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PROBLEM SOLVING EFFECTIVENESS: THE EFFECT OF FAMILY SYSTEM VARIABLES AND FAMILY INTERACTION VARIABLES

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Ву

Dan Riemenschneider

A DISSERTATION

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ABSTRACT

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PROBLEM SOLVING EFFECTIVENESS: THE EFFECT OF FAMILY SYSTEM VARIABLES AND FAMILY INTERACTION VARIABLES

By

Dan Riemenschneider

Purposes of the research were to: 1) test selected parts of the Klein and Hill (1979) problem solving theory; 2) explore new frontiers in research methodology; and 3) concentrate on processes of problem solving in addition to outcome. Special features of methodology include: 1) All family members able to read and write included in the research; 2) Unit of analysis was the family with individual scores aggregated to form a family score; and 3) Families were allowed to choose own problem to solve. This is in contrast to use of contrived problems. Statistical analysis included Pearson Product Moment correlation, multiple regression, and t-tests of individual regression coefficients.

Dependent variable: problem solving effectiveness defined as the degree to which family members solve problems (quality) to the mutual satisfaction of family members (acceptance). Independent variables: equality of verbal communication, equality of participation, rationality, creativity, support, power (measured subjectively and objectively), consensus, sense of mastery, and self-esteem.

Method of data collection included tape recording the family interaction, and two surveys: Problem Solving Index, developed by the author for this study, and Family Inventory of Resource Management (FIRM) developed by McCubbin and Patterson (1981). Rationality, support, and power were significantly related to problem solving quality. Creativity, power, and equality of verbal communication were significantly related to problem solving acceptance. Five interaction variables (equality of verbal communication, support, creativity, rationality, and power) were significantly related to problem solving effectiveness both with correlation analysis and multiple regression analysis. Results supported the need for two dimensions (quality and acceptance) to adequately measure problem solving effectiveness. Self-esteem was significantly related to power, support, and creativity. Sense of mastery was significantly related to rationality. Consensus was significantly related to equality of verbal communication.

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CHAPTER ONE

THE PROBLEM AND THEORETICAL FRAMEWORK

Introduction

The purpose of most family research is an attempt to answer a question dealing with some aspect of family life. There is, however, an inherent underlying purpose: to clarify, adapt, change, or add to theory building efforts in the researcher's area of concern. The hope is that with enough research, propositions can be formulated into a general theory which can both explain and predict observable phenomena.

Some family research scholars share the dream that family problem solving can become a general theory of family processes (Klein and Hill, 1979). The reason for this optimism is rather simple. While the interest areas of family researchers are quite diverse, there seems to be one concept that emerges in each area: family problems. As Klein and Hill state (1979: 493),

> Problems have no natural boundaries. Virtually anything can become problematic in families as well as other social groups. Thus family problems and problem-solving behaviors cut across most of the other substantive interests [of family researchers]."

Whether it is mate selection, family violence, marital quality, family structure, family stress, or parenting, researchers will have to address family problems to adequately describe these diverse areas. Indeed, researchers within some of these interest areas are beginning to recognize the importance of family problem solving theories. One group of authors writing on stress and coping stated that,

> one of the family's fundamental resources is its problem-solving ability. The importance of the family problemsolving framework to family stress research is threefold: (1) it focuses on family response to problems before crises emerge (problems are not crises because the former are not disruptive of family organization); (2) it draws attention to problems which are role and situation specific, each with a history; and (3) it takes into consideration the initial level of family organization and attempts to identify the family's stylized solutions to specific problems (McCubbin et al., 1980: 132).

These authors go on to state that "we need to know more about those critical family resources such as coping, social support, and family problem solving which appear to have the dual role of buffering the negative consequences of stressors on family life and facilitating family adjustment" (McCubbin et al., 1980: 136).

This research is an attempt to add to the family problem solving theory building efforts. Chapter one includes the purposes and objectives of the research. A brief discussion of the historical background that has prompted modern family problem solving theories is also a part of the introductory chapter. The bulk of chapter one is a detailed description of the Klein and Hill (1979) problem solving theory upon which this research is based. All variables used in the study are defined and discussed. Hypothesized relationships among these variables are also identified.

Chapter two focuses on selected research relevant to the variables used in this study. Chapter three is a description of the research including a special section on a unique feature of the research design. The results of the study are presented in chapter four. Chapter five concludes the volume with a discussion of the results of the study and some implications for further research.

Purpose of the Research

The purpose of this research is threefold. The most obvious reason for the research is to test selected parts of the Klein and Hill (1979) problem solving theory. Klein and Hill (1979) listed only six studies that addressed any of the interaction effects described by their theory.

The second reason for the research is to explore new frontiers in research methodology. A popular practice among researchers has been to use only one respondent, usually the wife, in gathering family data. The assumption was that wives could accurately describe family processes. This assumption has been criticized by several authors (Olson, 1972; Safilios-Rothschild, 1970; Turk, 1972) who have suggested a shift to using both husband and wife to gather family data. This approach, while an improvement, still does not go far enough. Larson (1974) felt that

families could not be accurately studied without knowing something about the responses of each family member.

A related methodological concern is the use, or misuse, of the unit of analysis. Spanier and Lewis (1980) as well as Thompson and Walker (1982) have noted that in some studies the family has been stated to be the unit of analysis when in actuality, in the handling of the data, the individual was the unit of analysis.

A final methodological issue involves the kind of problem that families are asked to solve. A few studies (Tallman and Miller, 1972; Ferreira and Winter, 1965) have used contrived problems. The use of these contrived problems that families will rarely, if ever, encounter in normal life situations has been criticized by Udry (1974) and Framo (1965). The concern with the use of contrived problems is that families may not regard these kinds of problems as important. Families may not work on unimportant problems with the same kind of intensity or even use the same process in solving the problem as they might with important problems that they will actually encounter.

This research attempts to address each of these methodological concerns. Families are asked to solve problems they are presently facing. Information is requested from each family member who is able to read and write. The individual scores are combined with the other family member scores to obtain a family score.

The third purpose of this research is to go beyond "outcome" oriented research to concentrate on the processes leading to the outcome. Outcome oriented research has been heavily influenced by Blood and Wolfe. They stated (Blood and Wolfe, 1969:71) that "the crucial question is not who takes part in the discussion but who makes the final decision." This belief is not shared by everyone. Scanzoni (1980) asserted that knowing who participated in the discussion and how these participants felt about the decision outcome as well as the process used in arriving at the outcome was vitally important to understanding the familv. Sprey (1972) felt that more fruitful data would come from a study of process rather than simply studying the outcome. A major component of the Klein and Hill (1979) theory on problem solving is an identification of the kind of family interaction that is most likely to lead to effective problem solving.

Objectives of the Research

Based on the major purposes of the research three objectives were formulated to guide the research efforts:

1. To empirically test selected parts of the Klein and Hill (1979) problem solving theoretical framework.

2. To give major emphasis to the processes involved in family problem solving as these relate to problem solving outcomes.

3. To design an experiment that incorporated three methodological issues: the use of real problems, the involvement of the entire family, and a treatment of the data that would ensure that the family was the unit of analysis.

Historical Background

Klein and Hill (1979) trace the historical background of family problem solving theories through four areas of scientific work. The first area they call "the family and social problems." The central premise of this area is that the family is a societal institution. The family's primary function according to this view is to socialize its members into a functional relationship with other members and other institutions of the society. If parents do not adequately perform this role as a socializing agent, family disorganization results. The problems faced by society can be traced to such role failure and subsequent family disorganization. As Saxton (1979: 363) states,

> Since the chief functions of the modern American family are its provision of early socialization and continual emotional support of its members, the family which fails to supply its members with intimacy, with role identification, with confirmation and emotional nurture can, more than any other institution in our society, create anxiety and personality and character disorders in its members-who in turn, of course, influence other people and thus the harmony and order of the society at large.

One of the contributions of this work to modern family problem solving efforts has been to spark interest in formulating lists of problems that families face in attempting to be adequate socializing agents.

The second area delineated by Klein and Hill (1979) as having historical influence on problem solving theories is termed "family crisis and adjustment." This area is largely based on Hill's classic ABCX model of family stress. A stressor event (A) interacts with the family's crisis-meeting resources (B) and the family's definition of the event (C) to produce the crisis (X) (Hansen and Johnson, 1979).

One of the family's primary resources for coping with stressor events and a crisis is its problem solving ability (McCubbin et al., 1980). Researchers in this area have generally viewed families as active agents in their problem solving efforts. In so doing they have overcome a criticism of the social problem approach. This latter view has held that families tend to be helpless in solving their own problems and thus must look to others for assistance (Klein and Hill, 1979). Conceptualizing families as having a higher level of ability has allowed crisis researchers to look at the definition that families place on stressor Not all families see the same event as a potential events. crisis point. A second consequence of this higher view of families has been that researchers have focused on the family's ability to adjust to some level of equilibrium

after a crisis. Both of these ideas-the family's definition of a problem event and the family's ability to work through a problem or crisis-have become major components of modern family problem solving theories.

A third area to have influence on family problem solving models is termed by Klein and Hill (1979) as "normal family development." Researchers in this area view families as progressing through various stages. Duvall and Miller (1985) identify eight such stages: newly married couple; childbearing years; preschool age; school-age; teenage; launching center; middle-aged parents; and aging family members. As Duvall and Miller (1985: 61) state, "each new developmental crisis necessitates new adaptations and imposes new responsibilities at the same time that it opens up new opportunities and poses new challenges."

A developmental crisis emerges when the needs of one or more family members converge with societal expectations of family performance. To meet the crisis the family brings together its collective resources.

Families in various stages of development may have different kinds of problems and cope with these problems in different ways. Thus stage theories have contributed to family problem solving theories by increasing awareness of the possible interactional dynamics involved in problem solving (Klein and Hill, 1979).

Small group problem solving is the fourth research area to have major influence on family problem solving

theories. Researchers in this area have focused their attention on discussion procedures, information processing, characteristics of group members, topics of discussion, and effectiveness of group leaders (Bales and Strodtbeck, 1951). Each of these variables influence the productivity and quality of group problem solving efforts. As Klein and Hill (1979: 495) state "since families are small groups, it is only natural that the concepts and principles developed in these other settings be borrowed and applied to family problem solving."

The disadvantage of such an approach is that families differ in many ways from small groups. Families are typically more emotionally involved in ways that small group members are not. Small groups do not have the same kind of history that families possess. The kinds of problems that families deal with are in most cases different from the problems that a small group may face. Consequently, information derived from research on small groups must be carefully evaluated as to its adequacy in describing <u>family</u> problem solving. With these limitations in mind small group research has dramatic implications for family problem solving theories in at least three areas: (1) interactional and structural factors likely to have an impact on problem solving; (2) the role of decision-making in problem solving and (3) insight on the phasing and rationality of family problem solving processes.

The major findings from these four areas of research that are applicable to family problem solving have been combined by Klein and Hill (1979) to form their comprehensive theory of the determinants of family problem solving effectiveness. The next section of this chapter describes the major components of this theory.

Determinants of Family Problem Solving Effectiveness

A major purpose of this research is to test the problem solving model developed by David Klein and Reuben Hill (1979). Because of the theory's complexity only selected parts are tested in this research. While there are some problems using this kind of approach it nevertheless is one of the approaches recommended by the authors of the theory. Klein and Hill suggest that testing various parts of the theory will possibly allow at least some of the predicted relationships to be eliminated. This will result in a simplification of the theory. The limitations of testing only selected sections of the model are discussed in chapter three.

The entire model is presented in this section so as to place the research efforts in context. Figure 1.1 shows the major components of this theory. Following is a description of each block. Included in the discussion of each block is an identification of the variables used in the research, conceptual definitions of each of the variables, and measurement considerations.



Figure 1.1 Factors Affecting Family Problem Solving Effectiveness (Klein and Hill, 1979:518)

Problem Solving Effectiveness

Klein and Hill (1979: 499) define problem solving effectiveness as "the degree to which family problems are solved (quality) to the mutual satisfaction of family members (acceptance)." It is important to look at both dimensions if effectiveness is to be adequately explained. Families may come up with a high quality solution as judged by some objective standard. It may fail, however, because one or more members of the family were dissatisfied with the process by which the solution was adopted and thus fail to give the solution the necessary support to make it work. Such a result would not be found if effectiveness were measured in quality terms only. The reverse is also true. A solution may have a high degree of acceptance among family members but fail because the quality of the solution was low. Both acceptance and quality must be high if the solution is to have optimum effectiveness. If either dimension is compromised then effectiveness will be less than what it could be.

Most prior research has utilized only the quality dimension of effectiveness. Klein and Hill (1979: 520) state that "while acceptance might be measured by subjective ratings on satisfaction with outcomes and satisfaction with the process by which an outcome has been reached, this procedure has not yet been employed in family research." Both of these subjective ratings are used in the research of this volume.

Quality is also measured subjectively. Families are asked to respond as to whether or not the solution they arrived at actually solved the problem. Most prior research has used more objective standards for measuring quality. This research, however, has used games to study family problem solving. A popular approach to measuring quality was to see how close the families came to discovering game rules (Straus and Tallman, 1971). Since actual family problems were used in the research of this study it was assumed that asking families if their solution solved the problem would get as close to measuring

quality as any objective standard. Klein and Hill (1979: 499) allow for this possibility, "solution quality is amenable to subjective as well as objective assessment (e.g., how successful group members think they have been)." The strength of this measurement is greatly increased by asking family members to respond to a quality question immediately after the problem solving session as well as one month later. Building time for families to actually use the solution into the research design should give a more adequate measurement of solution quality.

Problem Solving Interaction

Klein and Hill predict that problem solving interaction will have the greatest immediate impact on family problem solving effectiveness. They organize eleven interaction variables into four categories: amount of interaction, distribution of interaction, sequencing of interaction, and normativity of interaction. Table 1.1 (next page) lists the variables under their appropriate category.

Amount of verbal communication describes the amount of talking among family members during a problem solving session. For purposes of this research amount of communication is defined as the length of time individual family members spend in talking. The variable used in this study is equality in the amount of verbal communication. It is suggested that the more equal family members are in the length of time they spend in communication the more

AMOUNT OF INTERACTION	DISTRIBUTION OF INTERACTION	SEQUENCING OF	NORMATIVITY OF INTERACTION
Amount of verbal com- munication *	Centralization of power *	Phasing rationality *	Legitimacy of power
Creativity * Elaborate- ness of language	Coordinative leadership Expert power		
codes Amount of support * Amount of			
nonverbal communica- tion			
Amount of conflict			
(*) varial	bles used in this	study and desci	ribed below

Table 1.1 Interaction Variables By Category Klein and Hill, 1979

effective will be their problem solving. An inverse relationship will exist if communication is concentrated among a few family members.

A variable that is not included in the Klein and Hill model but is included in this research is called amount of participation. It is somewhat related to the amount of communication. Amount of participation is measured by the number of times that family members participate. In this study the variable is called equality in the amount of participation. Families that stress equal participation may have greater effectiveness in their problem solving. Creativity is defined as the number of alternative solutions that are suggested by the family members. The theory predicts a positive relationship between creativity and problem solving effectiveness, especially solution quality. If creativity is concentrated among one or two family members then an inverse relationship should exist between creativity and solution quality.

Amount of support refers to the number of positive affect statements as compared to the number of negative affect statements. If support is concentrated among a few family members then an inverse relationship will exist with problem solving effectiveness, especially solution acceptance. Otherwise the relationship should be positive.

Power is a rather controversial variable in the field. For purposes of this research power is defined as the degree that family members have their ideas discussed. Power is measured both subjectively and objectively. The subjective measure is found by asking family members to state if they felt that their ideas were discussed. The objective measure comes from analyzing tape recording data as to whose ideas were discussed. Klein and Hill predict that the concentration of power among one or two family members will inversely influence problem solving effectiveness. Chapter two discusses the difficulty in using this variable.

Rationality in this research is defined conceptually as the process by which families seek a solution to a

family problem. The central concern at this point is identifying the most effective steps that families use in arriving at a satisfactory solution. The decision making literature is full of suggestions on the steps necessary to solve a problem. Unfortunately there is little agreement on which steps are most effective. This research used three steps to operationalize rationality: looking for causes of the problem, discussing alternatives, and searching for information that would aid in the elimination of alternatives. The particular sequencing of the steps necessary for effective family problem solving was not considered vitally important to this study. It was felt that the major variance among families that would be due to using different sequences would be in the amount of time necessary to arrive at a solution. The actual outcome should not be affected if the same steps are used by each family. Another consideration was that the lack of agreement among authors on the steps necessary to solve a problem would make the choice of any particular steps subject to review. Thus it was felt to be premature to include in this research any particular sequencing of steps. It is predicted that rationality will positively influence problem solving effectiveness, especially solution quality.

Group Structural Properties

Klein and Hill (1979: 518) define group structural properties as the "organizational features of a family which exist prior to the onset of problem solving interaction." Figure 1.2 presents the proposed relationships among these group structural properties. The plus sign (+) indicates a positive relationship. A negative sign (-) indicates an inverse relationship. Following the diagram is a brief description of each of these properties.



Figure 1.2. Proposed Relationships Among Group Structural Properties (Klein and Hill,1979:524)

Family size is simply the number of members in the family. Family life cycle stage is a concept borrowed from the stage theorists. Each family progresses through developmental stages. At each stage the roles of family members change to reflect the changing tasks of the family. These developmental stages have been listed earlier in this chapter.

Homogeneity of age refers to the degree of similarity in the ages of the various family members. Homogeneity of gender refers to the sex ratio in the family. Homogeneity of competencies is defined as the distribution of problem solving skills among family members.

Developmental flexibility is the ability of the family to adjust to the changing roles of family members as a new life cycle stage is encountered.

Consensus refers to the extent that family members agree on role expectations, definitions of the problem, family goals, and their problem solving abilities.

Cohesiveness is defined as the degree to which family members are attracted to each other and to the family as a whole.

As to the effect of group structural properties on problem solving interaction Klein and Hill (1979: 536) state, "we assert that, in general, group structural properties positively influence the nondistributive interaction variables (i.e., amount of support, phasing rationality, and so on) and inversely influence the distributive interaction variables (i.e., concentration of support, centralization of power, and so on)."

Although family size is not controlled in the study, the analysis of the data does reflect an attempt to offset any variance that might result from this variable. Any of the results that would be affected by family size

were adjusted so the results would be comparable. Families in the sample ranged from three members to five members.

Family life cycle stage was controlled. Each family had at least one teenager in the home. Some of the families had smaller children but none had children that had been "launched."

Homogeneity of age and homogeneity of gender are not included in the research. Klein and Hill suggest that gender composition will have limited effects on problemsolving interaction. Since all the families were composed of married couples the only differences would be found among the children. To control this variable or to include it in the analysis was considered to be of limited value.

Homogeneity of competencies was not included in the research because of the difficulty of obtaining the historical data from each family that would have been necessary. To judge problem solving skills of each member would have required some type of prior analysis of the family. This analysis would have to be observational because of the tendency of respondents to either understate or overstate their skills on a survey form. For the present research this was not possible. Further research could take this variable into account and develop appropriate measures to obtain the required information. Another consideration regarding homogeneity of competencies is that the problem solving skills needed to solve family problems are still in need of research. The definition of

Klein and Hill on this variable suggests that the skills essential for effective problem solving are those that are part of their interaction variables. If this is the case then research on interaction variables would need to come first. That is the purpose of the research in this study.

To accurately measure developmental flexibility requires a longitudinal research approach. Families would have to be studied as they entered various life cycles to see how well they were altering their interaction patterns to respond to the changing needs of their families. Such an approach is beyond the scope of this research and thus developmental flexibility is not included as a variable.

Consensus was included as a measure of the degree to which family members agreed on how well statements applied to their family that pertained to selected family resources. The resources selected to measure consensus were the ones used in the Family Inventory of Resource Management (FIRM). This instrument included statements that related to self-esteem, communication, sense of mastery, emotional as well as physical health, and extended family relationships. Several of the statements related to the conceptual definition of Klein and Hill (1979) that consensus should be a measure of agreement on family goals, problem solving ability, and role expectations. Examples of statements touching on these areas are as follows:

Family Goals:

- 4. We do not plan far enough ahead because many things turn out to be a matter of luck anyway.
- 59. In our family we feel it is important to save for the future.

Problem Solving Ability:

- 11. We seem to put off making decisions.
- 44. When we face a problem, we look at the good and bad of each possible solution.

Role Expectations:

- 18. In our family some members have many responsibilities while others don't have enough.
- 39. In our family we understand what help we can expect from each other.

Klein and Hill (1979) predict that consensus will influence the frequency and distribution of family interaction. They also suggest that consensus will have a "direct and positive effect on family problem solving effectiveness independent of its effects on some of the interaction variables" (Klein and Hill, 1979:536).

Cultural Orientation

Klein and Hill (1979: 518) refer to cultural orientations as a "system of shared beliefs, values, and meanings in a family regarding the relationships among members and the relationship of the family to its environment. In further defining cultural orientation they discuss three variables that have influence on the family's orientation:

1. The family's sense of mastery over the direction of their family life. Families that sense that they have some control over their environment will enter into problem solving differently than families submissive to environmental demands.

2. The degree to which family members find satisfaction with the family's activities. There may tend to be less enthusiasm to solve family problems if there is no intrinsic satisfaction with family activities.

3. The extent in which individual differences are recognized and appreciated. Families that exert extreme pressure on individual family members to conform to family demands may find their capacity to solve problems severely handicapped because of the suppression of the individual family member's creativity.

Only the first variable, the family's sense of mastery is used in the research of this study. The sense of mastery is specifically tested with the use of the FIRM instrument. One of the subscales of this instrument is entitled "mastery and health." Three of the statements from this instrument serve to illustrate the kind of information that was gathered from each of the families:

 "Sometimes we feel we don't have enough control over the direction our lives are taking."
- 2. "Many times we feel we have little influence over the things that happen to us."
- 3. "We do not plan too far ahead because many things turn out to be a matter of luck anyway."

The next two variables-satisfaction with family activities and the extent that individual differences in the family are appreciated-are somewhat buried within the FIRM instrument. One of the subscales has a statement that deals somewhat with family activities: "We get great satisfaction when we can help out one another in our family." Two statements emerge for the second variable: "The members of our family respect one another;" and "Members of our family are encouraged to have their own interests and abilities." Since these statements are part of the subscales used to measure mastery and self-esteem, it was felt that validation problems would result if these statements were pulled from the scale and used to test the variables of satisfaction and appreciation of individual differences. Follow-up studies that employed specific measures of these two variables would be useful.

Member Characteristics

Klein and Hill (1979) refer to these characteristics as those thought to increase the effectiveness of problem solving. Three variables stand out in this regard:

1. The ability to process information. Individuals able to process increasing levels of complex information

will, it is hypothesized, perform better on problem solving tasks.

2. The motivation to solve a problem that the family members bring into the situation. Problem solving will be hindered by the degree that any family member is less than totally motivated to work on a problem confronting the family. Without this motivation a family member may not exhibit the persistence to work with a problem until a satisfactory solution is found.

3. The level of self-esteem of each family member.

Complexity of information processing is not included in this research because of the difficulties of finding a useful operational definition. Variance between families in their abilities to solve problems may well be due to this variable. If this is a tenable position then further study is recommended to find a definition that can be included in follow-up research.

Problem solving motivation is assumed to be built into the design of the study. Families were asked to choose a problem to solve. The families were instructed to find a problem that was important to the family and included most of the members of the family. The assumption was made that families would be more motivated to solve a real problem than to solve a contrived problem that was brought in from the researcher. Chapter two discusses the rationale for such an approach. There are some limitations in using this kind of research design. These are discussed in chapter three.

Self-esteem is measured by one of the instruments used in the research (FIRM). While the theoretical model calls for individual measures of self-esteem, Klein and Hill do allow for a global measure. They state, "self-esteem of the group can be taken to be equal to the sum of the . . . self-esteems of all members (1979: 539). It is this global approach that is used in the research of this study.

Self-esteem, Klein and Hill suggest, will positively influence problem solving motivation which will in turn positively influence the degree of information processing. These member characteristics will have a positive influence on cultural orientation.

Social Placement

Social placement is defined by Klein and Hill (1979) as (1) the family's rank among all families in a given society; and (2) the society's rank among all societies on a given dimension. Two variables emerge in this classification:

1. Social Status. This would include the family's occupation, family income, the family's style of consumption, and the family's educational level.

2. Societal Complexity. Generally this could be defined as the number and kinds of opportunities people in the society have to be involved in the institutions of that

society. Opportunities would be influenced by such things as the society's level of economic development, the rate of social change, and the degree of occupational specialization. Societal complexity would positively influence social status. These in turn would positively influence member characteristics.

Social status is included only as a controlled variable. Each family of the sample was part of the middle class as determined by family income. Education or occupation were not controlled. This could have some bearing on the results of the study. It was assumed for purposes of this research that any variance due to differences in occupation or education would be minimal. That this assumption may be invalid deserves further attention.

Societal complexity is assumed in this research to be a controlled variable. All the families in the sample were from the same geographical area. The assumption is that the rate of social change, the degree of occupational specialization, and the level of economic development would be the same for each family.

Social placement, member characteristics, and cultural orientations will each have, according to the theory, positive influence on group structural properties.

Summary of Conceptual Definitions

1. Problem Solving Effectiveness: the degree to which family problems are solved to the mutual satisfaction of family members.

2. Equality of Verbal Communication: the degree to which the family is equal in the length of time individual family members talk.

 Equality of Participation: the degree to which the family is equal in the number of times individual family members participate in the discussion of a family problem.
 Creativity: the number of alternative solutions

suggested by family members.

5. Amount of Support: the number of positive affect statements given to family members as compared to the number of negative affect statements.

6. Power: the degree to which family members have their ideas discussed.

7. Rationality: the process by which families seek a solution to a family problem.

8. Consensus: the degree to which family members recognize that selected family resources are a part of their family.

9. Sense of Mastery: the family's sense of their ability to influence the direction of their family life.
10. Self-Esteem: the degree to which the family has a high regard for themselves.

Summary of Assumptions

 Families solving real problems, in contrast to contrived problems will consider the problem more important. The resulting interaction will be closer to the families reality in terms of their problem solving style.
 The instruments used in the research measured the problem solving variables as conceptually and operationally defined.

3. Problem solving variance among families due to any family system variables not included or controlled in the research will be minimal. Variables not included or controlled in the research include: education; occupation; homogeneity of age, gender, and competencies; developmental flexibility; satisfaction with family activities; recognition of individual differences; and ability to process information.

Summary of Hypothesized Relationships

Throughout this chapter several proposed relationships have been delineated. Below is a summary of the relationships that were tested. The results of the testing are presented in chapter four. A discussion of the results is included in chapter five.

Member Characteristics (Hypotheses 1-7)

 Self-esteem will be positively related to sense of mastery.

2-7. Self-esteem will be positively related to each of the interaction variables (equality of verbal communication, equality of participation, creativity, amount of support, distribution of power, and rationality).

Cultural Orientations (Hypotheses 8-13)

8-13. Sense of mastery will be positively related to each of the interaction variables (equality of verbal communication, equality of participation, creativity, amount of support, distribution of power, and rationality).

Group Structural Properties (Hypotheses 14-20)

- 14-19. Consensus will be positively related to each of the interaction variables (equality of participation, equality of verbal communication, creativity, amount of support, distribution of power, and rationality).
 - 20. Consensus will be positively related to problem solving effectiveness.

Problem Solving Interaction (Hypotheses 21-26)

21. The degree to which family members are equal in the amount of verbal communication will be positively related to problem solving effectiveness.

- 22. The degree to which family members are equal in participation during problem solving will be positively related to problem solving effectiveness.
- 23. The creativity of family members during problem solving will be positively related to problem solving effectiveness, especially solution quality.
- 24. The amount of support in a family during problem solving will be positively related to problem solving effectiveness, especially solution acceptance.
- 25. Decentralization of power will be positively related to problem solving effectiveness, especially solution acceptance.
- 26. Rationality during family problem solving will be positively related to problem solving effectiveness, especially solution quality.
- 27. The interaction variables considered as a whole will be positively related to problem solving effectiveness.
- 28. The interaction variables considered as a whole will be positively related to problem solving quality.
- 29. The interaction variables will be positively related to problem solving acceptance.

CHAPTER TWO

REVIEW OF THE LITERATURE

As noted in chapter one the theoretical efforts of Klein and Hill (1979) on family problem solving have been based on previous work in a number of related fields. It is the purpose of this chapter to acquaint the reader with some of the studies that pertain to the variables reported in the first chapter. The first section will touch on studies related to the dependent variable (problem solving effectiveness) and its two defining variables (acceptance and quality). Studies that include some of the independent variables will be highlighted in the second section. Research reports that address the methodological issues raised in the first chapter.

Part I: Dependent Variables

Decision_Making_vs. Problem_Solving

Some of the studies that are cited in this chapter name their dependent variable "decision-making" rather than "problem solving." The question that needs to be asked is are these variables interchangeable. It basically depends on the terms in which the various authors choose to define their variable. Unfortunately, most of the authors do not identify their working definition. A few notable exceptions are discussed below.

To help with comparisons Klein and Hill's definitions of the nature of family problems and the process of problem solving will be stated first. Klein and Hill (1979:495) define a problem as "any situation involving an unachieved but potentially attainable goal in which the means for overcoming barriers to achieving the goal, though not immediately apparent, are considered feasible.

This definition excludes from consideration any problems that family members judge to be impossible to resolve. There is also a degree of uncertainty as to the best way to handle the problem, but not to the degree of the situation being viewed as hopeless.

Problem solving then consists of the actions that family members use in attempting to find a solution. This does not imply that problems have to be solved, rather that family members must attempt to solve the problem. The family can then evaluate their efforts in terms of its relative success or failure. Imbedded in this definition is the concept of action. Family members commit themselves to a course of action that ultimately leads to success or failure in solving the particular problem they face.

Engstrom and Dayton (1984) make a clear distinction between decision making and problem solving. They assert that the two processes have the same basic elements such as searching for information, finding alternatives, weighing alternatives, etc. But to these authors problem solving is merely finding the "right" solution to a problem. It is

assumed that there is only one solution such as one would find in mathematics. Decision-making on the other hand involves risk. There is uncertainty as to whether the alternative chosen will effectively solve the problem. Family problem solving, since it involves an element of risk, would be classified as decision making.

Turner (1970) also defines decision making as the more general process though he does not hold such a narrow view of problem solving as Engstrom and Dayton. Turner states that all family decision making begins with a problem. The outcome sought is a solution to the problem. Turner (1970:111) goes on to state that "when a decision is reached, the decision can be evaluated according to how adequate a solution it affords to the problem."

Each of the above authors describe similar steps that families or groups use in arriving at a decision. Klein and Hill's (1979) discussion of problem solving would be comparable to these descriptions. However, Klein and Hill would take exception to decision making being the more general process based on the way the terms are used in the above definitions. To Klein and Hill a problem is not solved unless family members take some kind of action on the problem. Good intentions are not enough. These decision making definitions do not include this action component. A decision can be made regardless of whether or not a family takes action on the decision. In this respect

problem solving would be the more general process with decision making a part of this process.

Aldous (1971) also places problem solving as the more general process. Decision making on alternatives enters into the process in the fourth stage of problem solving. But Aldous has a much broader definition for family problems. She includes problems that are not considered to be solvable by the family such as unemployment, inflation, racial or sexual discrimination, and war. Families must then go through a process called "problem facing."

But Aldous also excludes from consideration any situations that do not require concentrated effort to solve. These would be situations that are so simple or are based on habit as to not require much thought.

Another author that makes a distinction between decision making and problem solving is Paolucci (1977). She states that a major goal of the family is to teach its members to decide. Part of this deciding process is to learn how to cope with problems. The process of decision making is defined as "a deliberate and conscious act of selecting from between at least two alternatives or melding several alternatives into a course of action" (Paolucci, 1977:55). To Paolucci not every decision involves a problem. The deciding process also involves learning how to seek and manage information. Thus problem solving is only a part of the more general process of decision making.

Melson (1980) would agree with Paolucci. Decision making is defined as the process by which information is transformed into action.

While Janis and Mann (1977) do not use the term problem solving, they are careful to distinguish between decisions that require no action and decisions that must be carried out. Decisions requiring no actions are called opinions rather than decisions and are not included in their discussion of decision making. To Janis and Mann true decision making will result in an individual or a group making a commitment to pursue some course of action. This description would make Klein and Hill's definition comparable.

Tallman's definition of problem solving includes the critical element of action. To Tallman (1971:325) a problem is defined as "a situation which is perceived by some group as a source of dissatisfaction for its members and in which preferable alternatives are recognized so that the group, or individuals in the group, are motivated to effect some change." Tallman's definition would more closely resemble Klein and Hill's conception of a family problem rather than the broad definition of Aldous (1971).

The above discussion of the use of decision making and problem solving makes it clear that there is still considerable confusion in the field as to which term should be used under what conditions. The confusion stems from the fact that no standard definition of a family problem

has been adopted. If the definition of Aldous (1971) is adopted then it would seem feasible that decision making would be a part of the process of problem solving. One concern would be that a new term would have to be defined (problem facing). There is enough confusion in the field already. Another concern would be that Aldous excludes some situations from being considered a problem even though a decision must be made, albeit minor, to take a course of action.

If Klein and Hill's definition of a problem is adopted then problem solving would probably fit within a more general framework of decision making. Problems that could be solved would be addressed by the problem solving framework and include elements of decision making within it. Problems that could not be solved by the family could be addressed by the decision making framework in terms of coping, as could the situations that require little cognitive action. This would be possible only within frameworks of decision making that include a commitment to action.

Problem Solving Effectiveness

According to Diesing (1962) any decision making structure must have at least two characteristics to exist. The first characteristic is that there must be at least two alternatives from which to choose. These alternatives must come from a group that has its power somewhat evenly

distributed among the group members and allows for equal participation of group members. Diesing called this characteristic "differentiation."

The second characteristic essential to decision making structures is that there must be some way of incorporating the material shared by the group into a unified resolution. This process requires mutual understanding and trust. Diesing labeled this characteristic "unification."

Diesing (1962:178) believed that "a functionally rational structure is one which yields adequate decisions for complex situations; but only structures which embody the two characteristics of differentiation and unification to a considerable degree will regularly yield adequate decisions."

These two processes Diesing believed were inversely related: the more differentiated a group the less they would be unified and vice versa. The difficulty that would be encountered by any group concerned with making consistently adequate decisions would be in finding a balance between the two characteristics.

Klein and Hill (1979) build the concepts of differentiation and unification into their theory but suggest that the relationship with problem solving effectiveness may be curvilinear. Klein and Hill use the terms conflict, creativity and family integration to describe Diesing's two characteristics. They suggest that creativity and conflict are depressed at the extremes of

family integration. It can be implied that problem solving would only be effective within the middle range of family integration. Klein and Hill (1979:537) conclude that "with cohesiveness and consensus, as elsewhere in life, it is possible to have too much of a good thing."

Turner (1970:115), borrowing from others, stated that a family must establish a pattern of "separateness and connectedness" if problem solving was to be effective According to Turner an important determinant for effective problem solving is "the extent to which family members contribute a range of alternatives wider than one individual could have supplied" (1970:112). The critical element is eliciting these alternatives from family members. A highly dominant person within the family (thus a lack of separateness) inhibits the expression of alternatives. But merely suggesting alternatives would not be enough. Alternatives shared by various family members would also need to be given serious consideration if separateness were going to be maintained.

Turner hypothesized that for a family to have a sufficient degree of separateness the following conditions were necessary: (1) that family members come from divergent backgrounds; (2) that authority does not suppress the presentation or discussion of alternatives; and (3) that a solution to the problem be important to one or more members who do not hold primary authority.

But separateness must give way to connectedness if a decision is to be reached. Turner suggested that this could be accomplished by family members proposing a new alternative sometime after the initial disagreement that can be adopted by all family members. A second avenue open to the family would be to continue discussion on the merits of the alternative under consideration in hopes of changing the negative feelings of some of the family members.

In support of the concepts of separateness and connectedness Turner quotes a study by Udry and Nelson (1961) who found correlations between agreement and relative equality in decision making. While these correlations were non-significant the methodology was questionable. Turner felt it was, therefore, premature to abandon the hypotheses of the study (Turner, 1970:106).

Craddock's study (1980) on marital problem solving found mixed evidence for the need of separateness. Couples that were similar in their value structure were most satisfied in solutions to problems if they had a more centralized power structure. However, if couples were heterogeneous in values then centralized authority was inhibiting for effectively solving problems. Craddock did find that heterogeneous couples took longer in arriving at solution and that more conflict was evident early in the problem solving process. This supports the notion by Janis and Mann (1977) as well as Klein and Hill (1979) that early conflict will produce more alternatives and thus should

result in higher quality solutions. Homogeneous couples may not perceive the alternatives that are available to them.

Aldous (1971) supports the general idea of the need for "separateness and connectedness," but does not see these processes working together in a family. Aldous sees the family having a high degree of familiarity. They are more concerned with group maintenance or "connectedness" rather than the need for "separateness" which is necessary for family members to perceive a large number of alternatives. In this regard Aldous sees families having an advantage over ad hoc groups when the problem requires a high level of coordination among group members. Conversely, families are at a serious disadvantage when compared to ad hoc groups when faced with a problem requiring a search for alternative solutions. Aldous concludes that families will experience more failures than ad hoc groups in problem solving because there is not enough differentiation or separateness built into the family structure.

When discussing family decision making Paolucci (1977:110) notes that "the effectiveness of a decision depends on two factors-quality and acceptability. If either factor is lacking it would seem that a decision would be less than effective. Preferably, both will be high but a decision can be effective if either one is high."

Janis and Mann (1977) have a somewhat limited conception of what will influence decision making effectiveness. They state that the quality of the procedures a group or individual uses in arriving at a decision will be the best predictor of effectiveness. Little attention is given to interaction, conflict resolution, power, or any of the other variables used in this study. Janis and Mann would differ with Aldous (1971) on why families may suffer failure more often than ad hoc groups. Aldous states the failure stems from an inherent weakness of family organization that limits the search for alternatives. Janis and Mann suggest that a decision maker makes a choice on how much effort to commit to finding a high quality decision. Families, because of the time required to find a high quality decision, may simply choose not to put forth the effort. But families could be just as effective problem solvers as other groups if the commitment is made to pursue a high quality decision.

Kieren and Tallman (1972) provide some support for Janis and Mann (1977). They reported evidence that motivation to solve a problem is situation specific and that this variable was necessary to effectively solve marital problems.

Weick (1971), borrowing from other authors, also notes the importance of quality and acceptability. He states in his chapter that "the theoretical usefulness of this distinction lies in the fact that the quality of a decision

reflects the group's ability to produce and utilize information effectively, while acceptance reflects the members' feelings about the solution and about the way it was reached. This is a helpful distinction since effective real life decisions require both high quality and high acceptance" (Weick, 1971:6).

Families vs. Small Groups

Research on small group problem solving has at times been applied to families to explain what goes on in family problem solving. The pioneering work of Bales and Strodtbeck (1951) has often been used as a model for any kind of problem solving, family or group. But some authors have begun to question this approach.

Turner (1970:103) bases some of his family interaction discussion on the Bales and Strodtbeck model. But he cautions that

> Bales and Strodtbeck designate a set of conditions that make the formula in its entirety inapplicable to the usual family decision making episode. Among these conditions are primary preoccupation with a fairly specific problem of group planning and decision which can be made on the basis of facts but which is not open and shut; absence of large status differences among members; and the absence of a customary pattern for decision making.

Turner softens his criticism by suggesting that much of the Bales and Strodtbeck model is a part of family decision making but parts of the interaction described by the model have taken place prior to the actual decision making session.

Aldous (1971:266) notes that the family is similar to small groups in that both are composed of "interdependent members who together share a group identity." But families are unlike small groups in their age and sex structure as well as their history. Aldous believes that the generational differences in the family result in personnel weaknesses when compared to small groups. To compensate for this weakness families devise an organizational structure. This structure will influence problem solving in ways different from small groups.

Ferreira and Winter (1968:30) state rather bluntly that data from family research and small group research "is hardly comparable." Families, unlike small groups, have a preestablished relationship which Ferreira and Winter say will predetermine the behavior of family members. Families also have a history of interaction. The small group, on the other hand is an "aggregate of individuals artificially brought together for a purpose that is not meant to go beyond the immediate research task at hand" These two critical differences between families and small groups make comparisons, according to Ferreira and Winter, virtually impossible.

If Ferreira and Winter are correct in their assessment that family and group research cannot be compared then the observations of Sorrels and Myers (1983)

have sobering implications. Sorrels and Myers state that over 400 studies were conducted between 1968 and 1983 on nonfamily group problem solving methods. In that same period only 16 studies looked at family problem solving. However the conclusion of Sorrels and Myers differs from that of Ferreira and Winter. Sorrels and Myers (1983:477) state that "family researchers and practitioners would benefit from increased attempts to apply principles of nonfamily group interactions to family interactions." Rather than totally rule out the use of group problem solving research Sorrels and Myers are suggesting that groups and families be compared. According to these authors one of two things would happen: either a general model of problem solving would emerge, or the distinctions between groups and families would be illuminated. This latter possibility is the one the authors feel would be the most probable result. This hypothesis was supported by their research. Sorrels and Myers identified eleven characteristics of group problem solving from a review of the literature. The authors then compared families and groups on these eleven characteristics. They found that four characteristics were unimportant or unobservable in families, two characteristics influenced families and groups oppositely, and five characteristics were detrimental to both families and groups. Below is a summary of their findings (Sorrels and Myers, 1983:489):

- 1. Characteristics detrimental to both.
 - a. members with a lack of self-competence feelings
 - b. intolerance of conflicting ideas
 - c. criticisms
 - d. intragroup pressures to conform
 - e. hidden agendas
- Characteristics unimportant to families (or unobservable).
 - a. focus effect (lack of alternatives)
 - b. dominant members
 - c. inflexible status levels
 - d. avoidance of emotional/personal content
- 3. Characteristics with positive effects for families

but negative effects for groups

- a. solution-mindedness
- b. inadequately considered solutions

These last two characteristics are suprising. Sorrels and

Myers (1983:488) caution that

to conclude that solution-mindedness and inadequately considered solutions are facilitative in family functioning appears to be an unwarranted conclusion in light of the literature. Solutionmindedness and inadequately considered solutions may be detrimental in families (as the literature indicates), but the manner in which these characteristics are exhibited in families may be quite different than in groups.

Weick (1971) takes a similiar approach to Sorrels and Myers but from a theoretical point of view. He discusses

eleven characteristics of families in terms of how families ought to differ from nonfamily groups. The Weick characteristics differ somewhat from the characteristics chosen by Sorrels and Myers. Two of the characteristics deserve mention here. One difference between families and other groups Weick suggests is the differing levels of energy members have for working on a problem. Weick contends that most nonfamily groups will be at or near their prime times for solving a problem. Families on the other hand are usually only together at the beginning of the day when as Weick (1971:4) says "members are concerned with the major task of simply getting their bodies in motion" or at the end of the day when "a full schedule of activities and demands on energy has already occurred." Weick hypothesizes that quality of solutions will be affected by the energy level available to members when problem solving begins.

A second way in which families will differ from nonfamily groups is termed by Weick (1971:4) "embedded problem solving." Weick (1971:9) states that

> Any laboratory group that is given a ready-made, distinct problem and the task of solving it probably bypasses many of the crucial dynamics in family problems. They bypass such questions as how one comes to know that a problem exists, what it does to solution adequacy to be working on several different things concurrently with problem solving, what it's like to go about solving a felt, intuitive problem rather that an explicitly stated...problem which was made visible to all members at a specific point in time.

Part II: Independent Variables

Participation

One of the central questions considered in much of the family problem solving research is whether equal participation among family members makes any difference in reaching a satisfactory solution to a family problem. Participation basically means the number of times each family member contributes during the process of deciding on a solution. But participation can also mean the length of time each member contributes. Both are important to consider to get an accurate picture of family participation. If family members are equal in number of times contributing but very unequal in the length of time each member contributes the influence on solution quality and acceptance may vary considerably from a family more equal on both measures. Therefore both dimensions are treated in the following review. If the authors do not make a distinction between these two dimensions of participation it is assumed that both measures are included in their definition of participation.

Scanzoni and Szinovacz (1981) in their Family Decision Making model build a case that egalitarian decision making will build family solidarity which in turn will positively influence social solidarity. They state that "mutually satisfactory participation in parent-child decision making should be a significant factor in strengthening the bonds

of solidarity between generations "(Scanzoni and Szinovacz, 1981:285). It can be implied from this model that participation need not be equal. The critical factor is whether the participation is "mutually satisfactory."

Paolucci (1977) and Melson (1980) also stress the need for each family member's satisfaction with the process of solving a problem. Both agree that the effect of the problem solving process on the relationships among family members is far more important than the outcome. Therefore the ideas and feelings of each family member need to be considered. Unequal participation may result in an outcome that solves a particular problem but does severe damage to the inner relationships of the family. It could be questioned as to whether the problem was really solved effectively.

Paolucci (1977) notes one negative factor in allowing everyone to participate by observing that the time necessary for a family to reach a decision will be increased. But Paolucci states that the probability that an effective decision will be implemented is also increased.

Based on a review of literature concerning marital adjustment, Udry (1974) concluded that the kind of decision making structure a marriage developed was closely related to the couples' satisfaction with the marriage. While Udry does not specifically relate the decision making structure to problem solving effectiveness it could be implied that a satisfactory marriage would not be possible

without some effectiveness in problem solving. The decision making structure most often found in satisfying marriages was the democratic-egalitarian pattern. Couples in marriages where either partner dominated in decision making were less satisfied with their marriages.

In her framework for family problem solving Aldous (1971) hypothesizes that in a centralized power structure, defined as participation limited to one or both parents, both the effectiveness and efficiency of problem solving will be reduced. Aldous states that this kind of structure is necessary with very young children. As the children mature, unless parents encourage active participation, the early structure will continue to limit the childrens' contributions. Some parents do not encourage active participation of their children because this early problem solving structure has lowered the parents' permissiveness for disagreements. Interestingly, Melson (1980) states a study that suggests that when children do participate in family decision making where disagreements are inevitable, the children's level of moral judgement will be enhanced.

Aldous does qualify her hypothesis with the "mutually satisfying" clause noted earlier. She states that if family members are satisfied with the existing power structure, whether it limits participation or not, then family decisions will be reached more quickly, there will be more satisfaction with the decision, and the decision

will be implemented with more cooperation than will be found within nonfamily groups.

Tallman (1970) proposed that for a problem requiring an innovative solution and a coordination of family roles that the optimum family structure was one in which there were (1) open channels of communication so that everyone had input into the problem solving process; (2) consensus regarding the goals to be obtained; and (3) centralization of authority so that role coordination and information processing could be facilitated.

Two subsequent studies (Tallman and Miller, 1974; Craddock, 1980) failed to show that centralization of authority facilitated problem solving. Tallman and Miller (1974) discovered that the critical factor regarding power structure and problem solving was the level of agreement on the use of centralized authority. White collar families seemed to value a more egalitarian power structure. Tallman and Miller did find that white collar egalitarian families were more effective problem solvers than blue collar families. However, eqalitarian blue collar families performed more poorly than other kinds of families. Therefore the authors concluded that that the "prevalent tendency to prescribe either better communication or greater egalitarianism as a blanket solution to all types of family problems is not warranted" (Tallman and Miller, 1974:33).

Osmond and Martin (1978) found somewhat contradictory evidence concerning the poor problem solving performance of blue collar workers when using an egalitarian power structure. In a study of 512 low income families 72% of the marriages were intact if the family used a more egalitarian or democratic decision making structure. Conversely, only 27% of the marriages were intact if the family reported an autocratic decision making structure on the part of the husband.

Straus (1968) found moderate support for his hypothesis that problem solving would be impeded if the family's organization inhibited group members from sharing information. This hypothesis was supported only in cities outside of the United States. His conclusion was that intrafamily communication networks accounted for only a small part of the social class differences usually found in family problem solving.

The major conclusion that can be drawn from the preceding review is that there are still many unanswered questions regarding whether a participatory problem solving structure will impede or facilitate family problem solving. One possible inference is that an open structure will help some family problems and may inhibit the solving of other problems. But knowing which problems will be helped or inhibited is still very open to debate.

Creativity

Defining creativity as the number of alternatives that are suggested by family members has been employed in numerous family studies and theories (e.g. Straus, 1966; Straus, 1971; Paolucci, 1977) as well as research on groups (Andre, Schumer, and Whitaker, 1979).

The importance of alternatives is expressed by Turner (1970) when he states that the effectiveness of problem solving is determined by the range of alternatives that family members contribute. This theme is echoed in both family research and small group research (Paolucci, 1977; Aldous, 1971; Janis and Mann, 1977; Falk, 1982; Tallman and Miller, 1974).

In essence, a decision cannot be made unless there are at least two alternatives from which to choose (Paolucci, 1977). It might be tempting to assume that the greater the number of alternatives suggested the greater the problem solving effectivness. However families may not have the ability to efficiently process a large number of alternatives (Paolucci, 1977). This may lead to discouragement and a less than effective decision. It is also true that the greater the number of alternative opportunities the greater the uncertainty as to the best possible solution for the moment. Paolucci (1977) notes that with this kind of situation information is only useful if it eliminates alternatives.

Hill (1965) adds further evidence that a linear relationship may not exist between the number of alternatives suggested and problem solving effectiveness. In his study of three generations the youngest generation (married children) were the most rational as compared to their parent and grandparent generations. They were also the least satisfied with the outcome of their decisions. Conversely, the grandparent generation made the fewest plans but were the most successful in implementing their plans. The grandparent generation was also the most satisfied with the outcomes of their decisions.

It may be that a curvilinear relationship best describes alternatives and problem solving effectiveness with the extremes reducing effectiveness. The maximum effectiveness would be somewhere in the middle, partially influenced by each family's ability to process information.

Self-Esteem, Sense of Mastery, Support

There is some evidence to support the relationships among self-esteem, sense of mastery, and support. that are hypothesized in this study. Cooper, Holman, and Braithwaite (1983) reported that self-esteem among children was affected by the amount of support and cohesiveness experienced in the family. The more cohesive the family and the greater the amount of support felt by the child the higher would be the child's self-esteem.

Scanzoni and Szinovacz (1980) predict that self esteem will influence certain interaction variables. In their family decision making model the person or persons with the higher self-esteem will be more assertive and present more proposals for consideration than those with lower selfesteem. Those with higher self-esteem may also think that their proposals are more important and thus push for conformity. In doing so decision making effectiveness may suffer as not everyone has equal opportunities for input and interaction.

In a study of group performance and self-esteem Schwartz, Wullwick, and Shapiro (1980) found moderate support for their hypothesis that a positive relationship exists between a group's measure of self-esteem and their problem solving ability.

On the issue of sense of mastery, Doherty (1981) predicted that a person with a high sense of mastery over environmental events would have higher self-esteem and be more successful in achievement situations. Those with a lower sense of mastery would require a great deal of support from significant others to achieve the same level of success. Doherty also predicted that couples that were dissimilar in their sense of mastery would be less satisfied with their marriages. His findings were only supported for couples in which the wife was low and the husband high on sense of mastery. Couples in which the wife was high and the husband low were highly satisfied

couples. It could be that these wives rated high on sense of mastery felt uncomfortable in always pushing their ideas and thus allowed for more input from their husbands. By doing so the relationship would be considered more positive by both spouses. This tenuous conclusion would need more research before it could be seriously considered.

Power

The most controversial variable in this research is power. Power is defined in this study as the degree to which family members have their ideas discussed. It is measured both subjectively and objectively for each family member.

Traditionally power has been defined as who made the final decision (Blood and Wolfe, 1969). It was measured through questioning one member of the family, usually the wife (Safilios-Rothschild, 1969).

There have been many critical reviews (Olson and Cromwell, 1975; Olson and Rabunsky, 1972; Safilios-Rothschild, 1970; Turk and Bell, 1972) that have questioned this one respondent, subjective, final decision methodology for measuring power. The common thread among the various critical comments is that this kind of methodology does not really measure power accurately. Olson and Rabunsky (1972) for example found little agreement between spouses on who actually had final say on certain decisions. Several authors have also found little agreement between self-report measures of power and observational measures of power (Olson,1969; Hill, 1965; Turk and Bell, 1972; Olson and Cromwell, 1975). Turk and Bell (1972) discovered that no self-report measures of power attributed any power to children. Yet they found through observation of families that children do have power and at times substantial power.

Safilios-Rothschild (1970) raises several questions on both obervational and self-report measures of power. Her conclusion is that neither is adequate in all situations. Olson, Cromwell, and Klein (1975:238) state that

> two important perspectives which can be used for understanding concepts related to power are those from <u>inside</u> the family system and those <u>outside</u> the system. The insider's perspective can be assessed by self-report methods and the outsider's point of view can be measured by observational methods. Both perspectives are important and should be seriously considered for inclusion in future studies when they are theoretically and methodologically appropriate.

Some authors (Sprey, 1975; Turk, 1975), noting some of the problems associated with using power as a variable, have called for the elimination of the variable. Olson and Rabunsky (1972) have issued a warning that the concept of power will be "powerless" unless the methodological and conceptual difficulities are first cleared up.

Safilios-Rothschild (1970) points to a conceptual flaw in using as the measure of power the ability to make the final decision. She argues that the person who decides who will make the final decision problably has more power than the person who finally does make the decision. It is also possible that the final decision has been influenced by the suggestions of others. The individuals making the suggestions may have the actual power with the "final say" member simply parroting the wishes of one or more other family members (McDonald, 1980).

But the controversy is far from over. Allen (1984) has questioned the results of Olson and Rabunsky (1972) as well as Turk and Bell (1972). Using what he calls more sophisticated and accurate data analysis Allen found some relationships that were not reported in the earlier studies. Allen (1984:627) concluded

> Some have suggested that researchers abandon the final-say decision measureFindings in this present study suggest, however, that such action may be premature....Results in two previous studies which have had wide impact in the field of marital power may have dubious validity because of calculation errors, improper procedures, and the lack of external criterion variables against which the meaning of intercorrelations among measures can be assessed. If the findings of these studies lack validity, the validity of other studies based upon them may be suspect as well.

The definition of power used for this study has been influenced by Olson and Cromwell (1975), Turk (1975), as well as Klein and Hill (1979). The definition of power by Olson and Cromwell (1975:5) is "the ability (potential or actual) of individual members to change the behavior of other family members." Turk (1975) states that power can

be viewed as the ability to have an impact on the direction of group choices. Turk modified this definition from an earlier definition (Turk and Bell, 1972) that defined power as the ability to have a <u>critical</u> impact on group choices. Having a critical impact on group choices has been used to refer to the individual whose actions most influence the outcome. But Turk (1975) argues that every action by family members has an impact on the final decision.

It is assumed in this study that if an individual suggests ideas and these ideas are considered by the other family members then that person has the potential ability to change the behavior of other family members if the suggestions are adopted. Whether power is actually realized is not the central concern. As Paolucci (1977:159) notes "the distribution of power is probably less important than an individual's perception of his or her power in relation to the others' power. A person acts in accordance with this apparent relative power, regardless of whether it is real."

Rationality

In its most general form rationality is defined as the process by which families decide on a solution to a family problem. A quick perusal of the problem solving literature might lead one to conclude that the process is well defined. For example, the following statements describing the problem solving process can be found in the literature:
"general agreement" (Aldous, 1971); "ideal" (Melson, 1980); "well-known" (Laswell, 1982); "scientific" (Cox, 1984).

Unfortunately, identifying the steps or stages that families utilize in solving problems is difficult. The process varied from ten steps (Duvall and Miller, 1985) to three steps (Gross, et. al., 1973, Paolucci, et. al., 1977). Cox (1984) and Janis and Mann (1977) listed seven steps. Melson (1980), Laswell (1982) and Aldous (1971) all described the process of problem solving in four steps.

Duvall and Miller (1985: 140-141) listed, along with the ten steps for problem solving, the purpose for each step and some key questions to ask during each step. Their model is listed below with the key questions omitted. The model is included here because of its emphasis on family interaction.

STEPS

PURPOSE

1.	Face the problem.	To get the problem into words.
2.	Look at the causes.	To get the buildup of the problem.
3.	Set some goals.	To be sure that decisions will benefit others as well as self.
4.	Get more knowledge and understanding.	To increase under- standing and gain insight.
5.	Be the other person.	To get the other person's point of view.

6.	Consider what to do.	To get a list of possible actions that are acceptable to others.
7.	Make a plan of action.	To plan how to do it and select the people needed.
8.	Check the plan with the goals.	To be sure the plan is directed at the desired solution.
9.	Plan the follow-up.	To encourage watchful- ness in using the plan and abandonment if it seems to be failing.
10.	Celebrate success.	To gain strength in coping with problems and to cement the relationship.

The model by Gross, Crandall, and Knoll (1973:252) also deserves special mention because of its emphasis on group satisfaction. The three steps of this model are repeated twice in a two phase approach. The three steps are:

- I. Defining the problem
- II. Considering alternatives
- III. Choice of one course of action

The first phase includes questions such as 1) "what characteristics of each alternative are important to those proposing them and which are not?"; and 2) "can a new solution be created which includes all characteristics important to each person...though not necessarily in the format first proposed?"

The second phase includes the following group satisfaction questions: 1) Seek feedback as to

present feelings of the individual; 2) Is joint action necessary? If not, and if everyone is satisfied to allow each to go his own way....seek independent alternatives; 3) Is group willing to settle for less than complete satisfaction so long as joint action is possible?; and 4) What is really important to those involved?

This model comes the closest to describing how a family could achieve the dual characteristics of acceptance and quality that Klein and Hill (1979) regard as essential to problem solving effectiveness.

A central question concerning problem solving is whether families can in fact solve problems rationally. Klein and Hill (1979) suggest that quality would suffer without a rational approach to problem solving. This conclusion is supported by Janis and Mann (1977), Turner (1970) and Paolucci, Hall, and Axinn (1977).

Hoppner (1982) concluded that their research confirmed observations that problem solvers should brainstorm for alternatives. Gross, Crandall, and Knoll (1973) cited studies that indicated more satisfactory decisions if there had been discussion among family members and several alternatives had been considered.

The importance of a rational approach to problem solving is not, however, universally accepted. Melson (1980:140) after discussing the "ideal" problem solving method states that "in reality few of these conditions can be met even when family members understand and desire them.

The difficulty, Melson believes, is either too little information or at times too much information which causes "overload."

Aldous (1971) argues that when a positive outcome is reached few families will actually understand the process they used to arrive at the solution. Families are solution oriented rather than problem oriented. They will seek an alternative only until a good enough one is found. So Aldous hypothesizes that the pressure to seek a quality solution will be less in families than in other kinds of problem solving groups. But Aldous also hypothesizes that the failure to seek a high quality solution will result in greater satisfaction with the solution when compared to other problem solving groups. She states that groups with highly planned outcomes may be disappointed if the outcome is less than anticipated. Families adopting a less stringent approach may find unexpected pleasures from an unplanned outcome.

Hill (1965) does offer some support for the hypothesis that families who plan less may be more satisfied with outcomes. In his study of three generations, the married child generation planned the most when making a purchase decision when compared with the parent or grandparent generations. But the married child generation also had the lowest scores on satisfaction with the outcome of their planning. Conversely, the grandparent generation planned the least but were the most satisfied with the outcomes.

Back (1961) discusses three kinds of rationality that may provide some linkage between the contrasting views of the need for rationality. The three types of rationality are: 1) the rational model, which stresses the situation; 2) the irrational model, which grows out of an individual's compulsions, prejudices, and strong urges; and 3) the nonrational model, which is intuitive and grows out of the experiences of the individual.

Gross, Crandall, and Knoll (1973) state that all decisions are probably a mixture of the three models, though little good will result from an emphasis on the irrational model unless by chance. The nonrational model should be emphasized if there is insufficient knowledge to use the rational model. In such a case the decision maker commits to a course of action despite the uncertainities but should realize that another course of action may be equally reasonable.

PART III: METHODOLOGY

One of the objectives of this study was to explore the possibility of using a novel approach in the study of family problem solving. The methodology employed in the research was to control for the meaningfulness or importance of the problem while allowing the specific problem situation to vary. It was therefore deemed appropriate to include a section on methodological

concerns. Five areas are explored: 1) The use of real problems versus contrived problems ; 2) the use of the home setting versus a laboratory setting; 3) gathering data by observation versus survey techniques; 4) using the family as the unit of analysis versus the individual; and 5) using combined scores versus individual scores.

Characteristics of the Problem

A methodological concern in the family research field is whether to use real or contrived problems to analyze family problem solving behaviors. Some researchers (Straus, 1968; Tallman and Miller, 1972; Ferreira and Winter, 1968) have used problems that families would rarely, if ever encounter outside the research setting. Other researchers have used what Olson and Cromwell (1975) term "semi-real" problems; problems that families may encounter. Few authors have used problems that families actually have experienced or are experiencing. Olson and

Cromwell (1975) assert that Olson (1969) used real problems. In the Olson (1969) study parents expecting a child were asked by questionnaire about decisions they would presumably make after the birth of the child. Each problem was gauged for the meaningfulness of the problem to the couple. The couple was asked to abide by the decision they reached.

The methodology used in the Olson (1969) study is similar to the methodology employed for the research of

this study. The crucial difference lies in the fact that with the Olson (1969) study the couples were not followed up as to whether the decisions were indeed implemented. Another difference is that the problems discussed in the Olson (1969) study were not current problems.

Tallman and Miller (1972:23) provide a "rationale for the use of contrived problems." They argue that the use of games that are externally generated, rule-bound, conjunctive problems having only one solution that must be solved within a limited period of time are similar to common problems faced by families. These common problems include a breakdown in household plumbing, the need to rebudget family finances, and getting a child back in school after being expelled. Tallman and Miller (1972) argue that the content between contrived problems and real problems may differ, but the group processes required for seeking solutions should be the same.

Ferreira and Winter (1968:31) had a similar conclusion. Their questionnaire contained "some very obviously unimportant, trivial, and made up situations." In assessing the use of these situations Ferreira and Winter (1968:31) state that

> despite the assumed unimportance of the issues introduced in the questionnaire, the task of family decision-making as witnessed in this project always seemed to elicit emotionally laden and at times outright conflicting responses among family members. Apparently, in a family there are no such things as neutral issues.

Ferreira and Winter (1968:31) further conclude that "this type of questionnaire [is] fundamental to the investigation of family decision-making processes."

Other authors do not share the same optimism for the validity of contrived problems. Udry (1974) discusses two difficulties with the use of contrived problems. First there is no way of knowing whether the family really cares about the problem. Secondly, the family realizes that their discussion is not going to affect anything. Therefore the results may differ from the situation in which family members actually carry out a decision.

A similar concern was raised by Framo (1965:433),

it is difficult to see how one can present each family with a standard stimulus and hope that the stimulus is comprehensive enough to the relevant trends in each family....a meaningful experiment would require that each family be presented with the controversies it is inherently struggling with, not with abstract controversies.

It was this statement that partly influenced the use, for this research, of important problems that are currently being faced by the family.

Characteristics of the Setting

Several observational studies on family problem solving have been conducted in a laboratory setting (Straus, 1968; Tallman and Miller, 1972). The advantage of a laboratory setting is that important variables can be more easily manipulated while nearly eliminating confounding variables (Tallman, 1970).

These types of studies have been criticized because families are interacting in an unnatural environment (Olson and Cromwell, 1975). Weick (1971:9) states that any laboratory group given a ready-made problem "probably bypasses many of the crucial dynamics in family problems."

O'Rourke (1963) compared families in both a laboratory and a home setting. O'Rourke found less emotionalism and the families less efficient at decision-making in the laboratory setting as compared to doing the same tasks in their homes.

Gathering Data

A debate has long raged in the family research field on the best ways to gather data. Blood, (1963) stated that only observational methods should be used. Osmond (1978) claims that self-report measures are valid and reliable. Olson and Cromwell (1975) assert that both observational and self-report measures should be used whenever possible.

Safilios-Rothschild (1970) does concede that observational techniques can probably measure the process of decision-making more readily than survey techniques. But she also notes several problems with the use of observational methods. One of these problems is that the sex of the observer can influence the decision-making process.

Another problem is that some of the key elements necessary to solve problems effectively cannot be observed. Tallman (1970:96) notes "what appears most critical for member satisfaction in problem solving groups is the sense that one has played an important role in contributing to the problem's solution." A family member's feeling of their sense of importance to solving a problem cannot be observed. A person may contribute a great deal within the process of solving a problem and yet feel very unsatisfied with their role. It is also possible that family members who contribute very little may be satisfied that what they did contribute helped solve the problem. As Paolucci, Axinn, and Knoll note (1977) it is a person's perceived power that is most important when considering satisfaction with decision-making rather that their actual power as judged by the observer.

Thus Safilios-Rothschild (1970) concludes that it does not make much sense to defend one technique over the other. Each method can measure an area that the other cannot. It becomes more important to decide what is being measured and use the method best able to gather the required data.

Unit of Analysis

A major methodological problem plaguing family research has been the reliance on one family member, usually the wife, to gather data about the entire family. Two studies (Ruano, Bruce, and McDermott, 1969; Bokemeier

and Monroe, 1983) have assessed the extent of this problem. Bokemeier and Monroe (1983) reported that 50% of the studies they examined from 1965-1978 used only one respondent. Ruano, Bruce, and McDermott (1969) found the use of wives to be six times as great as the use of husbands. Safilios-Rothschild (1969) contended that family sociology was in reality wives' sociology.

Ball, McKenny and Bonham (1983:885) listed several reasons that researchers use to justify the use of only the wives' responses:

- Wives are more often available, because they are more often home.
- 2. Wives are more cooperative.
- 3. This method saves time and money.
- 4. There is a shortage of research assistants.
- The difference between partners in one marriage compensates for the differences in another marriage.
- There are no significant differences between wives' responses and the responses of other family members.

There has been increasing evidence that responses from family members may differ a great deal depending on the question (Olson, 1972; Safilios-Rothschild, 1970; Turk and Bell, 1972). Some of this difference has been attributed to measurement error and poor questions (Scanzoni, 1965; Wilkening and Morrison, 1963). But there are authors who question the underlying assumptions that justify the use of one respondent.

Larson (1974) felt that families could not be accurately studied without knowing something about the responses of each family member. Handel (1969) stated that if families were to be helped, families had to be studied as a whole. Safilios-Rothschild (1970) argued that the use of one respondent was only measuring that person's perception of family processes and not the family's perception. Turk and Bell (1972) observed that children rarely perceive themselves as having power in the family. Neither did other family members perceive that children had power. But by observing the family they noted that children can at times have substantial power.

Several authors (Spanier and Lewis, 1980; Ezell, Paolucci and Bubolz, 1984; Thompson and Walker, 1982) have noted a misuse of the term "family" as the unit of analysis. They have observed that some studies have claimed to use the family as the unit of analysis when in fact the individuals remain the unit of analysis. Olson, Cromwell, and Klein (1975) assert that it is not appropriate to label a study family research when only the responses of the wife and/or couple are considered.

Measuring Family Variables

The discrepancy between how each family member reports their perception of a given situation has prompted a challenge to use more than one respondent to gather data about relationships (Safilios-Rothschild, 1970; Olson and Rabunsky, 1972; Turk and Bell, 1972). One of the theoretical assumptions behind this challenge is that there is a family reality that goes beyond the reality of

individuals that comprise the family (Bowen and Orthner, 1983). In other words, the whole is greater than the sum of its parts.

With the realization of a family reality has come the problem of how to measure this reality. The complication is how to meaningfully describe the <u>family's</u> perception of reality from scores obtained from <u>individual</u> responses. Some authors (Bowen and Orthner, 1983; Scanzoni, 1976; Scanzoni and Szinovacz, 1980) state that combining scores to obtain a family score is both theoretically meaningful and empirically valid.

Thompson and Walker (1982:892) caution that if scores are combined the "conceptual underpinnings of the constructed relationship" must be understood. It is their contention that much research is analyzed at the aggregrate level whereas the conclusions are directed toward the relationship level.

Ezell, Paolucci, and Bubolz (1984) report the assumptions behind the use of three models of measuring family properties. The Compromise or Additive model is a sum or average of individual reports. The assumption is that the reality of the family lies within the central tendency of all the individual reports. The Dispersion or Discrepancy model assumes that the family's perception of reality as opposed to an individual's perception of reality lies within the discrepancy between individual reports. The Discrete or Disjunctive model assumes that there are

multiple realities within the family that are each dependent on how the individual defines the situation. This last model is similar in conception to what Safilios-Rothschild (1969:291) called "two realities": the husband's perception and the wive's perception of reality.

Ezell, Paolucci, and Bubolz (1984) state that whenever possible all three models should be included so the results can be compared. They discoverd that by doing so relationships were found that otherwise may have been missed.

A conclusion that can be drawn from the review of methodological concerns is that research is needed that would help clarify under what circumstances the various methods are most appropriate. A further need is some direction as to the best ways to analyze the resulting data.

Summary of the Review of the Literature

Several points can be gleaned from this review of the literature.

 The dependent variable, problem solving effectiveness, should include both a quality dimension and an acceptance dimension if problem solving effectiveness is to be fully understood.

2. The independent variables dealing with problem solving interaction that seem to have the most direct influence on problem solving effectiveness include amount

of verbal communication, creativity, amount of support, rationality, and power.

3. The interaction variables should influence problem solving quality and acceptance in differing degrees.

4. The effect of the interaction variables on problem solving effectiveness may be partially muted by the antecedent variables to family interaction: sense of mastery, self-esteem, and consensus.

5. Research results on family problem solving effectiveness may vary depending on the characteristics of the problem (real or contrived), the number of family members included in the gathering of data, and the treatment of the data (individual scores or combined scores).

CHAPTER THREE

METHODOLOGY

The purpose of this chapter is to focus on how the research was conducted. Included in this chapter will be descriptions of the design of the research, the sample, and the research instruments. This chapter will also discuss how the variables were measured. The final section of the chapter will delineate the limitations of this research.

Description of the Design of the Study

The first step was to set the criteria for choosing the general population from which the final sample would be taken. The criteria included the following:

- 1. All families were to be presently intact.
- The oldest child in the family was to be an adolescent who was currently living in the home.
- 3. All families were to be of the same race and economic class. White, middle class families were chosen to meet this criterion.

The initial population was chosen from families that attended the Spring Arbor Free Methodist Church. The author is on staff at this church with responsibilities in the areas of education and family ministries. From a search of the church records thirty-five families met all three of the criteria. All of these families were sent a letter inviting them to participate in a research project

on family problem solving. A copy of the letter sent to each of the families is included in the appendix (see page 165). Twenty-eight families responded affirmatively that they would participate in the research. Of the families that responded, three were randomly chosen to pretest the instruments and the design of the experiment. Fifteen families were randomly selected to be included in the final sample for the research.

To pretest the instruments and the research design the three pretest families went through the entire process. The first two families were asked how well they understood the questions on the instruments and the directions for participating in the research. Procedures and instruments were changed to reflect their suggestions and comments. The third pretest family was given the updated version of the instruments and research design. This family considered the instruments and instructions to be easily undersood. No further refinements were made. The revised instruments and instructions to the families are included in the appendix (pages 156-160).

The study was conducted in the homes of each family by the researcher. All data was collected between August, 1984 and January, 1985. After brief conversation to put everyone at ease, each family was informed as to what was expected of them. The information shared with each family was written to aid the author in giving the same information to each family. This orientation sheet is

included in the appendix (page 163). Following the brief orientation the families were given the opportunity to decline further participation if they so desired. All fifteen families agreed to continue with the research project. At this point each family was given a folder that included three sets of written information (copies of these forms are in the appendix, pages 160-163):

- A general instruction sheet for completing their problem-solving task. Families were asked to read this entire sheet before beginning.
- Several family problem survey forms. Each member of the family was to complete one of these forms.
- 3. A family problem tally sheet. One member of the family was to complete this sheet.

Once the family was given the folder of material they were not disturbed again until their problem solving task was completed. The families were instructed to call the researcher when they had completed the problem solving task. With each family the author left the room where the family was working on their task after turning on the tape recorder. The tape recorder was placed in an unobtrusive place out of the direct sight of any family member. This was accomplished by placing the recorder behind a chair. All the families were aware that they were being recorded. These families were informed of the need to record their interaction both in the initial letter sent to the family as well as in the orientation session prior to the actual research project.

After reading the general instruction sheet the families went to work. Each family member was to first write down on the family problem survey any problems that they felt were faced by their family. For each problem the family members were to indicate how important the problem was to them. Classifications were as follows:

- Highly important problem. Needs to be solved right away.
- Medium important problem. Needs to be solved soon.
- Low important problem. Solution to the problem can wait for awhile.

When all the family members were finished with the survey one of the members was to tally the results on the tally sheet. This tally sheet would include all the problems the family members wrote down including the importance indicator of each problem. From this tally sheet the family was to pick one problem to work on.

The instructions given to each family indicated that the problem chosen should be one that had been listed by most of the members of the family and had been indicated to be an important problem to the family. Six of the families chose a problem that had been included on every member's survey. Seven families chose problems that had been included on all but one survey. Two families chose

problems that all but two members had chosen. These two families were the only families with five members.

For validating the importance of the problem the three categories were assigned numerical values. The top category (High importance) was assigned a value of three points. Medium importance was two points and low importance was one point. The mean value for the fifteen families was 2.4 points. This indicates that, on the average, the families chose problems that were basically of medium to high importance to them.

This issue of importance becomes critical when questions of the validity of comparing different problems arises. If families work on different problems how can the data from these problems be realistically analyzed? Would it not be like comparing apples to oranges? This concern is treated later in this section.

After the family had chosen a problem to work on they were to go ahead and arrive at a solution. The family's discussion was tape recorded. When the family had arrived at a solution each member completed the Family Problem Solving Index (Part I). The families were then instructed to use the solution they had arrived at during the next four weeks to see if their family problem could indeed be solved. A date was then set to return to the family as close to four weeks later as could be arranged. At the return visit each family completed the Family Problem Solving Index (Part II) and the Family Inventory of

Resource Management (FIRM). The families were thanked for their participation in the research project.

At this point the question of the validity of comparing the results of different problem situations needs to be addressed. The same concern could be raised on those studies that use contrived problems. Studies have shown that families do not act in the same way under contrived situations as they do in real situations. With contrived problems a family may come up with a solution knowing that if they were really forced to live out this solution it would not work. But for convenience the solution was adopted anyway. The question thus becomes: can families who act seriously on the contrived problems be compared with families that do not act as seriously? For studies using games to test solution quality the question becomes can games be compared with the real situations that face families?

These questions are of a conceptual nature and raise the issue of what is really being controlled. In the contrived situations and the game situations it is the situation that is being controlled and not the importance of the problem. In this research it is the importance of the problem that is being controlled while the situations vary. Which approach is more valid? At this point no one knows for sure. Further research comparing these two approaches needs to be completed for any answers to emerge. If researchers are really interested in looking at how

families solve problems then researchers will have to find ways of moving their research into the family's arena, and not simply remain in the researcher's arena. The methodology of this study is a first attempt to study families in their domain. Further refinements could increase the validity of this approach.

Description of the Sample

Fifteen families comprised the sample. Three families consisted of five members, seven families had four members and five of the families consisted of three members. Each of the families had at least one adolescent child living in the home. None of the families had any children that had left home. Thus the family life cycle stage was similiar for each of the fifteen families. The youngest child in any of the families that was included in the problem solving task was eight years old. Three of the three member families had preschoolers who were not a part of the study.

All the couples in the sample were married and living in the home with the children. These families were from the same ethnic background (white) and similiar in economic class (middle). Incomes ranged from \$ 15,000 to \$60,000. The average income was approximately \$ 26,000. In eleven of the families both spouses were employed. All the families lived in Michigan and within the boundaries of Jackson County. Each of the families regularly attended the Spring Arbor Free Methodist Church.

Based on this sample a few general observations can be made. First, one would expect a more egalitarian approach to problem solving because of the high number of two-income families. Several authors have observed that wives gain more power if they are employed outside of the home (Safilios-Rothschild, 1970b; Yogev, 1981; Bird, 1979). Secondly, there should not be variance problems due to income or geographical area since all the families are similiar in these two areas. One study has shown that middle income families tend to approach problem solving differently (Straus, 1968).

The third observation to be made is the poor possibility of generalizing the data. The small sample size and the fact that all the families were from one church should alert readers to use caution in extending the conclusions beyond the population studied.

Description of the Instruments

Three instruments were used in this study to gather information on family problem solving. These instruments are described below. See the appendix for copies of these instruments (pages 156-159).

1. Family Problem-Solving Index. This instrument was developed by the author for this study. It was divided into two parts. Each part had four questions. The first

part was given to the family immediately after their problem solving session. The second part was given to the family one month later. Each question on Part I and three of the four questions on Part II used a five part scale ranging from strongly agree to strongly disagree. Numerical values for this scale ranged from five points for answers marked strongly agree to one point for answers marked strongly disagree. The last question on Part II was an open ended question and used primarily for gathering information that would be useful for further research. Pretests on this instrument were conducted to ensure that the questions could be easily understood. It is assumed that this instrument measured the following variables: problem solving acceptance, problem solving quality, and the perceived power of family members. No data on reliability or validity are available.

2. Family Inventory of Resources for Management (FIRM). This instrument was developed by McCubbin and Patterson (1981) to be used as part of their Family Stress Project. The instrument consists of five sub-scales: Family Strengths I (self-esteem and family communication); Family Strengths II (mastery of the environment and family health); Financial Resources; Social Support; and Social Desirability. This instrument is available from the authors. It is not included in the appendix.

3. Family Problem Solving Instrument. Parker (1979) used this instrument to assist in analysing tape recorded

data. Four of the categories from this instrument are used in this study: diagnostic orientation, number of alternatives, process of comparing and ranking alternatives, and process of searching for and using information.

Summary of Operational Definitions

Chapter One included conceptual definitions of the variables used in this study. This section is a summary of the operational definitions and specific measurement procedures for these variables.

1. <u>Problem Solving Effectiveness</u> is the dependent variable. It includes two parts. Effectiveness is defined as the degree to which family problems are solved (quality) to the mutual satisfaction of family members (Acceptance). Acceptance was measured by questions 1,2,3, and 7 of the Problem Solving Index. Quality was measured by questions 5 and 6 of the Problem Solving Index. Family acceptance and quality scores were obtained by adding together the scores on the appropriate questions from each family member and dividing by the number of family members. The family's problem solving effectiveness score was obtained by added together the responses from each family member on all six questions (1,2,3,5,6,7) and dividing by the number of family members.

2. <u>Equality of Verbal Communication</u> is defined as the degree of equality in length of time that family members spent in talking. The tape recorded interaction of the

family was used to time each family member. This was accomplished by using a stop watch. The family communication score was obtained by the formula:

X= the differences in time spent talking among family members

Y= the total amount of time the family interacted n= the number of family members

The higher the score, the more unequal the family would be in the amount of time each member spoke. For ease of handling the data, the scores were multiplied by 100.

3. Equality of Participation refers to the degree of equality in the number of opportunities that family members have to talk. A count was taken from the tape recorded data on the total number of times that each of the family members spoke during the problem solving session. To arrive at a family participation score the following formula was used:

- X = the differences in participation among family members
- Y = the total number of times the various family members spoke.

n = the number of family members

The higher the score the more unequal the family would be the number of times that family members participated during the problem solving interaction. For ease of handling the data the scores were multiplied by 100.

4. <u>Creativity</u> was defined for this study as the number of alternatives suggested by family members. Using the tape recorded data, the alternatives suggested by family members were counted. Each alternative suggested received one point.

5. <u>Amount of Support</u> refers to the number of positive affect statements compared to the number of negative affect statements. Using the tape recorded data the affect statements were counted. Each postive statement received one point. Each negative statement received a negative one point. The family support score was obtained by adding together the positive and negative scores.

6. <u>Family Power</u> for this study was defined as the degree to which family members were able to have their ideas discussed. Both a subjective measure and an objective measure were obtained. The tape recorded data were analysed as to who suggested ideas and whose ideas were brought into the family discussion. This provided the objective measure. Family members were given one point if they suggested an idea. If this idea was discussed by the other family members an additional point was awarded. A family power score was obtained by dividing the total number of ideas that were discussed by the total number of ideas that were suggested. Higher scores (above 50) would

indicate that most of the ideas presented by family members were discussed.

The subjective measure of power was obtained from question four of the Problem Solving Index. A five point scale ranged from strongly agree (five points) to strongly disagree (one point). Each member's score was added to the scores of the other family members to obtain a family power score. Higher scores (above three) would indicate that family members felt that their ideas were discussed and that power was distributed more evenly.

The subjective measure of power may be a more valid indicator of family power. It gets closer to the members satisfaction with the problem solving process by measuring the family members' perceived power rather than their actual power. Perceived power is often a more reliable measure than actual power (Paolucci, Hall, and Axinn, 1977).

7. <u>Rationality</u> is a measure of the strategies that a family uses in arriving at a solution to a family problem. For this study three categories from the Problem Solving Instrument (Parker, 1979) were used to measure rationality: the degree to which family members looked for the causes of the problem; the degree to which the family considered various alternatives; and the degree to which the family discussed information that would help in solving the problem. Scoring procedures were as follows:

 Each time a cause of the problem was mentioned the family received one point up to a maximum of three points.
A cause of the problem was defined as looking for the source, and/or reason for the problem.

2. Each time the family mentioned a source of information they received one point up to a maximum of three points. Sources of information were identified as

- a. experimental proof (trial and error)
- act of observing, examining or noting with attention
- c. personal experience or experience of others
- d. authoritative and known sources (such as magazines, institutions, specialists, competent relatives)
- e. personal beliefs or knowledge

3. For each alternative discussed by the family they received one point up to a maximum of three points.

4. The scores from each of the three categories were added together to obtain the family rationality score.

8. <u>Sense of Mastery</u> was measured by using the FIRM subscale "Mastery and Health". For each statement on the subscale family members indicated whether the statement described their family not at all (0 points), minimally (1 point), moderately (2 points), or very well (3 points). Table 3.1 lists the statements that comprised the Mastery and Health subscale. Lower scores would indicate that the family had a high sense of mastery.

9. <u>Family Self-Esteem</u> was measured by the FIRM subscale "Self-Esteem and Communication". Scoring was the same as for the sense of mastery subscale. Table 3.2 lists the statements that comprised the self-esteem and communication subscale.

TABLE 3.1 MASTERY AND HEALTH STATEMENTS (FIRM)

- 2. Being physically tired much of the time is a problem in our family.
- 3. We have to mag each other to get things done.
- 4. We do not plan too far ahead because many things turn out to be a matter of luck anyway.
- 6. Having only one person in the family earning money is (or would be) a problem for us.
- 7. It seems that members of our family take each other for granted.
- 8. Sometimes we feel we do not have enough control over the direction our lives are taking.
- 9. Certain members of our family do all the giving, while others do all the taking.
- 11. We seem to put off making decisions.
- 13. Our family is under a lot of emotional stress.
- 14. Many things seem to interfere with family members being able to share concerns.
- 15. Most of the money decisions are made by only one person in our family.
- 17. It seems that we have more illness in our family than other people do.
- 18. In our family some members have many responsibilities while others don't have enough.
- 20. It is upsetting in our family when things don't work out as planned.
- 22. Being sad or down is a problem in our family.
- 23. It is hard to get family members to cooperate with each other.
- 26. Many times we feel we have little influence over the things that happen to us.
- 27. We have the same problems over and over--we don't seem to learn from past mistakes.
- 29. There are things to do at home that we don't seem to get done.
- 32. We seem to be so involved with work and/or school activities that we don't spend enough time together as a family.

TABLE 3.2 SELF-ESTEEM AND COMMUNICATION STATEMENTS (FIRM)

- 36. Friends seem to enjoy coming to our house for visits.
- 38. When we make plans we are almost certain we can make them work.
- 39. In our family we understand what help we can expect from each other.
- 44. When we face a problem, we look at the good and the bad of each possible solution.
- 46. No matter what happens to us we try to look at the bright side of things.
- 50. In our family it is okay for members to show positive feelings about each other.
- 52. We seem to be happier with our lives than many families we know.
- 53. It is okay for family members to express sadness by crying, even in front of others.
- 55. We discuss our decisions with other family members before carrying them out.
- 58. We get great satisfaction when we can help out one another in our family.
- 60. The working members of our family seem to be respected by their co-workers.
- 62. The members of our family respect one another.
- 65. Members of our family are encouraged to have their own interests and abilities.
- 67. The members of our family are known to be good citizens and neighbors.
- 68. We make an effort to help our relatives when we can.

10. <u>Family Consensus</u> was measured by combining all of the subscales of the Family Inventory of Resources for Management (FIRM). Consensus was thus a measure of the degree of agreement among family members on self-esteem, sense of mastery, financial well-being, and extended family relationships. Once the individual scores were collected a family agreement score was obtained with the following formula:

Y (n-1)

- X = the difference in FIRM scores among individual family members
- Y = the total FIRM score obtained by adding together all the individual scores
- n = the number of family members

Lower scores would indicate that the family was higher in agreement.

Statistical Analysis

As a check on reliability, five tapes were randomly selected to be analyzed by another person. The individual was given instructions on the use of the coding instruments. This person did not know the results obtained from the original analysis. There was an 86% agreement between the two results.

The statistical methods used for data description and analyses were: Pearson product moment correlation and multiple regression analyses.

Correlation Analysis

Correlation analysis provided the intercorrelation information for selection of the independent variables for regression analyses and provided an additional method for examing the theoretical model. The Pearson correlation coefficient \underline{r} is a measure of association indicating the strength of the linear relationship between two variables. The value of \underline{r} ranges from -1.0 to +1.0. If the value of \underline{r} approaches +1.0 or -1.0 it can be assumed there is a strong linear relationship between the two variables. As \underline{r} approaches 0, it can be assumed there is little or no linear relationship. The objective of correlation analysis is to determine the extent to which variation in one variable is linked to variation in the other variable (Kerlinger, 1973). The use of correlation analysis requires making assumptions of linearity, random sampling, bivariate normal distribution, and interval level data (Nie, et. als., 1975). It is important to keep in mind that the presence of a correlation between two variables does not necessarily mean a causal link exists between them (Glass and Stanley, 1970). The correlation coefficient is a symmetric measure of association and does not take into account which variable is independent or dependent (Nie, et. als., 1975).

Multiple Regression Analysis

Multiple regression is a general statistical technique to analyze the relationship between a dependent variable and a set of independent variables. An ideal regression requires low correlation among the independent variables and high correlation between the various independent variables and the dependent variable (Nie, et. als. 1975). To use multiple regression requires making several assumptions (Nie, et. als., 1975):

- 1. Random sampling
- 2. Interval level data

- Linear relationship between independent and dependent variables
- 4. The scores of the dependent variable have equal variances for a given combination of the independent variables
- 5. The scores of the dependent variable are normally distributed for a given combination of the independent variables
- 6. The error components are independent, have a mean of zero, and have the same variance throughout the range of the dependent variable values.

Several regression statistics are reported in the tables of chapter four. These are discussed below.

1. <u>R-squared (coefficient of multiple determination)</u> is an estimate of the proportion of the variance of the dependent variable accounted for by the independent variables. The closer this value is to 1, the greater is the association between the set of independent variables and the dependent variable. The formula for calculating <u>R-</u> squared is:

2. <u>R (multiple correlation)</u> is the product moment correlation between the dependent variable and another variable produced by a least squares combination of the independent variables. R is a measure of how well the "best" linear combination of the independent variables

predicts or correlates with the dependent variable. \underline{R} can only range from 0 to 1.

3. <u>Adjusted R-squared</u>. The values of <u>R</u> and <u>R-squared</u> can be inflated in sample sizes under 200 (Kerlinger, 1973). A "shrinkage" formula can be used that takes into account the sample size. The formula is:

 $\frac{\text{Adjusted R-squared}}{\text{Model R-squared}} = 1 - (1 - \frac{\text{R-squared}}{\text{R-squared}}) ------(N - n)$

where N = the sample size and n = the variables in the analysis.

4. <u>Standard error of the estimate</u> is the standard deviation of the actual dependent variable values from the predicted dependent variable values. It can be interpreted as the average error in predicting the dependent variable from the regression equation. With this value it is possible to estimate the proportion of cases that will fall within one or more standard error of estimate units from the predicted values of the dependent variable (Nie, et. als., 1975).

5. <u>Regression sum of squares</u> expresses the portion of the total sum of squares of the dependent variable that is due to the regression of the dependent variable on the independent variables.

6. Error sum of squares expresses the portion of the total sum of squares that is not due to the regression of the dependent variable on the independent variables.

7. <u>Total sum of squares</u> is a measure of the variability of the values for all the variables. The larger this number is, the more variable are the values.

8. <u>Numerator degrees of freedom</u> represent the number of independent variables in the regression equation.

9. <u>Denominator degrees of freedom</u> is calculated by subtracting the number of independent variables from the sample size. This result is then reduced by one.

10. <u>F-statistic</u> is calculated by the following formula: $\frac{F}{F} = \frac{SS (reg) / k}{SS (res) / N - k - 1}$

SS (reg) = sum of squares explained by the regression equation

SS (res) = unexplained (residual) sum of squares

k = number of independent variables in the equation

N = sample size

The calculated \underline{F} value is compared to a tabled \underline{F} value with k and N - k - 1 degrees of freedom. If the calculated \underline{F} value exceeds the tabled \underline{F} value it can be concluded that one or more of the population regression coefficients has an absolute value greater than zero. To test for which regression coefficients were significantly greater that zero, \underline{t} tests were performed on each of the regression coefficients. A \underline{t} test of a regression coefficient, if significant, indicates that the variable associated with this coefficient contributes significantly to the regression, the other independent variables being taken into account (Kerlinger, 1973).
There are several limitations of this research that might affect the interpretation of the results reported in chapter four. These limitations are discussed in this section.

1. The size of the sample. One of the major objectives of this study was to attempt to do research with an untried methodology, i.e., varying situations but controlling importance. The ability to generalize was therefore sacrificed by concentrating on methodology. The size of the sample was kept small so the data would be manageable. Fifteen families is not enough to really trust the results to apply to other groups of families. The main contribution of this study is in the area of methodology, and not so much in answering research questions on family problem solving. This latter objective is of concern however. The results of this study could be used to indicate possible directions for further research. Beyond this possibility the results should be used with care.

2. The homogeneity of the sample. All the families in the sample were from the same church, economic class, and ethnic group. Research on family strengths has indicated that "a spiritual orientation" may be helpful in handling family problems. Stinnett (1979) stated that an awareness of a higher power helped family members be more positive, supportive, and patient with each other. This spiritual orientation also gave families a sense of

purpose. These characteristics may give families additional resources with which to effectively solve problems.

The sample is strongly biased toward those with a spiritual orientation. Therefore the results may not be applicable to families without such an orientation. As a further caution, two of the families in the sample worked on a problem that would not usually be found in the general public. This problem was how the family could find the time for consistent family devotions. For families with a spiritual orientation this is an important problem. For those without a spiritual orientation the problem would not even be considered. Since the families were similar in economic class the results may not be applicable to other economic classifications or ethnic groups.

3. Bias toward two-income families. The fact that eleven of the fifteen families had both spouses working deserves special mention. This heavy concentration of two income households was not intentional. Of the 35 families that responded affirmatively to helping with the research project fifteen were randomly selected. Eleven of the fifteen just happened to be two-income families. Considering the number of studies that indicate increased equality among spouses in decision-making (Safilios-Rothschild, 1970b, Yogev, 1981), the sample could be heavily biased toward egalitarian families. This bias would affect some of the positive relationships found

between the interaction variables and problem solving effectiveness. The effect would be to run the risk of finding a relationship where none actually exists. For example, there may exist a positive relationship among decentralization of power and problem solving effectiveness only because most families in the sample were from an egalitarian power structure and they happen to solve problems effectively. The danger is that families from a more traditional power structure may also solve problems effectively but through a more centralized concentration of This result would be hidden because of the biased power. sample. If enough of these kinds of households were part of the sample then the relationship might not exist. The way to guard against finding a relationship that does not exist is to balance the two kinds of households in a large sample and compare these households.

Because of this bias in the sample of this study caution is advised in using the results for any group other than two-income households.

4. Validity concerns regarding methodology. As discussed in chapter two and earlier in this chapter there is some concern as to whether contrived situations and game situations really measure a family's ability to solve actual family problems. But these methods have been used before and for whatever they measure there are data on the reliability of these approaches (Tallman and Miller, 1972). There is also some evidence that contrived problems at

least elicit intense family interaction. Ferreira and Winter (1968:131) state "there seems to be no neutral problem." Both of these approaches rely on controlling the problem situation.

In this study the problem situations vary. There may be some questions as to whether the results from different problems can be compared. It could be argued that if problem solving effectiveness is to be generalized to all family problems then the problem situations must vary. An hypothesis could be that family problem solving "rules" will vary depending on the importance of the problem. Thus families who see the contrived situations as important will act differently than families who see these situations as unimportant to their family functioning. Important problems should however elicit similar "rules" for solving a problem. The important question becomes what interaction variables are critical to solving important family problems. But this method of looking at family problems is untried and therefore the question must be entertained as to the validity of such an approach. Only further research will answer this question. Thus at this time caution must be exercised in using the results of this study.

CHAPTER FOUR

RESULTS OF THE STUDY

Descriptive Statistics

Table 4.1 provides the descriptive statistics for each of the variables including the mean, standard deviation, the minimum value of the variable, and the maximum value of the variable. Several variables were of interest. The total time that families took to arrive at a solution ranged from under five minutes to over twentyseven minutes. The average time for families was about fifteen minutes. Creativity was defined as the number of alternatives suggested by family members. Families ranged from suggesting only one alternative all the way up to thirteen suggested alternatives to solve the family problem. The average was five alternatives. The greatest variability was with consensus. Lower scores indicated that the family was higher in agreement. The range was from 12 (very high agreement) to 113 (very low agreement). The mean was 59, which indicated a moderate level of agreement. Support was the number of positive affect statements compared to the number of negative affect statements. One family scored -10, which indicates that there were 10 more negative statements than positive statements. The highest positive score was 3. This suggests that in this sample, sharing positive comments was not frequently done. These families were all regular

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VARIABLE	MEAN	STANDARD DEVIATION	MININUM	MAXIMUM
EFFECTIVENESS ACCEPTANCE QUALITY POWER (S) POWER (S) POWER (O) RATIONALITY SUPPORT COMMUNICATION PARTICIPATION PARTICIPATION CREATIVITY ESTEEM MASTERY CONSENSUS FAMILY SIZE FOTAL TIME (Min.)	23.17 16.02 7.20 4.07 53.42 53.42 4.00 53.42 53.42 53.42 53.42 53.42 53.42 53.13 59.13 59.13 59.13 15.58	3.57 2.23 1.68 1.68 1.51 1.51 1.55 3.15 3.49 6.22 6.22	16.75 11. 3.25 3.25 3.25 3.25 2.75 17 14 17 14 12 18 12 12 12 12 33	30 20 10 82.3 42 42 42 40.25 33.25 113 27.3
	KINDS OF PR	OBLEMS USED BY FAMI	LIES	
Having effective f	amily devotions			m
Being more effecti	ve in obeying h	ouse rules		m
Finding more time	to be with each	other		Ŋ
Getting household	chores done			2

Communicating more effectively with each other

attenders at a church. According to Stinnett (1979) these families should have been more positive. In this regard the finding of low support statements was surprising. The objective measure of power indicated that on the average half of the ideas suggested by family members were discussed during the problem solving session. The range was from only 30 % of the ideas being discussed to 82 %. On the self-esteem measure, a score of 45 would have been a perfect score, indicating a very high level of family self-The range was from 23 to 40 with the mean at 33. esteem. The families in this sample were moderately high in family self-esteem. On sense of mastery a perfect score would have been towards zero because of the way the statements were worded. The highest score would have been 60. Families in this sample ranged from 18 to 33 with the mean at 24. Families in this sample would be moderately high in sense of mastery. In regard to problem solving effectiveness, a perfect score would have been 30. One family achieved this level of effectiveness. The mean was 23 which indicates that most of the families in the sample were able to reach a moderately high level of effectiveness.

Correlation_Analysis

As a first step in analysing the data a correlation matrix was constructed. The matrix included the three dependent variables and the nine independent variables. The matrix provided the information necessary for three levels of analysis:

1. The matrix provided the intercorrelations among the independent variables. This information is necessary to satisfy one of the assumptions of multiple regression analysis: multicollinearity.

2. The intercorrelations among the independent variables also provided the information to test several hypotheses that predicted a modest relationship among selected independent variables.

3. The matrix provided the correlations between the dependent variables and the independent variables. Tables 4.2 through 4.6 are summary tables of the complete correlation matrix.

Linear transformations were performed on four of the independent variables: sense of mastery, amount of participation, amount of verbal communication, and consensus. For these variables higher scores indicated a lower sense of mastery, unequal levels of participation, unequal levels of communication, and less consensus. All of the other variables were scored in a positive direction, ie., higher scores would indicate that the variables were present in greater strength. The resulting correlations among the negatively scored variables and the positively scored variables would produce a negative r value, when in fact the data were positively related. The linear transformation performed on sense of mastery, amount of

TABLE 4.2 - PEARSON CORRELATION COEFFICIENTS BETWEEN SELF ESTEEM AND THE INTERACTION VARIABLES PLUS SENSE OF MASTERY

r VALUE	.5718 **	1072	.2042	.4473 *	.5636 **	.0643	.1754	2820
VARIABLE	OWER (subjective)	OWER (objective)	LATIONALITY	JUPPORT	CREATIVITY	ARTICIPATION	COMMUNICATION	SENSE OF MASTERY

* p < .05

****** p < .025

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BETWEEN	ABLES
COEFFICIENTS	RACTION VARIA
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PEARSON	
TABLE 4.3	

rΛ	ve)	e) – .2	• 4	.2	.2	.1	
VARIABLE	POWER (subjecti	POWER (objectiv	RATIONALITY	SUPPORT	CREATIVITY	PARTICIPATION	

* p < .05

TABLE	4.4	PEARSON	CORRELATION	COEFFICIENTS	BETWEEN	CONSENSUS	AND	THE
	LNI	ERACTION	VARIABLES PI	US PROBLEM	SOLVING EF	FECTIVENES	s S	

VARIABLE	r VALUE
WER (subjective)	2911
WER (objective)	2139
TIONALITY	.2797
PPORT	0169
EATIVITY	.1105
RTICIPATION	.5310 **
MMUNICATION	.5058 *
FECTIVENESS	.1467
~ ~ *	15

* P < .05 ** P < .025

4.5 PEARSON CORRELATION AND THE	COEFFIC INTERAC	LIENTS BI	ETWEEN THE DE RIABLES	PENDENT VARIABLES
VARIABLE	QUALIT	Х	ACCEPTANCE	EFFECTIVENESS
			r VALUES	
POWER (subjective)	.7463	* * * *	.6796 ***	* ****
POWER (objective)	.2339		.2040	.2455
RATIONALITY	.4858	*	.3813	.4919 *
SUPPORT	.5222	* *	.3682	.4955 *
CREATIVITY	.3367		.6117 ***	.5496 **
PARTICIPATION	.1343		.2354	.2327
COMMUNICATION	.3526		.4530 *	.4506 *
	വ *	< .05		
	d **	< .025		
	4** p	< .01		
*	4** p	< .005		

TABLE 4

INTERACTION	
AMONG	70
MATRIX	ARIABLES
CORRELATION	NDEPENDENT VP
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4.6	
TABLE	

	POW (S)	POW (0)	RATION	SUPP	CREAT	PARTIC	COMMUN	
POWER (S)	Ч	.2551	.2825	.4606	* .3732	.1426	.0575	
POWER (0)	.2551	Ч	.2761	.3977	2356	.0911	.0944	
RATIONALITY	.2825	.2761	1	.3379	.3109	.4401	.0700	
SUPPORT	.4606	* .3977	.3379	Ч	.2152	.0441	.1932	
CREATIVITY	.3732	2356	.3109	.2152	Ч	.1547	0574	
PARTICIPATION	1426	.0911	.4401	.0441	.1547	1	.5726 *	~
COMMUNICATION	.0575	.0944	.0700	.1932	0574	.5726 *	Ч	

participation, amount of communication, and consensus was to multiply each of the variable values by -1. Table 4.7 provides an overview of the results of the correlation and multiple regression analysis. These results are detailed in the remainder of this chapter.

Relationships Between Self-Esteem, Sense of Mastery, Consensus, and Individual Interaction Variables (Hypotheses 1 - 19)

HYPOTHESIS 1: Self-Esteem will be positively related to sense of mastery.

Table 4.2 shows the correlation coefficients (r) values for self esteem and the other independent variables. An r value of .2820 was not enough to support this hypothesis.

HYPOTHESIS 2: Self esteem will be positively related to equality of verbal communication.

An r value of .1754 (table 4.2) was not enough to support the hypothesis. Equality of verbal communication was a measure of how close family members were in the amount of time that each member participated in the problem solving discussion.

HYPOTHESIS 3: Self esteem will be positively related to equality of participation.

An r value of .0643 (table 4.2) was not enough to support the hypothesis. Equality of participation was a measure of the degree of equality in the number of times that family members participated in the problem solving discussion.

RELATIONSHIPS	
OF	
SUMMARY	
4.7	
TABLE	

VARIABLE	EFFECTIVENESS	ACCEPTANCE	QUALITY	ESTEEM	MASTERY
POWER(S) POWER(O) RATIONAL SUPPORT CREATIV PARTICI COMMUNI	* * * * * 0* * * 0* *	* * 000 * 0 * * *	* * * * * 0* * 000 *	* 00 * * 00 * *	00*0000
INTERACTION AS WHOLE	*	* *	*	NA	NA
	* p < .05		***	. < .01	
	** p < .025		¥***	• < .005	

NA not applicable

-1

-

HYPOTHESIS 4: Self-esteem will be positively related to creativity.

Creativity was defined as the number of alternatives suggested by family members. This hypothesis was supported (r = .5636; p < .025).

HYPOTHESIS 5: Self-esteem will be positively related to amount of support.

Self esteem and support were found to be significantly related (r = .4473; p < .05 level). Support was defined as the number of positive statements compared to the number of negative statements made during the problem solving session.

HYPOTHESIS 6: Self-esteem will be positively related to equality in the distribution of power

Power was measured both subjectively (how well the family member felt their ideas were given adequate consideration) as well as objectively (the ratio between the number of ideas presented and the number of ideas actually discussed by the other family members). The hypothesis was supported for the subjective measure (r = .5718; p < .025) but not for the objective measure (r = -.1072). The negative sign was not expected. HYPOTHESIS 7: Self-esteem will be positively related to rationality.

Rationality for this study was viewed as the extent to which family members searched for causes of the problem they were discussing; discussed alternatives to solving the problem; and considered information that would help in eliminating alternatives. The hypothesis was not supported by the data (r = .2042).

HYPOTHESES 8 - 13: Sense of mastery will be positively related to the interaction variables: power, rationality, support, creativity, participation, communication.

Table 4.3 summarizes the relationships between sense of mastery and the other independent variables. Only one significant relationship was found. That was between sense of mastery and rationality (r = .4678; p < .05). HYPOTHESES 14 - 19: Consensus will be positively

> related to the interaction variables: power, rationality, support, creativity, participation, communication.

Consensus was a measure of the degree of agreement among family members on self-esteem, sense of mastery, communication, health, financial well-being and extended family relationships. Two significant relationships were found: between consensus and equality of communication (r =.5058; p < .05), as well as equality of participation (r =.5310; p < .025). Participation and communication basically measure the same dimension. See table 4.4 for the correlation coefficients between consensus and all of the other variables. The hypothesis was not supported. The correlation value between consensus and problem solving effectiveness was .1467

Relationships Between Individual Interaction Variables and Problem Solving Effectiveness, Quality and Acceptance (Hypothesis 21 - 26)

HYPOTHESIS 21: The degree to which family members are equal in the amount of verbal communication will be positively related to problem solving effectiveness.

Table 4.5 summarizes the relationships among each of the interaction variables and the three dependent variables. This hypothesis was supported (r = .4506; p < .05). Equality of communication was also significantly related to problem solving acceptance (r = .4530; p < .05) but not to problem solving quality.

HYPOTHESIS 22: The degree to which family members are equal in the amount of participation will be positively related to problem solving effectiveness.

This hypothesis was not supported. The intercorrelation between equality of communication and equality of participation was moderately high (r = .5726). It would seem that the amount of communication is a more fruitful indicator variable for measuring the equality of family communication. It will be recalled that amount of communication was measured by the <u>amount of time</u> each family member talked, while amount of participation was measured by the <u>number of times</u> each family member talked. HYPOTHESIS 23: The creativity of family members during problem solving will be positively related to problem solving effectiveness, especially solution quality.

The hypothesis was only partially supported. Creativity was significantly related to problem solving effectiveness (r = .5496; p < .025), but not to problem solving quality. What was unexpected was the fairly strong relationship between creativity and problem solving acceptance (r = .6117; p < .025).

HYPOTHESIS 24: The amount of support in a family during problem solving will be positively related to problem solving effectiveness, especially solution acceptance.

Family support was significantly related to problem solving effectiveness (r = .4955; p < .05). Support was also related to to problem solving quality (r = .5222; p < .025). This was unexpected. The hypothesized relationship was between support and problem solving acceptance. The analysis did not substantiate this relationship. HYPOTHESIS 25: Decentralization of power will be positively related to problem solving effectiveness, especially solution acceptance.

The hypothesis was supported for both problem solving effectiveness (r = .7798; p < .005) and problem solving acceptance (r = .6796; p < .005). Decentralization of power was also significantly related to problem solving quality (r = .7463; p < .005). These relationships were true for the subjective measure of power (the degree to which family members felt their ideas were given consideration). For the objective measure of power no significant relationships were uncovered.

HYPOTHESIS 26: Rationality during problem solving will be positively related to problem solving effectiveness, especially solution quality.

Rationality, as predicted, was significantly related to both problem solving effectiveness (r = .4919; p < .05) and problem solving quality (r = .4858; p < .05). No significant relationship was found between rationality and problem solving acceptance.

Multiple Regression Analysis Between the Interaction Variables and Problem Solving Effectiveness, Quality and Acceptance (Hypothesis 27-29)

The final three hypotheses were tested by multiple regression analysis. Tables 4.8, 4.9, and 4.10 provide the regression equation statistics for the interaction variables and each of the dependent variables.

Tables 4.11, 4.12, and 4.13 provide the basic regression statistics for each of the dependent variables. It should be noted that amount of participation was dropped from the analysis. The reason for this will be explained shortly.

The first step before running the multiple regression analysis was to check for multicollinearity among the independent variables. Table 4.6 provides the intercorrelations among the independent interaction variables. Only two significant relationships were found among the independent variables:

power (subjective) / support r = .4606participation / communication r = .5726

Neither of these relationships approached the r = .8 level which can make multiple regression analysis difficult if not impossible (Nye, et. als., 1975). However, participation was dropped from the analysis because of its conceptual similarity to communication. The best regression analysis results from a high correlation between independent variables and the dependent variable, but low correlation among the independent variables (Kerlinger, It has been suggested (Nie, et. als., 1975) that 1973). one way to "solve" a problem of multicollinearity is to drop one of the variables of the highly correlated pair. The remaining variable can be used to describe the common underlying dimension. Amount of participation and amount of communication very nearly measure the same dimension: the equality of the family in having input into a family discussion. Communication was more highly correlated with

QUALITY
SOLVING
PROBLEM
FOR
STATISTICS
EQUATION
REGRESSION
MULTIPLE
4.8
TABLE

i

VARIABLE REGRESSIC COEFFICIE	TERCEPT .20	WER(S) 1.863	WER (O)008	TIONALITY .305	PPORT .057	EATIVITY004	MMUNICATION .031
NI STANDARD SNT ERROR		.67	.02	.23	.10	.11	.026
T-STAT		2.8	.34	1.31	.54	.03	1.51
SIG		• 000	.37	.10	.29	.48	.07

FOR	
STATISTICS	
EQUATION	ACCEPTANCE
REGRESSION	A SOLVING
MULTIPLE 1	PROBLEN
4.9	
TABLE	

VARIABLE	REGRESSION COEFFICIENT	STANDARD ERROR	T-STAT	SIG
INTERCEPT	7.83			
POWER(S)	1.796	.66	2.73	• 008
POWER (O)	.03	.02	1.30	.10
RATIONALITY	.063	.23	.28	• 39
SUPPORT	09	.10	.87	.19
CREATIVITY	.344	.11	3.18	• 003
COMMUNICATION	.066	.02	3.33	.002 *

FOR	
STATISTICS	SS
EQUATION	FECTIVENES
REGRESSION	SOLVING EF
MULTIPLE	PROBLEM
TABLE 4.10	

VARIABLE	REGRESSION COEFFICIENT	STANDARD ERROR	T-STAT	SIG
INTERCEPT	8.08			
POWER(S)	3.584	.80	4.49	.001 *
POWER (O)	.021	.03	.77	.23
RATIONALITY	.419	.28	1.50	• 08
SUPPORT	016	.13	.12	.45
CREATIVITY	.342	.13	2.60	.01 *
COMMUNICATION	.096	.02	3.97	.001 *

LE 4.12 REGRESSION STATISTICS FOR PROBLEM SOLVI	ING ACCEPTANCE
VARIANCE EXPLAINED (R-SQUARED)	.853
MULTIPLE CORRELATION (R)	.924
ADJUSTED R-SQUARED	.743
STANDARD ERROR OF THE ESTIMATE	1.13
REGRESSION SUM OF SQUARES	59.402
ERROR SUM OF SQUARES	10.207
TOTAL SUM OF SQUARES	69.609
MEAN SQUARE ERROR	1.276
NUMERATOR DEGREES OF FREEDOM	9
DENOMINATOR DEGRESS OF FREEDOM	Ø
F-STATISTIC	7.759
SIGNIFICANCE	• 005 *

TABLE 4.12

significant relationship *

the dependent variable and it was the variable included in the Klein and Hill (1979) model. Therefore this variable was chosen to be included in the regression analysis. HYPOTHESIS 27: The interaction variables will be

significantly related to problem solving effectiveness.

The hypothesis was supported (p < .001). The entire set of interaction variables accounted for 85 % of the variance in problem solving effectiveness (Adjusted Rsquared = .852). The most significant variables in the analysis of effectiveness were creativity (t < .01), and amount of communication (t < .001).

HYPOTHESIS 28: The interaction variables will be significantly related to problem solving

quality.

The hypothesis was supported (p < .05). The interaction variables accounted for 54 % of the variance in problem solving quality. The only significant variable in the regression equation was power, measured subjectively (t < .007)

HYPOTHESIS 29: The interaction variables will be significantly related to problem solving acceptance.

The hypothesis was supported (p < .005). The interaction variables accounted for 74 % of the variance in problem solving acceptance (adjusted R-squared = .743). The most significant variables in the regression equation were power (measured subjectively; t < .008), creativity (t < .003), and equality of communication (t < .002).

Summary_of_Results

- Problem Solving Effectiveness was significantly related to the following interaction variables:
 - a. Power (subjective)
 - b. Rationality
 - c. Support
 - d. Creativity
 - e. Equality of Communication
 - f. Interaction variables considered as a whole
- 2. Problem Solving Quality was significantly related
 - to the following interaction variables:
 - a. Power (subjective)
 - b. Support
 - c. Rationality
 - d. Interaction variables considered as a whole
- 3. Problem Solving Acceptance was significantly
 - related to the following interaction variables:
 - a. Power (subjective)
 - b. Creativity
 - c. Equality of Communication
 - d. Interaction variables considered as a whole
- 4. Self Esteem was significantly related to the

following interaction variables:

- a. Power (subjective)
- b. Support
- c. Creativity
- 5. Sense of Mastery was significantly related to the following interaction variables:
 - a. Rationality
- 6. Consensus was significantly related to the

following interaction variables:

- a. Equality of Communication
- b. Equality of Participation

Exploratory Analysis

Correlation analysis was conducted on two other variables to see if any significant findings would emerge that could serve as a guide to future research. The two variables were family size and the total amount of time the family took to arrive at a solution. Family size had not been a factor for the main analysis. Table 4.14 shows the correlation results between these two variables and all the other variables. The only significant relationship found was between time and subjective power (r = .5013; p < .05). In addition, self-esteem, sense of mastery, and consensus were analyzed in terms of their relationship with the dependent variables. Table 4.15 lists the results. Only self-esteem was related to any of the dependent variables. A discussion of this exploratory analysis is included in chapter five.

VIDEN VAN	СЭПАН	
VARIABLE	FAMILY SIZE T	IME
POWER (subjective)	2410	.5013 *
POWER (objective)	.1989	.3026
RATIONALITY	.1342	.3582
SUPPORT	1751 -	• 0464
CREATIVITY	0562	.2545
PARTICIPATION	.2644	.0167
COMMUNICATION	- 2005	.1646
CONSENSUS	- 0029	• 2537
SENSE OF MASTERY	0648	.1521
SELF-ESTEEM	2182	.1255
QUALITY	132	.3012
ACCEPTANCE	1858	.2143
EFFECTIVENESS	1802	.2826

TABLE 4.14 - PEARSON CORRELATION COEFFICIENTS BETWEEN FAMILY SIZE, TIME AND ALL OTHER VARIABLES

VARIABLES	
E DEPENDENT	NSENSUS
COEFFICIENTS BETWEEN TH	SENSE OF MASTERY, AND CO
PEARSON CORRELATION	AND SELF-ESTEEM,
TABLE 4.15	

EFFECTIVENESS	.6049 ***	.0819	.1467	
ACCEPTANCE r VALUES	.6495 ***	0811	.0955	
QUALITY	.3811	.2227	.1657	
VARIABLE	SELF-ESTEEM	SENSE OF MASTERY	CONSENSUS	

*** P < .01

CHAPTER FIVE

DISCUSSION OF RESULTS

The discussion of the results reported in chapter four is organized into four major areas:

 The effect of the interaction variables considered as a whole on problem solving effectiveness, problem solving acceptance and problem solving quality.

2. The effect of individual interaction variables on problem solving effectiveness, problem solving acceptance, and problem solving quality.

3. The effect of self-esteem, sense of mastery, and concensus on individual interaction variables.

4. Key issues on methodology

Effect of Interaction Variables as a Whole on Problem Solving Effectiveness, Quality, and Acceptance

The most important finding of this research study was the verification of selected parts of the Klein and Hill (1979) family problem solving theory. All of the major interaction variables in the Klein and Hill (1979) model that were included in this study were significantly related to problem solving effectiveness. Of most significance was the finding that problem solving effectiveness includes two critical dimensions: quality and acceptance. A major proposition by Klein and Hill (1979) was that effectiveness could not really be understood apart from looking at both a quality dimension and an acceptance dimension. The need

for two dimensions in testing for effectiveness was also echoed in much of the family problem solving literature (Paolucci, et. als., 1977; Weick, 1971; Turner, 1970).

If quality alone would have been used as a definition of effectiveness, only three variables would have emerged as being significantly related to effectiveness: power, rationality, and support. If acceptance would have been used as the sole definition of effectiveness, again, only three variables would have emerged as being significantly related to effectiveness: power, creativity, and equality of communication. Power is the only variable common to both dimensions of problem solving effectiveness. In short, without both dimensions to explain problem solving effectiveness two important variables would not have been When the multiple regression analysis between the found. interaction variables and problem solving effectiveness is examined, further evidence emerges for the need of two dimensions to explain effectiveness. The interaction variables are significantly related to quality and acceptance, but the greatest significance (p < .001) occurs when the two dimensions are combined to form the one dependent variable, problem solving effectiveness. In addition, each of the interaction variables are individually related to problem solving effectiveness. This is not the case, as noted earlier, with quality or acceptance. Klein and Hill (1979:520) do state that

When it can be safely assumed that quality and acceptance are perfectly

correlated, a measure of both dimensions is not required. However, our purpose in introducing two <u>conceptually</u> independent dimensions to <u>effectiveness</u> is to caution against uncritically assuming their empirical equivalence.

The intercorrelation between quality and acceptance in this study was r = .6286. While this value is fairly high, it does not approach the level that has been called extreme multicollinearity; a value of r = .8 or above (Nie et. als. 1975). It appears that the above mentioned caution is a valid one.

Klein and Hill (1979:499) also suggest that

High quality solutions that are enthusiastically received will be more effective than low quality solutions that receive no support or only mixed support. Problem solving that results in intermediate levels of effectiveness will be characterized by moderate quality and moderate acceptance, by high quality solutions that are poorly received, or by low quality solutions that are enthusiastically received.

In this research, the method of measuring effectiveness was to add the scores of acceptance and quality together. High quality and high acceptance would always result in high effectiveness. Low quality and low acceptance would always result in low acceptance. Moderate levels of effectiveness resulting from a combination of high and low scores on quality and acceptance would only be possible if quality and acceptance were not perfectly correlated. As noted earlier quality and acceptance were moderately correlated. It was therefore not possible to observe a combination of high and low scores on the two dimensions of problem solving effectiveness. High scores on either dimension tended to be associated with moderate to high scores on the other dimension. Problem solving effectiveness therefore ranged within the moderately high to high range. It should be cautioned that the results do not necessarily preclude the possibility of observing a combination of high and low scores on the dimensions of quality and acceptance. A lower correlaton between the two dimensions is more likely to result in the high-low combination. This lower correlation might be observed with a larger, more diversified sample than what was used in this study.

One other observation concerning the relationship between quality and acceptance is noteworthy. The measure of problem solving effectiveness is a composite of the measures of quality and acceptance. As such one half of the measure of effectiveness is a perfect correlation with quality and the other half is a perfect correlation with acceptance. Therefore any correlation coefficient between quality or acceptance and effectiveness less than r = 1.0would be due to the variance in only one of the dimensions. It appears that acceptance can vary more than quality. In other words, a family may find a high quality solution but vary on their acceptance of that solution. Quality may not vary as much because families may not accept any solution other than one that at least appears it has a good chance to solve the problem. The consequence would be that a

family which strove for acceptance of a solution would tend to have a higher degree of problem solving effectiveness than families whose primary goal was to find a quality solution regardless of the acceptance of that solution.

The results of the research do suggest one possibility for this difference in variance. It should be cautioned however that due to the extreme intercorrelations between quality, acceptance, and effectiveness any interpretations are at best tenuous. The only firm conclusion that can be drawn from the data is that the correlation results may suggest a possibility that can be explored with additional research. With this caution in mind, a look at the correlations among the interaction variables suggests one reason why acceptance may vary more than quality. Creativity was significantly related to acceptance, not quality. It could be, as Aldous (1971) suggests, that alternatives are continually suggested until one is found that family members can accept. The bonus with this approach is that with more alternatives from which to choose, the chances are probably greater that one of the alternatives will successfully solve the problem, even though this was not the family's primary goal. If the family's goal is to find a quality solution they may not care about the process involved or how other family members are affected. The leader of the family may simply adopt the first solution that shows promise of solving the problem. As a result, all members may not have a chance to

share their ideas or offer additional alternatives that may be just as good, but more acceptable to dissenting members. The solution may be of moderate to high quality but have only moderate support. With these circumstances, effectiveness would suffer for the family seeking a quality solution, but probably increase for the family seeking satisfaction among family members. The relationship between creativity and the dependent variables will be treated further in the next section.

Effect of Individual Interaction Variables on Problem Solving Effectiveness, Quality and Acceptance

Each of the interaction variables are discussed in this section in terms of their individual relationships with effectiveness, quality, and acceptance. The correlation coefficients, upon which the discussion is based, can only point out general tendencies. Any cause and effect suggestions are given only as a guide to future research efforts; they are not in any way borne out by this research.

Power

Power, measured subjectively, was the only variable to be significantly related to acceptance, quality and effectiveness. The subjective measure of power tapped the family's perception on whether their ideas were discussed. It was assumed for purposes of this research that if a family member had an idea discussed, that family member had
the potential power for guiding the family decision. Actual power, defined as who contributed the most to the final decision was considered to be a relatively unimportant dimension to measure. Paolucci, Hall and Axinn (1977:159) contend that "the distribution of power is probably less important than an individual's perception of his or her power in relation to the others' power. A person acts in accordance with this apparent relative power, regardless of whether it is real." A family member who shared an idea that was discussed by the other family members would probably feel they possessed some power even if the actual level of power was very small. Turk (1975) argues that every action by family members has an impact on the final decision.

The findings suggest that families who tend to discuss the ideas of family members tend to be more satisfied with the process of problem solving and find solutions that solve the family problem. These families tend to be very effective problem solvers. Conceptually, these tendencies make sense. It would seem that families have a better chance to make a solution workable if all the members share their ideas on how to make it work. These members, because of being a part of the process, may work harder at seeing that the solution works since the solution is partly their own. Family members having a part in the discussion of a family problem should also be more satisfied with the process by which a solution is found. A feeling of

goodwill or closeness may emerge from the problem solving process that could pull the family together emotionally and contribute to their effectiveness as problem solvers.

A legitimate question could be raised at this point: would it be too time consuming to discuss every idea mentioned by family members? The basis for such a question stems from the positive relationship between time and the family's sense of whether their ideas were discussed. It obviously takes more time to ensure that family members have the opportunity to discuss all relevant ideas. Undoubtedly, not every idea mentioned by family members is helpful in solving a family problem. To discuss every idea probably would take too much time. But if every idea is not discussed, what would that do to the satisfaction of family members? One possible answer can be found by examining the objective measure of power. For this measure of power every idea mentioned by any family member was recorded. Every idea discussed was also recorded. As noted in chapter four there was little relationship between the two measures of power. Neither was there much of a relationship between the objective measure of power and quality, acceptance, or effectiveness. What this seems to indicate is that it does not appear important to group morale that every idea is discussed. The mean on the objective measure of power was 53 %, ie., only half of the ideas mentioned were discussed. The range was from 30 % to 82 %. This range had little bearing on how effective the

family was in problem solving, or how the family felt about whether ideas were discussed. What seems important is that the family members feel satisfied with the number of their ideas that are discussed. The results give no indication of how many ideas need to be discussed for a member to be satisfied. An hypothesis might be that if the ideas of central importance to a family member are discussed, that family member will feel their ideas were given adequate treatment. If this is true, then the leaders of the family discussion may want to be sure that every family member has shared the ideas that are most important to those family members.

Rationality and Creativity

These two interaction variables are considered together because of their similarity in the concepts they measure. The results suggest that families who use a rational approach to problem solving tend to find quality solutions. Families that encourage brainstorming for alternatives tend to be more satisfied with the process of problem solving. Both rationality and creativity promote problem solving effectiveness.

The relationship between rationality and quality was expected (Klein and Hill, 1979; Turner, 1970; Janis and Mann, 1977). What was not expected was the fairly strong relationship between creativity and acceptance. Based on these results it seems that families who contribute a

number of alternatives will be more satisfied with the decision that is finally reached, but many alternatives do not guarantee that a quality solution will be found. Several authors did suggest that a relationship could exist between creativity and acceptance. Gross, Crandall, and Knoll (1973) felt that families who consider a number of alternatives would have more satisfactory decisions. Turner (1970) said that merely suggesting alternatives would not be enough; the alternatives would also have to be discussed. Paolucci, Hall and Axinn (1977) suggested that citing too many alternatives could even be detrimental to quality. According to these authors what was needed was information that would eliminate some of the alternatives from consideration. This could explain why rationality, not creativity, was significantly related to quality. Rationality tapped the results of the family discussion of alternatives and the searching for information that would help eliminate alternatives. Aldous (1971) contends that families are more concerned with the need of group maintenance rather that the need for a high quality Therefore families will seek an alternative only solution. until one is found that is acceptable to most family members. The main goal is acceptance, and to a lesser degree, quality. As such, creativity should be more related to acceptance rather than quality.

Support

The family's supportive statements toward one another were significantly related to problem solving quality. This was an unexpected finding. It was expected that support would more likely influence satisfaction with the process of problem solving. The indication is that families that are supportive of one another will tend to find solutions that solve a family problem. Reasons for this are unclear. Nothing could be found in the family problem solving literature to suggest a link between quality and support. One possible explanation is based upon the moderate relationship between power and support. Supportive families may be more willing to discuss the ideas mentioned by various family members. As already seen, discussing ideas was related to quality. Thus support could have an indirect relationship with quality. Correlation analysis does not take into account other influencing variables. Therefore it can not be said with certainty that power, or any other variables, are confounding the relationship analysis. But considering that there seems to be little conceptual link between support and quality, this explanation that support has only an indirect influence to quality may be the most plausible. The relationship would need further study to really understand the direct and indirect linkages. Support was related to overall problem solving effectiveness, and for families, this might be all that is really important to them.

Equality of Communication

The results suggest that families which are more equal in the amount of time that each member contributes during the problem solving session will tend to be more effective problem solvers. Family members will also be more satisfied with the process of problem solving. Put another way, family members who dominate discussion will hurt their families ability to effectively solve a problem.

Very likely, with a dominant family member it will be difficult for other family members to suggest or discuss alternatives. Family members may feel frustrated and very unsatisfied with the way in which the family went about trying to solve the problem. Any solution adopted may not have the full support of the family members who were not given adequate time to contribute. The net result will be less effectiveness in problem solving.

These findings agree with those of other authors in the family problem solving field. Aldous (1971) hypothesized that a centralized power structure in which problem solving discussion was limited to one or both parents would reduce the effectiveness and efficiency of problem solving. Melson (1980) as well as Paolucci, Hall and Axinn (1977) felt that unequal participation may result in an outcome that appears to solve a particular problem but does severe damage to the inner relationships of the family. In this case both acceptance and overall effectiveness would suffer. The implication is clear:

parents who allow their children to significantly contribute to any problem solving discussion will tend to solve problems more effectively, especially as effectiveness relates to family satisfaction with the problem solving process.

Effect of Self-Esteem, Sense of Mastery and Consensus on Individual Interaction Variables

Self-Esteem

Families with high self-esteem tended to support each other, suggest alternatives, and feel that their ideas were discussed. These findings are in agreement with other Scanzoni and Szinovacz (1981) predicted that authors. persons with higher self-esteem would be more assertive and present more proposals for consideration. Cooper, Holman, and Braithwaite (1983) reported that self-esteem would be higher in supportive families. In this research selfesteem was predicted to influence support. Correlation analysis does not discriminate between independent and dependent variables. Therefore it is impossible to know which variable is influencing the other. It could be that both variables influence each other. Persons with high self-esteem may enter a family relationship and create a supportive environment. This environment builds the selfesteem of the children. In turn, the children help to maintain the supportive environment through supportive

statements. Under such circumstances, self-esteem and support would, over time, influence each other.

It is enlightening however to notice the differences in the way the two variables were measured. Self-esteem was a historical measure; the survey method to obtain the data measured the family's perception of past events. Support, on the other hand, was measured during the family's actual interaction. The interpretation of the results in this research would therefore have to be in the direction of self-esteem influencing support.

The relationship found between self-esteem and problem solving effectiveness needs special attention. Schwartz, Wullwick, and Shapiro (1980) found moderate support for their hypothesis that a group's level of self-esteem would be positively related to the group's problem solving ability. Such a relationship was not hypothesized in this research. In the Klein and Hill (1979) model self-esteem would only have an indirect influence on problem solving effectiveness as self-esteem influenced the interaction variables. Considering the relationship of self-esteem with three of the interaction variables (power, support, and creativity), the most plausible explanation still seems to be that self-esteem has only an indirect influence on problem solving effectiveness.

Sense of Mastery

The only interaction variable significantly related to sense of mastery was rationality. This suggests that families with a feeling of control over environmental events will tend to be more rational in their approach to problem solving. The results agree with research on locus of control. Melson (1980) defines families with an external locus of control as feeling unable to control what happens to them. These families believe they have little power to really solve problems. Conversely, families with an internal locus of control feel they have the ability to determine their own destiny. Such a family is more likely to take a rational approach to problem solving.

Consensus

The most significant finding concerning consensus was the relationship with equality of communication. The results suggest that families who are more equal in the amount of time members contribute to the discussion of a problem tend to be closer in agreement on the family's level of resources. One possible explanation for this is that family members may feel freer to share in a discussion if they know other members of the family have similar perceptions of life events. Further research would be needed to determine the credibility of such an explanation.

Family Size

Family size was not included in the original data analysis. An exploratory analysis was conducted to determine if any interesting findings would emerge to spark future research efforts. The only relationship approaching significance was between family size and time. As would be expected, the larger the family the longer the family was involved in solving the problem. This was not a significant relationship however. Two other relationships, though not significant, may be deserving of further analysis because of the direction of the relationship. Family size was inversely related to both self-esteem and power. The implication is that the greater the family size, the lower will be the family's self-esteem and the less family members will feel their ideas were discussed. These relationships are conceptually possible, especially considering the near significant relationship between family size and time as well as the significant relationship between family size and power.

CHAPTER SIX

SUMMARY, IMPLICATIONS, AND CONCLUSIONS

Summary

The major purpose of this research was to test selected parts of the Klein and Hill (1979) problem solving theory. Klein and Hill (1979:499) defined problem solving effectiveness as the degree to which family problems are solved (quality) to the mutual satisfaction of family members (acceptance)." Klein and Hill (1979) predicted that effective solutions would require high quality and high acceptance. If either or both dimensions were low, the family would experience varying degrees of problem solving effectiveness.

The degree of quality and acceptance obtainable by the family would be influenced by the family's interaction. Klein and Hill (1979) identified eleven interaction variables affecting problem solving effectiveness. Five of these interaction variables were included in this research: equality of verbal communication, rationality, support, distribution of power, and creativity.

The interaction variables would be influenced by background variables inherent within the family system. Klein and Hill (1979) delineated sixteen family system variables. These were organized into four major categories: group structural properties, member characteristics, social placement, and cultural orientations. Only

three of the family system variables were included in the research. The remainder of the variables were either controlled or ignored. The three variables included were self-esteem (member characteristics), sense of mastery (cultural orientations), and consensus (group structural properties).

A secondary purpose of the research was to explore new frontiers in family research methodology. The choice of methodology chosen for this research was in response to criticisms of three commonly used practices in the family research field:

- The use of one or two respondents in gathering family data.
- 2. The use of contrived problems.
- 3. The use of individual family members as the unit of analysis when the focus has been to describe the family system.

To compensate for the weaknesses inherent in these practices, three features were included in the research design. The first was that data were obtained from all family members who could read and write. Secondly, the data were combined to obtain a family score. These two features have been included in varying degrees in a few studies (for example, Ezell, Paolucci, and Bubolz, 1984). The third feature is unique to this study: the family was allowed to choose the problem they would discuss. The only stipulation was that the problem had to include most

members of the family and the problem needed to be an important problem to the family. It was argued that contrived problems control for the problem but not for the importance of the problem. Families may vary considerably in the approach they take to solve a problem. The design of this research controlled for the importance of the problem while allowing the problems to vary. Which approach is more valid? Only further research can answer this question. It would seem that the purpose of family problem solving research is to not only describe how families solve problems, but also to find general principles that would help families solve their problems more effectively. To do so may require moving from the researcher's arena of possibly unimportant contrived problems to the family's arena of real problems. The approach advocated in this study will raise questions and That is the intent. The time has come to criticisms. begin to explore the validity of the two methods, rather than continuing to assume that family interaction and problem solving effectiveness can be adequately and accurately described through the use of contrived problems.

To test the Klein and Hill (1979) problem solving theory and explore the methodological issues, fifteen intact families from the Spring Arbor Free Methodist Church were randomly chosen to participate in the research. The oldest child in each of the families was an adolescent still living in the home. The families chose their problem

and arrived at a solution. The families were then given one month to determine if their solution would solve the problem. Data were obtained from the tape recorded interaction between family members. In addition, two instruments were completed by each family member: the Problem Solving Index developed by the author for this study, and the Family Inventory of Resource Management (FIRM) developed by McCubbin and Patterson (1981). The resulting information was analyzed with Pearson Product Moment correlations, multiple regression, and t-tests of individual regression coefficients.

The results demonstrated the validity of the Klein and Hill (1979) assertion that problem solving effectiveness must be measured with the two components of quality and acceptance. Some of the interaction variables were related only to problem solving acceptance and others were related only to problem solving quality. All five interaction variables identified by Klein and Hill (1979) were related to problem solving effectiveness, both individually as well as when considered as a group in the regression analysis. In addition to the above results, five of the hypotheses that were concerned with the relationship between the various interaction variables and self-esteem, sense of mastery and consensus were supported. Based upon these results several implications for further research can be suggested.

Implications of the Research

Throughout the discussion of the results several possibilities for further research were mentioned as well as suggestions for families that are attempting to improve their problem solving effectiveness. These suggestions are summarized below along with a few additional ideas.

1. Some authors (Klein and Hill, 1979; Paolucci, Hall, and Axinn, 1977) suggest that moderate levels of problem solving effectiveness can occur with a combination of high quality - low acceptance or low quality - high acceptance. The fairly high correlation between quality and acceptance (r = .6286) raises the question of whether a family high on one problem solving dimension can even be low on the other dimension. For example, if a family is highly satisfied with a solution (high acceptance), can this solution be one that completely fails to solve the family problem (low quality)? Is it possible for a family to reject a solution (low acceptance) that completely solves a family problem (high quality)? While these circumstances are theoretically feasible, the results of this study suggest that on a practical basis a high - low combination may not be possible. Quality and acceptance seem to be partially dependent on each other. However, the sample of this study was small and in two respects quite homogenous (religious affiliation and two income households). A larger, more diverse sample would help

to verify if quality and acceptance are really independent dimensions of problem solving effectiveness.

2. The results of the study revealed that acceptance of a solution may vary within a family more that quality. As such, families may want to strive for acceptance to ensure a greater probability for high problem solving effectiveness. This was not a hypothesis for the research and therefore there are no data to verify the observation. If acceptance does vary more than quality, this would be of interest to families.

3. The results of the research suggest that a family member can feel their ideas were discussed and feel satisfied with the process of problem solving even if that members ideas are not all discussed. The questions would be: what kinds of ideas need to be discussed to satisfy a family member? Is it the ideas of central importance to each family member that are the critical ideas to discuss? How can family members be sure the ideas discussed are the key ideas to each family member? Answers to these questions would provide fruitful information to families.

4. Creativity and acceptance were significantly related, but creativity and quality were not. It would seem that a further exploration as to why this occurred would be of value in future research efforts. What inner workings of the family might cause this to happen?

5. Support was significantly related to quality, but support was not related to acceptance. Again, the question

could be raised as to why this happened. Is it true, as suggested in the discussion of support, that support and quality are only indirectly related? Or is something happening inside the family that would explain a more direct relationship?

6. Self-esteem was significantly related to both acceptance and problem solving effectiveness. It was suggested that the relationship may only be indirect as self-esteem influences the interaction variables. One study found moderate support for the hypothesis that selfesteem was directly related to effectiveness (Schwartz, Wullick, and Shapiro, 1980). This relationship needs further study to ascertain the direct and indirect linkages.

7. The results of the research suggest that family size may be inversely related to both self-esteem and power. Conceptually, these relationships are possible. It would be of value to include these hypotheses in future research.

8. One of the most crucial areas to explore in future research is a validity study on the use of different problems to study effectiveness. In this study, the importance of the problem was controlled while the problems that families discussed were allowed to vary. In most past research the problems were controlled, but the importance of the problem to the family varied. Two questions that need to be addressed in future research include: do

families change their problem solving style when solving different kinds of problems? Is the importance of the problem a critical variable in determining the way a family will approach a problem?

9. The results of the study verified parts of the problem solving theory by Klein and Hill (1979). There is still much more of the theory to be verified. Of the eleven interaction variables in the Klein and Hill (1979) model, only five were included in this research. Several other variables within the major sections of group structural properties, cultural orientations, member characteristics, and social placement were either not a part of this research or were a controlled variable. Klein and Hill (1979) suggest that testing of the theory can be accomplished piece-meal, although this approach does present some analytical difficulties. This study has begun the piece-meal approach. More research should continue on this very promising problem solving theory.

10. Implications that can be gleaned from the results of this study include:

a. Family members should share the alternatives that they feel will solve the problem. The tendency will be that family members will be satisfied with the process and with the solution (high acceptance).

b. The alternatives mentioned should be discussed in terms of eliminating unsatisfactory solutions until one alternative is found that seems likely to solve the problem and is at the same time acceptable to most family members.

This could then lead to a tendency toward high quality problem solutions.

c. Everyone should have the opportunity to share their most important ideas.

d. Ample time should be given for listing alternatives.

e. The causes of the problem should be discovered and information should be discussed that might aid in eliminating alternatives.

f. Ample support should be given to family members during the problem solving session.

g. No family family member should dominate the discussion.

Some of these suggestions tend to increase quality, while others tend to increase acceptance, but each contributes to increasing overall problem solving effectiveness.

11. Some implications that may be derived from the relationships between self-esteem, sense of mastery, and consensus with the interaction variables include:

a. Families may find it a fruitful investment to work at building the family's sense of self-esteem. Families with a high self-esteem tend to support each other and offer alternatives. Individual members also tend to feel that their ideas were discussed. The net result may be greater effectiveness in problem solving.

b. Large families may want to take extra precautions to ensure that all family members have had the opportunity to share their ideas. While discussing everyone's most important ideas may take longer to find a solution to a family problem, the chances will be greater that an effective solution will be found.

Conclusions

One major contribution of this research to the family problem solving field is the verification of selected parts of the Klein and Hill (1979) theory. The research has demonstrated that the theory deserves serious attention by those interested in explaining the dynamics of family problem solving. A second contribution to the field involves the focus on methodological issues, especially concerning the questions raised on the validity of using contrived or real family problems. Very little research has been done within these two areas.

Klein and Hill (1979) suggest that their problem solving theory is predominantly a prescriptive theory, rather than a description of what families actually do in attempting to solve a problem. Their assumption is that not all families are equally effective in solving problems. The family problem solving theory advanced by Klein and Hill (1979) is designed to advise family members about courses of action which will maximize the effectiveness of their problem solving efforts. The results suggest that the theory may indeed be prescriptive in helping families become more effective in solving their family problems. For example, families may find their problems are solved more effectively if each family member has the opportunity to share their most valued ideas. Effectiveness could also be increased if one or two family members do not dominate the family conversation. Families may discover that problem solving effectiveness could be increased by verbally supporting each other, offering a number of alternatives, and discussing these alternatives. To ensure that family interaction is functioning at optimal levels to influence problem solving effectiveness, the theory and results suggest that families may want to see that the family system is promoting the building of healthy selfesteems and sense of mastery over environmental conditions.

The results of this study must be used with caution. Several variables that are part of the Klein and Hill (1979) problem solving theory are not included in this research. These variables could have indirect or even direct effects on the variables that are included in the research. For example, six interaction variables were not included in this research: elaborateness of language codes, amount of nonverbal communication, amount of conflict, coordinative leadership, expert power and legitimacy of power. Klein and Hill (1979) suggest that rationality may be influenced by expert power and language codes. The language codes may in turn be influenced by leadership. It could be that the correlations obtained between rationality and problem solving effectiveness are

due to the influence of these confounding variables. There is no way to determine this without further research. In a similar fashion each of these interaction variables not included in the research have some influence on the other interaction variables.

Table 6.1 lists the variables in the Klein and Hill (1979) theory that are not included in this research. Any or all of these variables could have dramatic effects on the family's interaction as well as major effects on the outcomes of the family's interaction. Including these additional areas in future research could help to determine if the results of this study are valid or are merely the product of observing family phenomena out of context.

The findings of this study must be used with caution for another reason as well. The methodology of using real problems that are allowed to vary is untried. The possibility of using this methodology looks promising on the surface. But answers to questions of validity must be reserved until more studies of this type are completed.

In conclusion, it would seem to be a worthwhile endeavor to verify the findings of this study through further research as well as explore the possibility of expanding the methodological features introduced.

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FAMILY INTERACTION	Elaborateness of Language Codes Amount of Nonverbal Communication Amount of Conflict Conflict Coordinative Leadership Expert Power	Power
GROUP STRUCTURAL PROPERTIES	Cohesiveness Homogeneity of Age Composition Homogeneity of Gender Composition Homogeneity of Competencies Family Life Cycle Stage	Developmental Flexibility
CULTURAL ORIENTATIONS	Autotelesis Particularism	
MEMBER CHARACTERISTICS	Complexity of Information Processing Problem Solving Motivation	
SOCIAL PLACEMENT	Social Status Societal Complexity	

APPENDIX

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FAMILY PROBLEM SOLVING INDEX Part I

For each of the statements below please indicate whether you strongly agree, agree, are not sure, disagree, or strongly disagree. Please do not share what you are writing with other family members until all the sheets have been turned in.

1. The solution that my family adopted has my approval.

> _____ STRONGLY AGREE AGREE NOT SURE DISAGREE STRONGLY DISAGREE

- 2. I believe that the proposed solution will solve the problem.
 - ____ STRONGLY AGREE
 - ____ AGREE

 - NOT SURE DISAGREE
 - STRONGLY DISAGREE
- I feel satisfied with the way my family tried to 3. arrive at a solution.
 - _____ STRONGLY AGREE

 - AGREE NOT SURE
 - DISAGREE
 - STRONGLY DISAGREE
- 4. As our family was suggesting solutions my ideas were talked about.
 - STRONGLY AGREE _____ AGREE NOT SURE DISAGREE
 - **STRONGLY DISAGREE**

FAMILY PROBLEM SOLVING INDEX Part II

For each of the statements below please indicate whether you strongly agree, agree, are not sure, disagree, or strongly disagree. Please do not share what you are writing with other family members until all the sheets have been turned in.

- 5. The solution that our family orginally adopted was used this month in working on the problem.
 - STRONGLY AGREE

_____ AGREE

NOT SURE

- DISAGREE
- STRONGLY DISAGREE
- 6. The original solution our family decided to try did solve the problem.
 - STRONGLY AGREE
 - AGREE
 - NOT SURE
 - DISAGREE
 - STRONGLY DISAGREE
- 7. I am satisfied with the original solution our family decided to try.
 - STRONGLY AGREE
 - _____ AGREE
 - NOT SURE
 - DISAGREE
 - STRONGLY DISAGREE
- 8. In your opinion why did (or didn't) the solution work that your family originally decided to try.

(Please use the back of this sheet to write your answer)

SCORING PROCEDURE FOR TAPE RECORDED DATA (Parker, 1979: 163-165)

Category 1: Diagnostic Orientation

Causes of the problem are looked for (that is, the root, source, motive, and/or reason for the problem: the "why") and not only outcomes.

Score	Description		
3	Three or more causes of problem are explored.		
2	Two causes of problem are explored.		
1	One cause of problem is mentioned.		
0	No diagnosis is made.		

Category 2: Process of Comparing Alternatives

The advantages or disadvantages of various alternatives or courses of action that would help to solve the problem are stated. The alternatives may be compared, evaluated, or ranked. Advantages or disadvantages are stated in terms of the likelihood of the outcomes and the consequences of the alternatives.

Score Description

- 3 Individual advantages and/or disadvantages of at least three alternatives are stated. Comparison or rank order of alternatives is stated.
- 2 Individual advantages and/or disadvantages of at least two alternatives are stated, with or without comparison of alternatives.
- 1 Advantages and/or disadvantages of at least one alternative are stated.
- 0 No evidence of evaluating alternatives.

Category 3: Process of Acquiring Information

Reference is made to sources of information, indicating possible use of such knowledge in the solution of the problem (ie., setting up alternatives or courses of action).

Score

- Description
- 3
- There is reference to 3 or more sources of information:
- a) experimental proof (trial and error)
- b) act of observing or examining
- c) personal experience or experiences of others
- d) authoritative and known (acknowledged) sources (such as magazines, institutions, specialists, competent relatives
- e) cultural self-knowledge/experience, belief, or facts derived from generalized cultural background (no specific information source noted)
- 2 There is reference to two sources of information
- 1 There is reference to one source of information
- 0 There is no reference to sources of information

FAMILY PROBLEM SOLVING RESEARCH

General Instruction Sheet (Please read completely before beginning)

1. Each member of the family should complete the "Family Problem Solving Survey." Instructions for completing the survey are given on the survey sheet.

2. When all your family members are finished with the survey, choose someone to tally the results on the sheet that is provided. Instructions for completing the tally sheet are on that sheet.

3. From the tally sheet your family is to pick one family problem to solve. There are two rules to keep in mind when you are choosing the problem: a) this problem should involve most of the members of your family; and b) the problem should be an important problem in your family.
4. When your family has picked a problem, then your family

is to arrive at a solution for the problem. Your family is to use the solution that you arrive at to solve the problem within the next four weeks.

5. When you have arrived at a solution please notify the researcher. He will do two things: a) give you a Family Problem Solving Index to be completed by each family member; and b) set up an appointment one month from now so that each family member can finish Part II of the Family Problem Solving Index. This second meeting will not last more that thirty minutes.

6. All information will be kept strictly confidential.

** THANK YOU FOR YOUR INVOLVEMENT **

FAMILY PROBLEM SOLVING SURVEY

All families have problems from time to time. In the space below please write some of the problems that your family is facing. On the small line before each problem indicate how important this problem is to you by using the following key:

- H -- Highly important problem. Must be solved very soon.
- M -- Medium important problem. Should be solved fairly soon but can wait for a short time.
- L -- Low important problem. Needs to be solved some time but can wait for awhile.

Please do not share what you are writing with other family members. When you have finished refer to the instruction sheet (number two) for information on what you are to do next. You do not need to spend more than a few minutes on this survey.

Importance

Problem

FAMILY PROBLEM SOLVING RESEARCH

Tally Sheet

In the space provided write down each of the problems that family members wrote on their "Family Problem Solving Survey." Indicate the importance of the problem under the appropriate column.

EXAMPLE: If two members of your family indicated that telvision watching habits were a highly important problem and another member said that television was a medium important problem your tally sheet would look like this:

Η

Μ

L

Television watching <u>11</u> <u>1</u> When you have finished the tally sheet refer back to the general instructions (number 3) for what you are to do next.

FAMILY PROBLEM	Н	М	L

(If you need more room use the back of this sheet)

RESEARCH INSTRUCTIONS

- 1. Talk informally with family (10-15 minutes)
- 2. Share purpose of research
- 3. Explain what family is about to do

-- given a folder with three sets of sheets

- -- first sheet is information, read before beginning
- -- second sheet is survey. Instructions on sheet

(go over instructions on each sheet)

- -- when finished tell me and will give Problem Solving Index
- -- when finished will schedule an appointment one month from now
- -- session will be taperecorded. If uncomfortable about this can back out of research now. No one but me will listen to the tapes. Information on tapes will be pooled with several other families.
- -- will receive a free copy of the results when research is finished
- 4. Give family folder of information
- 5. Turn on tape recorder
- 6. When family finished give Problem Solving Index
- 7. Collect all materials including tape and recorder
- 8. Explain what family is to do next four weeks
- 9. Set date and time for next meeting. Explain that there will be two questionaires to complete. This meeting should not take more than thirty minutes
- 10. Thank the family for their help

KEY	SCORING AREA				
	FATHER	MOTHER	CHILD	CHILD	CHILD
Participation					
Suggesting Ideas					
Ideas Discussed					
Support Statements		I		I	I
Negative Statements					
Causes of Problem					
Alternatives					
Comparing Alternatives					
Sources of Information					

FAMILY PROBLEM SOLVING TAPE RECORDING FORM

I am writing to ask a special request. I am close to finishing all the requirements for a Ph.D. in Family Ecology from Michigan State University. This degree has three prongs to it: human development, family relationships, and family management. This program fits very well into our church ministry to families. All that is left in my program is my dissertation. I am studying the area of family problem solving. By looking at families solve problems I am hoping to find some critical characteristics that help families solve problems effectively. For my research I need fifteen families. This is where my request enters in. I would like to invite you to be one of the families considered for this research. To help you make your decision, here are a few details of what would be required from you if you were selected as one of the fifteen families.

1. Your participation would require two evenings. The first would last approximately ninety minutes. The second would last approximately thirty minutes.

2. At the first session your family would pick a family problem that family members feel is an important problem. Your family would then work on the problem. This session would be tape recorded. The results would be strictly confidential. Following the session family members would complete a questionaire.

3. The second session would involve completing two questionaires. Again all information would be confidential.

4. The date and time of the two sessions would be of your own choosing. I would come to your home for both sessions. Your entire family is asked to participate in this project.

Please consider this request. If you would like to be considered for this project please complete the enclosed card and return to me at the church office. From the cards that are returned I will select fifteen families.

Thank you for your time.

Sincerely,

Dan Riemenschneider Minister of Christian Education

Dear

T			
FAMILY PROBLEM SOLVING RESEARCH			
YES our family can participate. Possible dates and times are as follows:			
Date	Time		
Date	Time		
NO our family cannot participate.			
Please return to the church office as soon as possible. Thank you.			

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