples vs. low dogmatic parent couples), task order (MSP-DSP vs. DSP-MSP), and the

Table 2

Means and Standard Deviations for

Group Score Performance

	Feedback		No Feedback	
Pretest	High Dogmatic (n = 8) $\overline{X}$ = 38.50 SD = 15.45	Low Dogmatic (n = 8) $\overline{X}$ = 33.50 SD = 12.36	High Dogmatic (n = 8) $\overline{X}$ = 40.63 SD = 14.35	Low Dogmatic (n = 8) $\overline{X}$ = 41.75 SD = 16.04
Posttest	High Dogmatic (n = 8) $\overline{X}$ = 62.50 SD = 13.14	Low Dogmatic (n = 8) $\overline{X}$ = 51 SD = 16.06	High Dogmatic (n = 8) $\overline{X}$ = 43.75 SD = 18.23	Low Dogmatic (n = 8) $\overline{X}$ = 41.75 SD = 15.57

within subjects factor of time of testing (pretest vs. posttest). As shown in Table 3, the analysis yielded nonsignificant main effects for all factors and their interactions ($p > .05$). Thus, there was no evidence to support the hypothesis that videotape feedback enhances the accuracy of a family's group problem-solving performance.

Equalitarian Communication Patterns
Within the Family

In view of the lack of feedback effects on group performance an attempt was made to examine the degree to which verbal communications during the group problem-solving task were equally distributed among each of the four family members. A numerical tabulation of the frequency of verbal communications made by each family member during the pretest and posttest group sessions served as an individual's verbal contribution score. In order to measure the equality of verbal contributions within families, a standard deviation was calculated to assess the variability of the four individual verbal contribution scores per family. The reasoning underlying this procedure is that the standard deviation varies directly with the equality of verbal contributions across family members. That is, if verbal contributions are equally as frequent for each family member, the standard deviation will be zero. To the degree that verbal contributions are unequal across family members, the standard deviation will be correspondingly larger than zero. Mean standard deviations of verbal contribution scores for families in the feedback and no feedback conditions are listed in Table 4. A feedback x dogmatism x task order x time of test analysis

Table 3

A Summary of the Four-Factor Analysis of Variance Performed

on the $\underline{z}$ Transformed Group Performance Scores

Source	df	SS	MS	F	p level
Between Subjects					
(A) Treatment	1	0.31	0.31	0.24	N.S.
(B) Dogmatism	1	0.24	0.24	0.18	N.S.
(C) Order	1	1.17	1.17	0.90	N.S.
A X B	1	2.07	2.07	1.59	N.S.
A X C	1	0.34	0.34	0.26	N.S.
A X B X C	1	0.11	0.11	0.08	N.S.
Error	24	17.96	0.75		
Within Subjects					
(D) Test	1	0.12	0.12	0.09	N.S.
A X D	1	1.70	1.70	1.30	N.S.
B X D	1	2.47	2.47	1.89	N.S.
C X D	1	0.37	0.37	0.28	N.S.
A X C X D	1	0.23	0.23	0.18	N.S.
A X B X D	1	0.70	0.70	0.54	N.S.
B X C X D	1	0.21	0.21	0.16	N.S.
A X B X C X D	1	0.86	0.86	0.66	N.S.
Error	24	31.33	1.31		

Table 4

Mean Standard Deviations of Verbal Contribution Scores for Families

in the Feedback and No Feedback Conditions

	Feedback		No Feedback	
Pretest	High Dogmatic (n = 8)	Low Dogmatic (n = 8)	High Dogmatic (n = 8)	Low Dogmatic (n = 8)
	$\overline{X}_{SD} = 12.17$	$\overline{X}_{SD} = 12.87$	$\overline{X}_{SD} = 13.16$	$\overline{X}_{SD} = 12.37$
Posttest	High Dogmatic (n = 8)	Low Dogmatic (n = 8)	High Dogmatic (n = 8)	Low Dogmatic (n = 8)
	$\overline{X}_{SD} = 12.56$	$\overline{X}_{SD} = 11.63$	$\overline{X}_{SD} = 12.05$	$\overline{X}_{SD} = 13.07$

of variance performed on the verbal contribution scores (in the form of standard deviation units) yielded nonsignificant main effects for feedback, dogmatism, and time of test (p>.05). However, a significant main effect was found for task order, F (1, 24) = 13.70, p<.01. This significant main effect was found for task order (MSP-DSP). As indicated in Table 5, nonsignificant results were reported for all the interactions except dogmatism x order, F (1, 24) = 6.24, p<.05. Upon further analysis of the dogmatism x order interaction, with a posteriori Least Significant Difference tests, the means of high and low dogmatics were found not to differ significantly for either order. Thus, no additional attempt was made to interpret the interaction.

Average Individual Score Improvement in the
Pretest and Posttest

In order to examine the degree to which individual performance scores increased from pretest to posttest sessions, the individual scores were averaged across the four members of each family. This procedure permitted an analysis of the average individual gain from pretest to posttest for the members of each family unit. The mean individual performance scores per family unit are shown in Table 8. These scores were used as the basis for the four-factor analysis of variance, a summary of which is shown in Table 7. This analysis yielded nonsignificant results fcr the main effects of treatment, dogmatism, and order (p>.05). However, significant interactions were found between the variables of treatment x time of test, F (1, 24) = 42.69, p<.001; and order x time of test, F (1, 24) = 299.99, p<.001. From Table 8 it can

Table 5

A Summary of the Four-Factor Analysis of Variance

Performed on the Verbal Contributions

(Equalitarian Communication)

Source	df	SS	MS	F	p level
Between Subjects					
(A) Treatment	1	2.06	2.06	0.10	N.S.
(B) Dogmatism	1	0.00	0.00	0.00	N.S.
(C) Order	1	289.43	289.43	13.70	.01
A X B	1	3.60	3.60	0.17	N.S.
A X C	1	8.31	8.31	0.39	N.S.
B X C	1	131.93	131.93	6.24	.05
A X B X C	1	0.43	0.43	0.02	N.S.
Error	24	1907.13	79.46		
Within Subjects					
(D) Test	1	1.58	1.58	0.07	N.S.
A X D	1	0.19	0.19	0.01	N.S.
B X D	1	0.03	0.03	0.00	N.S.
C X D	1	42.37	42.37	2.00	N.S.
A X C X D	1	1.76	1.76	0.08	N.S.
A X B X D	1	7.90	7.90	0.37	N.S.
B X C X D	1	5.72	5.72	0.27	N.S.
A X B X C X D	1	29.49	29.49	1.40	N.S.
Error	24	507.21	21.13		

Table 6

Mean Standard Deviations of Verbal Contribution Scores

Contributing to a Significant Dogmatism x Order

Interaction

	High Dogmatic	Low Dogmatic	Total
Order 1 MSP = Pretest DSP = Posttest	(n = 20) $\overline{X}_{SD}$ = 12.78	(n = 16) $\overline{X}_{SD}$ = 15.85	(n = 36) $\overline{X}_{SD}$ = 14.13
Order 2 DSP = Pretest MSP = Posttest	(n = 12) $\overline{X}_{SD}$ = 11.99	(n = 16) $\overline{X}_{SD}$ = 9.12	(n = 28) $\overline{X}_{SD}$ = 10.36

Table 7

A Summary of the Four-Factor Analysis of Variance of

Average Individual Score Improvement Means

Source	df	SS	MS	F	p level
Between Subjects					
(A) Treatment	1	87.89	87.89	2.50	N.S.
(B) Dogmatism	1	42.25	42.25	1.20	N.S.
(C) Order	1	40.25	40.25	1.14	N.S.
A X B	1	62.27	62.27	1.77	N.S.
A X C	1	9.66	9.66	0.27	N.S.
A X B X C	1	34.81	34.81	0.99	N.S.
Error	24	771.52	32.15		
Within Subjects					
(D) Test	1	67.04	67.04	1.91	N.S.
A X D	1	1501.56	1501.56	42.69	.001
B X D	1	45.56	45.56	1.30	N.S.
C X D	1	10551.39	10551.39	299.99	.001
A X C X D	1	18.70	18.70	0.53	N.S.
A X B X D	1	70.74	70.74	2.01	N.S.
B X C X D	1	18.85	18.85	0.54	N.S.
A X B X C X D	1	8.84	8.84	0.25	N.S.
Error	24	844.14	35.17		

Table 8

Mean Individual Performance Scores per Family Unit

(Difference Between Individual and Expert

Ranking Scores)

	Feedback		No Feedback	
Pretest	High Dogmatic (n = 8) $\overline{X}$ = 49.69	Low Dogmatic (n = 8) $\overline{X}$ = 53.56	High Dogmatic (n = 8) $\overline{X}$ = 60.84	Low Dogmatic (n = 8) $\overline{X}$ = 57.09
Posttest	High Dogmatic (n = 8) $\overline{X}$ = 64.75	Low Dogmatic (n = 8) $\overline{X}$ = 61.97	High Dogmatic (n = 8) $\overline{X}$ = 53.25	Low Dogmatic (n = 8) $\overline{X}$ = 49.41

be seen that individual scores were significantly poorer (higher) in the posttest than in the pretest for family members in the video feedback condition (LSD = $p<.05$). However, individuals who did not receive video feedback showed significant improvement from pretest to posttest (LSD = $p<.05$).

CHAPTER V

DISCUSSION

Summary and Conclusions

The general purpose of the present investigation was to determine the effects of videotape feedback for normal families in facilitating a more equalitarian pattern of verbal interaction when engaged in a problem-solving task requiring consensus. In addition, it was hypothesized that videotape feedback for normal families would be instrumental in producing better group and individual score performance on the second of two experimental tasks requiring group consensus. To examine the possible effects of video feedback, two experimental tasks (pretest and posttest) were used to measure individual and group (family) performance. These two tasks (DSP and MSP) yielded both an individual and group score for each family and its respective members. According to previous research these scores reflect how well a group is able to work together using the process of consensus. In this study it was expected that low dogmatic families in the experimental group (receiving video feedback) would display a more equalitarian pattern of verbal interaction and thereby achieve better group score performance on the second of the two experimental tasks. It was also expected that individual members of low dogmatic families would show better individual task score improvement under the feedback condition than under the no

feedback condition, and better improvement than members of high dogmatic families under either feedback condition.

The results of the study are contradictory to the stated hypotheses and to previous contentions that videotape feedback is a viable technique to improve group problem-solving performance. Hypothesis 1 stated that families with (a) adult members scoring low on the dogmatism scale; and (b) exposed to feedback from a videotape of their first group session, will display more equalitarian patterns of verbal interaction from pretest to posttest than families comprising the other three groups. As can be seen from Tables 4, 5, and 6, there was no facilitative effect (more equalitarian pattern of verbal interaction) of videotape feedback for the families involved in the present study.

It was assumed that increased group score performance would be an indirect result of the feedback manipulation. The hypothesized direct result was to enhance the equality of verbal contributions among all family members. Hypothesis 2 stated that families with (a) adult members scoring low on the dogmatism scale; and (b) exposed to feedback from a videotape of their first group session will display higher levels of group score improvement from pretest to posttest on the survival problem tasks than families comprising the other three groups. The data do not support Hypothesis 2. In fact, just the opposite of the stated hypothesis occurred. Low dogmatic families receiving video feedback achieved poorer (but not significantly so) group score performance pretest to posttest than did low dogmatic families not receiving video feedback. This result, while contrary to the present hypothesis, is

generally consistent with previous research concerned with short-term effects of videotape feedback on group behavior. Investigations by Danet (1968a), Fuller and Manning (1973), Searle (1969), and Winter, Griffith, and Kolb (1968) suggest that videotape feedback produces disruptive short-term effects for individuals behaving in group settings. Such disruptiveness is thought to result when feedback produces perceived dissonance between intended and actual behavior. In contrast, Holzman (1969) reported that the first viewing of self as video feedback might provide the most impact for behavioral change. Studies indicating long-term positive effects for video feedback (Borg, 1972; and Haines & Eachus, 1965) have in common one critical factor--specific goal-setting used as the focusing mechanism. It was intended that the goal-setting used as a focus in the present study would be sufficient to produce similar results. Perhaps the goal-setting requirement of the present study was not sufficiently structured to bring about the expected result. It may be the case that a feedback manipulation such as the type used in the present study serves a long-term facilitative function only after inhibited family members are better able to objectively evaluate their overt group performance as observed through a videotape feedback session. This suspicion has been posited by Alger and Hogan (1967) and Kaswan and Love (1969) based upon their clinical practices with families in therapy. Obviously, the present results do not bear on the long-term potential of videotape feedback--they simply point to its short-term limitations in bringing about significant change in the equality of verbal interaction patterns among family members and

their subsequent rate of improvement in group score performance when the family is required to operate on the basis of group consensus.

Hypothesis 3 stated that families with (a) adult members scoring low on the dogmatism scale; and (b) exposed to feedback from a videotape of their first group session will display better average individual score improvement than families comprising the other three groups. Results shown in Tables 7 and 8 indicate no support for Hypothesis 3. To the contrary, individuals not receiving video feedback made significant improvement from pretest to posttest (LSD = $\underline{p} < .05$). Thus, the data indicate that an effect directly opposite to the stated hypothesis occurred. It must be asked, at this point, what was it about the present no feedback condition that resulted in pretest to posttest gains in task performance scores for individuals from low dogmatic families. As indicated in the Methods section, during the second session the feedback and no feedback groups had nearly identical treatment conditions. The only differences were the addition of video feedback for the families in the feedback condition and additional discussion time for the families in the no feedback condition in the absence of video feedback. From the present findings there is no way to determine whether additional time for discussion was the facilitative factor or whether any period of group discussion (provided that no video feedback occurred) contributed positively to individual score performance gains. The discussion of the results from the first session (i.e., individual and group scores, verbalization, and discussion of the intended behavioral goals and the expert ranking and rationale) by the low dogmatic families

in the no feedback condition proved to be more effective than video feedback (in combination with the discussion of the results) in producing pretest to posttest gains. It was surprising to this researcher that individual score improvement for the no feedback group did not transfer to group score performance in the posttest session. As indicated in Table 2, the means for group scores (no feedback condition) were identical. It can be speculated that a possible cause for the lack of transfer from individual to group score performance improvement might be a "blocking" effect. That is, the two family members in each family having the better individual scores on the posttest experimental task might have been prevented from sharing their expertise in the group discussion. Thus their better performance would not have been reflected in the group score for the posttest session. In order to evaluate the possibility of this "blocking" effect, the two lowest (better performance) individual scores in each family for the posttest session were compared (e.g., 30 and 32 compared to 36) to their respective group scores. A "blocking" effect was present if one or both of the individual scores were lower (better performance) than the group score. In both the feedback and no feedback groups containing adults scoring low on the dogmatism scale, only one family out of eight had individual scores indicating a "blocking" effect. Consequently, a "blocking" effect was not apparent in the present data.

Still another possible factor that might have influenced the results of the present study was the nature of the focusing device for feedback. Perhaps the behavioral goals were too generalized to be of

value to the family members. Upon tabulation of the focusing goals into two main categories (process-oriented and content or goal-oriented), it was found that the majority (80%) of the goals were process-oriented while content or goal-oriented statements comprised only 20% of the total. Examples of the process-oriented goals are the following: "I want to listen to and understand the viewpoints of the other family members"; "I want to do what is needed to reach agreement with minimal conflict"; and "I want to be logical in the group discussion." Examples of the content or goal-oriented objectives include the following: "I will help the family to get a good group score"; "I will not allow arguing"; and "I want the family to reach consensus quickly." Since considerably more attention was given to goals related to the process of decision-making, perhaps it resulted in generalized patterns of thinking and behaving-- in effect negating the possible benefits of video feedback. Studies by Borg (1972), Jensen (1968), and Kagan and Krathwohl (1967) reported a definitive need for specific focusing of some type to accompany video feedback if it is to have a positive effect on participants. It is the observation of this investigator that most of the behavioral goals listed by family members were not specific enough to be of critical value. Future research efforts using a focusing device similar to that used in the present study should include behavioral goals defined in more specific terms.

This researcher observed an unforeseen difficulty with the experimental tasks used in the present study. While the two experimental tasks used are quite similar in form and content, they differ in one important

aspect. If the MSP was administered in the pretest session, the nature of the MSP suggested the possibility that survivors should move from place to place. Consequently, family members completing the DSP during the posttest session assumed the greater value of movement as opposed to staying in one location. This assumption was not justified by the written instructions of the DSP which clearly indicated the items were to be ranked according to their importance for survival--not necessarily for a journey. Nevertheless, families taking the DSP in the posttest session tended to have higher group scores (poorer performance) when compared to those families taking the MSP in the posttest session. Due to this unforeseen difficulty, two steps were taken to negate this effect of order. First, order of administration of the two experimental tasks was included as a variable. Secondly, the group scores were transformed to z scores. As indicated in Table 3, the effects of order did not produce significant main effects. Future use of these two experimental tasks as equivalent instruments should take into account the effect of order of administration. Provided some modification of the written directions given for each task were made that would remove the possibility for carry-over assumptions, one could use these tasks with increased assurance.

In conclusion, the present study utilized focused video feedback to facilitate a more equalitarian pattern of verbal interaction among members of normal families. In addition, it was thought that the hypo-thesized equalitarian pattern of verbal interaction would result in better group and individual score performance (for low dogmatic families)

in a problem-solving task requiring group consensus. The data collected and analyzed in the present study led this researcher to reject the stated hypotheses.

Although previous research indicated effective and consistent use of the Rokeach Dogmatism Scale (1960) and the subsequent modification of the Rokeach scale developed by Troldahl and Powell (1965) into the short-form scale, this researcher observed discrepant behaviors that call into question the validity of these scales. Some adult family members who scored low on the dogmatism scale exhibited behaviors typical of high dogmatic persons (i.e., becoming upset and shouting when someone disagreed with them; using a commanding voice tone). The reliability and validity studies conducted by Rokeach and his associates used college students as subjects (see discussion of instruments under Methods section of this study). Erlich and Lee (1969), reporting the results of a follow-up study conducted five years after the initial administration of the Rokeach Dogmatism Scale to college students, noted that some revisions of Rokeach's Scale may be necessary. Erlich and Lee found five intervening variables that tend to produce disconforming results on the Rokeach Dogmatism Scale. Those five variables are: (1) the authority source of the new beliefs, (2) the syndrome relevance of their mode of communication, (3) belief congruence, (4) the novelty of the new beliefs, and (5) centrality of the new beliefs to the individual. Perhaps the novelty of new beliefs acquired through video feedback led to the lack of influence of dogmatism as a factor in the present study. Although Erlich and Lee's results confirm the basic principle that

closed-minded persons are less able than open-minded persons to learn new beliefs and to change old beliefs, it does so only for the group of former college students between the ages of 24-28. One can only speculate as to the results of such a study conducted with parents ranging in age from 35-50--similar to the age range used in the present study. While the dogmatism scale might be quite accurate in determining the dogmatic person of college age, this researcher's observations lead to the conclusion that the dogmatism scale does not seem to predict overt behavioral manifestations for older adults behaving in groups. Perhaps the dogmatism scale is less applicable to older persons whose values have changed with time and experience. Reliability and validity studies for the Rokeach Dogmatism Scale (1960) and the short-form version by Troldahl and Powell (1965) are needed for a variety of populations including normal adult family members.

Implications for Future Research

As a result of this study, a number of possible areas of investigation need to be explored. First, further refinement or revision of the Rokeach Dogmatism Scale is needed. Due to the five intervening variables cited by Erlich and Lee (1969) and the results of the present study, further clarification as to the conditions under which the Rokeach Dogmatism Scale results are valid is needed. For future research in this area, this researcher suggests the use of a reliable self-esteem scale (since a number of studies cited in the related literature section of this study indicated an inverse relationship between self-esteem and

dogmatism) in lieu of the dogmatism scale until its use is warranted by additional research. Secondly, a revision of the written instructions to the two experimental tasks used in the present study would aid future research efforts by eliminating possible confounding factors. The process by which one can establish definitive behavioral goals to be used as a focusing device would be of considerable benefit in the area of video feedback for normal families to enhance behavioral change. Lastly, future research related to video feedback for normal families for the purpose of enhancing behavioral changes might include a variety of intervals between actual performance and time of video feedback. Perhaps immediate video feedback would influence behavioral change for normal families since the present study seems to indicate that delayed video feedback in the specified conditions is not effective in the production of behavioral change for members of normal families. However, practical problems related to time and availability of family members might prove to be major obstacles.

It is the hope of this investigator that future research utilizing video feedback with normal families to influence behavioral changes will find the present study of value in the context of the total body of knowledge relative to consensual family decision-making.

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APPENDIX A

SCORESHEET FOR TABULATION OF FREQUENCY AND TYPES OF

VERBAL CONTRIBUTIONS OF FAMILY MEMBERS

APPENDIX A

SCORESHEET FOR TABULATION OF FREQUENCY AND TYPES OF

VERBAL CONTRIBUTIONS OF FAMILY MEMBERS

Time	F	M	S	S		F	M	S	S		F	M	S	S		F	M	S	S		F	M	S	S
1					21					41					61					81				
2					22					42					62					82				
3					23					43					63					83				
4					24					44					64					84				
5					25					45					65					85				
6					26					46					66					86				
7					27					47					67					87				
8					28					48					68					88				
9					29					49					69					89				
10					30					50					70					90				
11					31					51					71					91				
12					32					52					72					92				
13					33					53					73					93				
14					34					54					74					94				
15					35					55					75					95				
16					36					56					76					96				
17					37					57					77					97				
18					38					58					78					98				
19					39					59					79					99				
20					40					60					80					100				

APPENDIX B

SHORT-FORM DOGMATISM SCALE

APPENDIX B

SHORT-FORM DOGMATISM SCALE

The following is a study of what the general public thinks and feels about a number of important social and personal questions. The best answer to each statement below is your personal opinion. We have tried to cover many different and opposing points of view; you may find yourself agreeing strongly with some of the statements, disagreeing just as strongly with others, and perhaps uncertain about others; whether you agree or disagree with any statement, you can be sure that many people feel the same as you do.

Mark each statement in the left margin according to how much you agree or disagree with it. Please mark every one.

Write +1, +2, +3, or -1, -2, -3, depending on how you feel in each case.

+1: I AGREE A LITTLE   -1: I DISAGREE A LITTLE

+2: I AGREE ON THE WHOLE   -2: I DISAGREE ON THE WHOLE

+3: I AGREE VERY MUCH   -3: I DISAGREE VERY MUCH

1. In this complicated world of ours the only way we can know what's going on is to rely on leaders or experts who can be trusted.

2. My blood boils whenever a person stubbornly refuses to admit he's wrong.

3. There are two kinds of people in this world: those who are for the truth and those who are against the truth.

4. Most people just don't know what's good for them.

5. Of all the different philosophies which exist in this world there is probably only one which is correct.

6. The highest form of government is a democracy and the highest form of democracy is a government run by those who are most intelligent.

7. The main thing in life is for a person to want to do something important.

8. I'd like it if I could find someone who would tell me how to solve my personal problems.

9. Most of the ideas which get printed nowadays aren't worth the paper they are printed on.

10. Man on his own is a helpless and miserable creature.

11. It is only when a person devotes himself to an ideal or cause that life becomes meaningful.

12. Most people just don't give a "damn" for others.

13. To compromise with our political opponents is dangerous because it usually leads to the betrayal of our own side.

14. It is often desirable to reserve judgment about what's going on until one has had a chance to hear the opinions of those one respects.

15. The present is all too often full of unhappiness. It is only the future that counts.

16. The United States and Russia have just about nothing in common.

17. In a discussion I often find it necessary to repeat myself several times to make sure I am being understood.

18. While I don't like to admit this even to myself, my secret ambition is to become a great man, like Einstein, or Beethoven, or Shakespeare.

19. Even though freedom of speech for all groups is a worthwhile goal, it is unfortunately necessary to restrict the freedom of certain political groups.

20. It is better to be a dead hero than to be a live coward.

+1: I AGREE A LITTLE		-1: I DISAGREE A LITTLE
+2: I AGREE ON THE WHOLE		-2: I DISAGREE ON THE WHOLE
+3: I AGREE VERY MUCH		-3: I DISAGREE VERY MUCH

APPENDIX C

EXPERIMENTAL TASKS

NASA MOON SURVIVAL PROBLEM GROUP WORKSHEET

INSTRUCTIONS: This is an exercise in group decision-making. Your group is to employ the method of GROUP CONSENSUS in reaching its decision. This means that the prediction for each of the 15 survival items must be agreed upon by each group member before it becomes a part of the group decision. Consensus is difficult to reach. Therefore, not every ranking will meet with everyone's complete approval. Try, as a group, to make each ranking one with which all group members can at least partially agree. Here are some guides to use in reaching consensus:

1. Avoid arguing for your own individual judgments. Approach the task on the basis of logic.

2. Avoid changing your mind only in order to reach agreement and avoid conflict. Support only solutions with which you are able to agree somewhat, at least.

3. Avoid "conflict-reducing" techniques such as majority vote, averaging, or trading in reaching your decision.

4. View differences of opinion as helpful rather than as a hindrance in decision-making.

____Box of matches

____Food concentrate

____50 feet of nylon rope

____Parachute silk

____Portable heating unit

____Two .45 calibre pistols

____One case dehydrated Pet milk

____Two 100-lb. tanks of oxygen

____Stellar map (of the moon's constellation)

____Life raft

____Magnetic compass

____5 gallons of water

____Signal flares

____First aid kit containing injection needles

____Solar-powered FM receiver-transmitter

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NASA MOON SURVIVAL PROBLEM INDIVIDUAL WORKSHEET

INSTRUCTIONS: You are a member of a space crew originally scheduled to rendezvous with a mother ship on the lighted surface of the moon. Due to mechanical difficulties, however, your ship was forced to land at a spot some 200 miles from the rendezvous point. During landing, much of the equipment aboard was damaged, and, since survival depends on reaching the mother ship, the most critical items available must be chosen for the 200-mile trip. Below are listed the 15 items left intact and undamaged after landing. Your task is to rank order them in terms of their importance to your crew in allowing them to reach the rendezvous point. Place the number 1 by the most important item, the number 2 by the second most important, and so on, through number 15, the least important. You have 15 minutes to complete this phase of the exercise.

_____Box of matches

_____Food concentrate

_____50 feet of nylon rope

_____Parachute silk

_____Portable heating unit

_____Two .45 calibre pistols

_____One case dehydrated Pet milk

_____Two 100-lb. tanks of oxygen

_____Stellar map (of the moon's constellation

_____Life raft

_____Magnetic compass

_____5 gallons of water

_____Signal flares

_____First aid kit containing injection needles

_____Solar-powered FM receiver-transmitter

DESERT SURVIVAL PROBLEM GROUP WORKSHEET

INSTRUCTIONS: This is an exercise in group decision-making. Your group. is to employ this method of GROUP CONSENSUS in reaching its decision. This means that the prediction for each of the 15 survival items must be agreed upon by each group member before it becomes a part of the group decision. Consensus is difficult to reach. Therefore, not every ranking will meet with everyone's completed approval. Try, as a group, to make each ranking one with which all group members can at least partially agree. Here are some guides to use in reaching consensus:

1. Avoid arguing for your own individual judgments. Approach the task on the basis of logic.

2. Avoid changing your mind only in order to reach agreement and avoid conflict. Support only solutions with which you are able to agree somewhat, at least.

3. Avoid "conflict-reducing" techniques such as majority vote, averaging, or trading in reaching your decison.

4. View differences of opinion as helpful rather than as a hindrance in decision-making.

____Flashlight (4 battery size)

____Jack knife

____Sectional air map of the area

____Plastic raincoat (large size)

____Magnetic compass

____Compress kit with gauze

____.45 caliber pistol (loaded)

____Parachute (red and white)

____Bottle of salt tablets (1000 tablets)

____1 quart of water per person

____A book entitled, Edible Animals of the Desert

____A pair of sunglasses per person

____2 quarts of 180 proof Vodka

____1 top coat per person

____A cosmetic mirror

DESERT SURVIVAL PROBLEM INDIVIDUAL WORKSHEET

INSTRUCTIONS: It is approximately 10:00 A.M. in mid-August and you have just crash landed in the Sonora Desert in southwestern United States. The light twin engine plane, containing the bodies of the pilot and the co-pilot, has completely burned. Only the air frame remains. None of the rest of you have been injured. The pilot was unable to notify anyone of your position before the crash. However, he had indicated before impact that you were 70 miles south-southwest from a mining camp which is the nearest known habitation and that you were approximately 65 miles off the course that was filed in your VFR Flight Plan. The immediate area is quite flat and except for occasional barrel and saquaro cacti appears to be rather barren. The last weather report indicated the temperature would reach 110° that day which means that the temperature at ground level will be 130°. You are dressed in light weight clothing--short sleeved shirts, pants, socks and street shoes. Everyone has a handkerchief. Collectively, your pockets contain $2.83 in change, $85.00 in bills, a pack of cigarettes, and a ballpoint pen. Before the plane caught fire your group was able to salvage the 15 items listed below. Your task is to rank these items according to their importance to your survival, starting with "1" the most important, to "15" the least important. You have 15 minutes to complete this phase of the exercise.

_____Flashlight (4 battery size)

_____Jack knife

_____Sectional air map of the area

_____Plastic raincoat (large size)

_____Magnet compass

_____Compress kit with gauze

_____.45 caliber pistol (loaded)

_____Parachute (red and white)

_____Bottle of salt tablets (1000 tablets)

_____1 quart of water per person

_____A book entitled, Edible Animals of the Desert

_____A pair of sunglasses per person

_____2 quarts of 180 proof Vodka

_____1 top coat per person

_____A cosmetic mirror

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