RELATIONSHIPS AMONG CERTAIN CHARACTERISTICS OF A DECISION EVENT: DECISION PROCEDURE, DECISION CONTEXT, AND DECISION-MAKER

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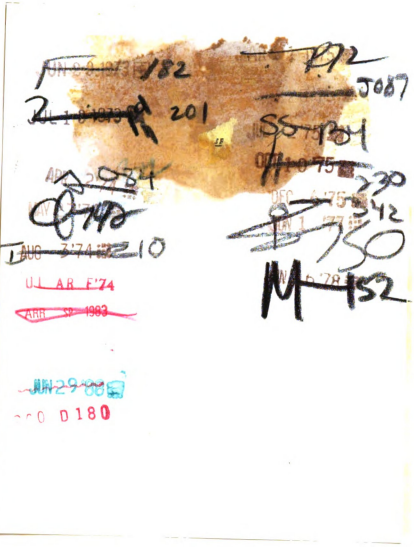

ABSTRACT

RELATIONSHIPS AMONG CERTAIN CHARACTERISTICS OF A DECISION EVENT: DECISION PROCEDURE, DECISION CONTEXT, AND DECISION-MAKER

by Jean Rowan Halliday

This comparative and descriptive study explored relationships among decision procedure, decision context, and the decision-maker with respect to belief about the nature of the world as controllable or subject to chance. Decision procedure was defined as the way of approaching decision respecting extent of rationality. Decision contexts were defined as the areas of family living, technical through affective, in which decision is made.

To elicit decision-making behavior, three open-ended questions were devised around: (1) food buying to represent a technical context, (2) organization of work in the home to represent a technical-affective context, and (3) child discipline to represent an affective context of family living.

For measuring respondents' beliefs about the nature of the world, the "Test of Epistemological and Instrumental Beliefs," devised by Brim, Glass, Lanvin, and Goodman, was used.

The sample consisted of sixty student wives chosen randomly from the population of student wives having children at least two years of age and living in married student

housing at Michigan State University. Data were gathered by personal interviews, the interviewer recording as the respondents thought aloud through the decision questions presented. Demographic data were also obtained.

The data were analyzed and quantified for extent of rationality as follows: four categories were established, each of which was subdivided, defined in detail, and given a numerical weighting for three degrees of rationality--most rational, intermediate, and least rational. The four categories were based on literature reviewed and were: 1) whole response, 2) reasoning, 3) weighing, and 4) inquiry for and use of information. Rationality scores were determined for each respondent for each decision context. Scores were also determined for each respondent for each of the sub-tests in the "Test of Epistemological and Instrumental Beliefs" and were statistically correlated with the rationality scores.

The following hypotheses were tested:

1) Homemakers will make decisions using a more rational procedure in the more highly technical contexts, and a less rational procedure in the more highly affective contexts of family living.

2) Homemakers will tend to show consistency in approaching decisions, i.e., those using a more rational procedure in the technical contexts will tend to use more rational procedures in the affective contexts, while those who use less rational procedures in the technical contexts will also tend to use less rational procedures in the affective contexts of family life.

3) Homemakers who use a more rational approach to decision will tend to perceive themselves as being able to exercise control over their environment, while those using

a less rational approach will tend to perceive themselves as being more subject to chance or fate.

The first hypothesis was rejected, the second was accepted, and the third was accepted on the basis of negative correlation between scores of rationality and the "belief in fate" sub-test of the "Test of Epistemological and Instrumental Beliefs."

No relationship appeared to exist between decision procedure (extent of rationality) and age or religion, but the data suggested a relationship with education. Respondents varied in their preferences for sources of information depending upon the context in which the decision was made, and further research is needed in this respect.

The importance which the respondents attached to the decision appeared to be the most significant variable influencing the amount of reasoning, weighing, and information-using they were willing to do in thinking through the decision questions presented.

Further research is required into the mental processes of decision-making and to find out what variables are most crucial in influencing decision-making. A great deal more study is needed about how individuals view their world, how they perceive themselves in relation to it, and how these perceptions affect their decision-making.

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CHAPTER I

INTRODUCTION AND CONCEPTUAL FRAMEWORK

Importance of Decision-Making in Families

Wise decision-making in families is crucial for creating conditions that will promote development of the full human potential of all family members. That optimum conditions are not obtaining in many families may be deduced from such evidence as broken homes, alcoholism, emotional disturbance, and crime.

Within the context of a rapidly changing world, management in families, through its central decision-making activity, performs two functions: 1) to bring about change, and 2) to stabilize and maintain the family's most important values.

As it moves through its life-cycle, periodically the family must make critical decisions for change. Outside the family, rapidly changing science and technology, with all their ramifications, create new conditions of living, and correspondingly, the need to manage in the home in new and different ways. Rapid social change brings about different family interaction patterns and the need of new role definitions within the family itself and for the family within the community. In addition to coping with these changes, the family must cope with the varied

pressures and tensions they cause. As world-wide communications reduce distances and differences among peoples and races, an awareness of "one world" increasingly influences families' views of themselves, their goals and values, and, consequently, their decision-making and resource use.

Perhaps even greater difficulties arise as management in families performs its second function: to maintain stability. Because families are a part of the society, some changes are mandatory and imposed. But some values in family life must be retained and strengthened. Families must continuously carry out a process of reorientation and evaluation to maintain stability. They must frequently decide upon new ways of actualizing the values that they hold in highest priority as well as guiding value change over time.

While in some respects management in the home is more difficult than ever before, in other respects it is easier. Because of increased knowledge in the physical and behavioral sciences, families today can control more aspects of their lives than in earlier times; that is, less needs to be left to chance. But in order to control, family managers must be able to make wise decisions.

Defining Decision-Making

For rigor in home management theory, "decision-making" needs precise definition. It is frequently defined as a step-like process: seeking alternatives, thinking through the consequences of the alternatives, and choosing

one alternative. Some models of the decision process include additional steps (9:65), or steps are combined in various ways, but essentially the definition usually accepted reduces to "choosing among alternatives."

This definition of decision-making may be inadequate; on the one hand, it seems too inclusive, and on the other, it is too restrictive.

Because it leads to equating "decision-making" with "evaluating," the definition is too inclusive. Evaluating can be part of decision-making, e.g., in weighing alternatives we evaluate one against another according to a set of criteria suitable to the situation. But can we say that "evaluating" <u>is</u> "decision-making"?

In <u>Normative Discourse</u>, Taylor (20) appears to equate "evaluation" and "decision." He states:

> The process of evaluation consists in trying to determine the value of something. . . . The aim of the process is to come to a decision; the process terminates when a decision is reached. . . . I shall refer to this evaluation, the product of the process, as a value judgment. (20:3)

But he makes a clear distinction between value judgments and other decisions in terms of action:

> A value judgment may be formed without being uttered in an evaluative sentence, but it must always be possible in principle to utter such a sentence. To have come to a decision implies that one can answer the question, "What have you decided?" We may answer the question by saying "I have decided to do such-and-such" or by saying "I have decided that such-and-such is the case." Only the second answer is pertinent here [in discussing normative discourse], since the evaluation process leads to a settled opinion that something is the case; it does not (directly) lead to a decision to act in a certain way. (20:3-4)

While Taylor makes a distinction between value judgments and other decisions, Simon differentiates decisions as to kinds of judgments:

> Insofar as decisions lead toward the selection of final goals, they will be called "value judgments"; so far as they involve the implementation of such goals they will be called "factual judgments." (17:4-5)

Both Taylor and Simon, however, make their distinctions on the basis of whether or not the decision leads to action.

C. L. Lewis, in The Ground and Nature of the Right (12), discusses the relationship between decision-making and action:

> Every governed act begins as a mental process. There is some sense of alternative possibilities--at least the alternatives to do or not to do. These may be subject to reflection or even to long deliberation, but in any case there must be an expected sequel which figures in the decision to do. As we have seen, however, the decision and the commitment are distinct. The commitment is that inscrutable fiat of the will, the "oomph" of initiation, which terminates the mental part and is the bridge to the physical part of the act. (12:43)

As used in home management, "decision-making" seems not to be equated with "evaluating." The key to distinguishing these similar mental activities is that decision-making leads to action, while evaluating is judgmental. It would seem prudent to define decision-making so as to make the distinction clear.

On the other hand, "choosing among alternatives" or a similar definition is too restrictive. Newman and Summer discuss their using "decision-making" synonymously

with "planning," and they proceed: "But decision-making has a much narrower and more precise meaning in management circles; it refers to determining positive guides to action." (13:253) To define decision-making in this way allows for different means of determining courses of action, that is, different ways of deciding: a reasoned, rational approach, or an unreasoned, intuitive, insightful way of arriving at decision closure, or a melding or integrating of alternatives rather than accepting one and rejecting others. To define decision-making as "choosing among alternatives" is too restricting because it rules out the last two ways of deciding.

We might object to Newman and Summer's definition "determining positive courses of action" on the ground that two important managerial functions in the home are to decide upon goals, some of which might be states of being as well as action, and to decide upon rank-ordering of values. We might also argue for equating "evaluating" with "decision-making" for the same reason, because evaluating does have a large place in ordering goals and values. But while such decisions about goals and values may not directly result in action, they do result in guiding action, because goals and values are themselves guides to action. While "choosing among alternatives" is too inclusive a definition because it allows equating "decision-making" with "evaluating," the definition "determining positive guides to action" allows for including evaluation as part of the decision

process and at the same time allows for decisions about goals and values. Therefore, the definition seems to be adequate, inclusive, and non-restrictive.

Decision-making so defined could provide the "baseline" or common meeting ground for home management theoretical use. It could then be variously qualified by such adjectives as "rational," "reasoned," "economic," "non-rational," "extra-rational," "non-economic," or by other adjectives defined to denote various means of reaching decision closure.

Necessity for Decision-Making Research

Home management teaching and writing have emphasized the rational, reasoned approach to decision-making, not because other means are considered invalid, but because a prime function of management is to enable families to exercise control so that desirable outcomes are maximized and unanticipated and unpredicted events are minimized. At the present development of knowledge, too little is known about what comprises intuitive decision-making to be able to develop family managers' ability to make this kind of decisions. Home management theorists, therefore, have promoted the rational process of making conscious choice, based upon knowledge, using the "normative" step-like model or parts or variations thereof: 1) recognizing a decision-making situation; 2) seeking information about and formulating alternatives; 3) weighing alternatives in terms of

consequences (outcomes and resource use); 4) arriving at closure and implementing the decision; and 5) accepting consequences of the decision.

But little research evidence exists to indicate how closely family managers really do conform to the "normative" model, or to answer our questions about how they do in fact make their decisions and why they make them in the ways they do. How much do families weigh and reason in their decision-making? Does the context of family living within which the decision is made affect the extent of reasoning used? We do not know how they approach the crucial, central decisions throughout the family's lifetime, nor the little day-to-day decisions which implement the larger crucial ones. Knoll has rightly suggested that more attention needs to be given to the ranges in magnitude of decisions in families, and that "we may be less inclined in the future to plot all decisions, great and small, on the same map." (27:336)

Another gap in our knowledge concerns families' use of information, which Anshen calls "the raw material for decision-making." (2:68) How do families process this raw material into decisions? In discussing decisions in law, in relation to computing machines, Cowan makes the interesting point that:

> . . . nothing exists in the computer analogous to the power of the human mind to forget, to ignore, to pass over as irrelevant matters obviously but inconveniently relevant and the like . . . [computer designers] are concerned with computers that

> can learn, but they apparently do not yet wish to tackle the much more difficult problem of creative unlearning. (23:1070)

We do not know how family decision makers select, out of all information at their disposal, what to include in decisions and what to ignore; how they assess which bits of information are relevant and important, relevant and unimportant, or irrelevant to the decision; how much "creative unlearning" takes place; what sources of information are drawn upon, and why these are drawn upon rather than others. In short, we know little about family decision-makers' use of information.

We know very little about the relationships between family managers' decision-making and their philosophic "stance to life." Psychologists and social psychologists provide the bulk of what little is known about the effects of man's belief system on his behavior. Little is known about the relationships between the way man perceives the world to be and his decision-making as a specific kind of behavior. This whole dimension has been largely ignored in decision-making research.

Objective

The objective in this study is to analyze possible relationships among certain characteristics of decision, viz., decision procedure (extent of rationality in approaching decision), decision context (the area of family living, technical through affective, in which decision is made),

and decision-maker (respecting beliefs about the nature of the world as controllable or subject to chance).

Definition of Terms

Decision-making: determining positive guides to action.

Rational decision-making: a reasoned, information-using way of determining positive guides to action.

Decision procedure: way or manner of approaching decision with respect to degree of rationality or reasoning: most rational, intermediate, and least rational.

Decision context: the area of family living, technical through affective, in which decision is made.

i) Technical contexts of family living--those areas about which information based upon empirical evidence is readily available and in which little emotion or family interaction is inherent, e.g., food buying.

ii) Affective contexts of family living--those areas about which information is less available, in which folklore or "conventional wisdom" persists, and in which emotion or family interaction is inherent, e.g., child discipline.

Conceptual Framework

Decision Procedure

In assessing rationality in decision-making, one must ask on what basis the presence of rationality is judged and how it can be quantified.

The literature reviewed supported the establishment of criteria for identifying evidence of rationality in decision-making under the following headings: Reasoning,

weighing, and using information. An absolute rationality is not sought, but a relative rationality; the individual may show more or less rationality with respect to other individuals or with respect to kind of decision being made. To quantify, three degrees of rationality are established: most rational, intermediate, and least rational. Full discussion of the established criteria is presented in the "criteria for judging" section of the chapter on methodology (Ch. III). In summary form, these criteria in relation to the decision problems in the study are as follows:

Most rational--global appraisive approach, broad consideration of the whole problem; reasoned approach, considering many aspects of the problem and making relationships among them; weighing, comparing, ranking, allocating; using evaluated information (trial and error, observation, experience of self or others, authoritative sources).

Intermediate--somewhat appraisive approach but omission of some obvious aspects of the problem; some reasoning, fewer aspects of the problem considered, suggestion of making relationships among them; suggestion of weighing, comparing, ranking, allocating; using unevaluated information (unqualified trial and error, experience qua experience of self or others, uncritically stated or unspecified sources of information).

Least rational--problem seen as a whole or only part of the problem seen, without component analysis or speculation; no evidence of reasoning, making relationships, weighing, comparing, ranking, or allocating; little evidence of seeking or using information.

In judging the presence and amount of rationality, no attempt is made to judge the rightness or wrongness of the decision procedure employed or to judge the quality of the decision.

Decision Context

Home management cuts across all contexts of family

living, some being quite technical and some highly affective. Family managers may approach decisions in these different contexts in different ways: they may do more or less reasoning, seek and use more or less information, depending upon the decision being made. In a technical context such as food buying, there is little inherent emotion or family interaction, and a considerable body of precise information is available: about nutrients necessary for the body, what foods provide which nutrients and in what quantities, weights, grades, brands, prices, as well as knowledge about local stores; even family likes and dislikes are facts known to the family food buyer. A highly reasoned decision seems possible in such a technical context.

On the other hand, in an affective context, such as child discipline, emotion and family member interaction are inherent and a smaller amount of precise information is available than in the more technical contexts. Folklore and "conventional wisdom" may be the preferred sources of information, e.g., "mothers instinctively know best," "I was raised this way and I turned out all right," and so forth, as well as dependence upon relatives and friends. Parents may be less prone to make reasoned decisions and to seek and use empirically tested information in such affective contexts of family living.

Between the two ends of the technical-affective continuum lie contexts varying in amount of emotion and family interaction and in the precision and amount of

available information, e.g., organization of work in the home. Some emotion inheres, such as personal threat, frustration, "cognitive dissonance" (8), or satisfaction in meeting standards and role expectations. While a considerable amount of research-based information is available, a preferred source may be experience of self or others. The occasion for family member interaction is present to a higher degree than in the technical but to a lesser degree than in the more affective contexts. Home managers, for these reasons, may make decisions in such a context in an intermediately rational way.

Decision-Maker

Individuals vary, even within the same culture, in their beliefs about the nature of the world, destiny, and their place in the scheme of things. If family managers view the world as controllable and see themselves as having influence over their own destinies and environment, it seems reasonable to suppose that such a view would affect the way they make decisions. If they see it as controlled by fate or chance, such a view would affect not only the alternatives they perceive in the decision situation and the acceptability of these alternatives, not only how they consider consequences, but also the very feasibility of attempting to make decisions at all.

Hypotheses

1. Homemakers will make decisions using a more rational

procedure in the more highly technical contexts, and a less rational procedure in the more highly affective contexts, of family living.

2. Homemakers will tend to show consistency in approaching decisions, i.e., those using more rational procedures in the technical contexts will tend to use more rational procedures in the affective contexts, while those who use less rational procedures in the technical contexts will also tend to use less rational procedures in the affective contexts of family living.

3. Homemakers who use a more rational approach to decision will tend to perceive themselves as being able to exercise control over their environment, while those using a less rational approach will tend to perceive themselves as being more subject to chance or fate.

Assumptions

1. Individuals exhibit a degree of variability of rationality in approaching decision-making.

2. Individuals' belief systems regarding the nature of the world are relatively stable over time and can be identified.

CHAPTER II

REVIEW OF LITERATURE

Because rationality is an important variable in this study, literature was reviewed in sociology, economics, philosophy, and a very limited amount in psychology, to clarify the concept and to establish criteria for judging respondents' rationality in decision-making.

Review of decision-making literature was limited to closely related research.

As another variable in this study is beliefs about the nature of the world, a brief review of some work on belief systems is included.

The review of literature, then, is organized under: Rationality, Related Research, and Belief Systems.

Rationality

A standard dictionary definition of "rational" is: "having or exercising reason; proceeding or derived from reason or based on reasoning." (1:1005)

Parsons (14) emphasizes the relationship of means to ends and the place of knowledge in rational decision. He defines the concept:

> . . . in the ordinary sense of the maximization of "efficiency" or "utility" by the adaption of means to ends. It is the sense of rationality which underlies most current analysis of technological processes in science, industry, medicine,

> military strategy and many other fields, which lies at the basis of economic theory, and much analysis of political processes regarded as processes of maintaining, exercising, and achieving power. The common feature of all these modes of analysis of action is its conception as a process of attaining specific and definite ends by the selection of the "most efficient" means available in the situation of the actor. (14:22)

He states that economic theory is the analytical scheme in which the role of knowledge has been most highly elaborated and conceptually refined.

Arrow (21) surveys the literature in economics, philosophy, mathematics, and statistics on the subject of choice among alternatives under uncertainty (which covers most choices, he affirms, if attention were paid to the ultimate implications). He defines rationality thus:

> In its broadest sense, rational behavior simply means behavior in accordance with some ordering of alternatives in terms of relative desirability, ... In some situations, however, there are additional conditions which appeal to the intuition as being rational. Almost all the theories discussed here seem to be rational in the first sense, but not in the second. (21:406)

On the basis of his wide review of different disciplines' interpretation and usage, Arrow explicitly denies intuition as part of rationality.

A growing disenchantment with the notion that man is indeed rational is evident in the literature. After reviewing decision theory, largely economic, which he attempts to relate to psychological theory, Edwards asserts that economic theorists assume "an economic man" who is 1) completely informed, 2) infinitely sensitive, and 3)

rational. By "rational" is meant that economic man can "weakly order the states into which he can get, and he makes his choices so as to maximize something." (26:381) Psychologists, Edwards maintains, consider that the economic man is very unlike a real man, and that economists themselves are somewhat distrustful and have therefore attempted to relax these assumptions.

Simon says virtually the same thing: "Traditional economic theory postulates an 'economic man' who, in the course of being 'economic' is also 'rational.'" After outlining assumptions made, Simon states that:

> . . . recent developments in economics, and particularly in the theory of the business firm, have raised great doubts as to whether this schematized model of economic man provides a suitable foundation on which to erect theory--whether it be a theory of how firms do behave or of how they "should" rationally behave. (18:241)

Simon's dissatisfaction with the "global rationality of economic man," which he claims makes severe demands on the decision-maker, led to his developing a model of decision-making that more closely resembles what he believes to be the actual decision processes in the behavior of men. He postulates an "approximate" rationality in which humans "adapt well enough to 'satisfice'; they do not, in general, 'optimize.'" (18:261)

Diesing, also, considers that defining rationality in the traditional sense limits its scope quite severely. He distinguishes "substantial" rationality, referring to individual decisions, and "functional" rationality,

which refers to organizations. He states:

> A decision or action is substantially rational when it takes account of the possibilities and limitations of a given situation and reorganizes it so as to produce, or increase, or preserve, some good. This definition includes two points: the decision must be an effective response to the situation in that it produces some possible good, and the effectiveness must be based on intelligent insight rather than on luck. Effectiveness I define as a wider concept than efficiency. The efficient achievement of predetermined goals is a special kind of effectiveness. . . .
>
> An organization is functionally rational, . . . when it is so structured as to produce, or increase, or preserve, some good in a consistent, dependable fashion. (6:3)

He further states that decisions are made according to principles, including principles of order, and that principles can be thought of as rational. "Rationality is a special kind of order, that which is intelligible due to the presence of a governing principle." (6:239)

With reference to decision-making, Diesing distinguishes five types of rationality: technical, economic, social, legal, and political. He relates these five types to the three major conceptions of practical reason in the history of philosophy, which he states are "not basically incompatible but differ primarily in emphasis": 1) reason as creativity, which he relates to <u>social</u> and <u>political</u> rationality; 2) reason as the discovery and application of rules to cases, which he relates to <u>legal</u> rationality; and 3) reason as calculating, literally adding and subtracting, which he relates to <u>technical</u> and <u>economic</u> rationality. (6:244-47)

In a previous work (25) Diesing postulated two different kinds of decision-making: economic (which might be considered to combine his later formulation of technical and economic rationality) and non-economic, appropriate to interpersonal relations (which might encompass his concepts of social, political, and legal rationality).

Like Simon and Diesing, Stevenson uses a different approach in considering the inadequacy of traditionally defined "rationality" when applied to ethical judgments, and he discusses the "nonrational" methods of ethics in changing attitudes and beliefs to reach solution:

> The most important of the nonrational methods will be called "persuasive", in a somewhat broadened sense. It depends on the sheer direct emotional impact of words--on emotive meaning, rhetorical cadence, apt metaphor, stentorian, stimulating, or pleading tone of voice, dramatic gestures, care in establishing rapport with the hearer or audience, and so on. (19:139)
>
> . . . . . .
>
> Persuasion is nonrational in a sense that must be contrasted with irrational, no less than with rational. Irrational methods are rational in the sense of "reason-using", and are distinguished by the fact that the reasons themselves (as distinct from the judgments they support in turn) are defended by invalid methods. But nonrational methods go beyond the use of reasons altogether--always provided, of course, that the term "reasons" is to designate statements that express beliefs. (19:139)

Stevenson's distinctions seem applicable to decisions other than ethical ones, e.g., consumer decisions may be rational, based on valid reasons, or nonrational, based on emotion, or irrational, based on illogical reasoning.

Back (22) draws a different distinction than

Stevenson in his use of "rational," "nonrational," and "irrational." Back contends that rational models of decision-making are equated with "decision theory":

> The essence of models of this kind is to simulate the situation by a mathematical system and to compare the actor's actual decision with decisions in accordance with this system. (22:14)

Using a rational model it is possible to define the value of each possible outcome (utility) and to compute an optimal solution which will maximize some function of the utility, and this is the traditional view of rational decision-making. But Back states that the rational model can be used only for decisions in the middle range of importance. He contrasts the other kinds:

> As the rational model derives the decision from the structure of the situation, the irrational model derives it from the structure of the person. The factors considered lie in the psychodynamics of the individual. . . .
>
> Taking the rational solution as a base-line, deviations from it can be explained by psychological mechanisms such as compulsions, prejudices, or strong urges. Thus the irrational model is useful in explaining those decisions which seem to run counter to the long-range utility of the outcome. (22:16)

Of the postulated nonrational model, Back says:

> At the extremes of the continuum of importance, however, neither the rational nor the irrational model applies. . . . The sources of the nonrational model are not mathematical nor psychodynamic, but rest more on the analysis of experience by phenomenologists and existentialists. (22:17)

He explains that the irrational model can be applied to situations where little is known of the relevant facts, the results are vital, and the opportunity will not repeat,

e.g., command decisions of a general, or the model can be applied to trivial decisions "where reasoning and emotion are either not possible or not necessary." (22:17)

Stevenson's usage of "nonrational" and Back's of "irrational" are roughly equivalent, Stevenson considering that nonrationality is related to emotion and Back that irrationality is related to the psychodynamics of the individual; that is, these words represent unreasoned ways of reaching solutions. Stevenson's use of "irrational" grants reasoning but on illogical grounds, while Back's use of "nonrational" is quite a specialized one.

Other definitions of rationality were used in the related research and will be discussed in that connection.

This review has indicated some of the agreement, diversity, and contradiction among certain writers from different disciplines in their definition and usage of "rational." One can agree with Brim and associates:

> It [defining rationality] is an impossible task unless one states the conditions under which the definition can be applied. It is not sufficient, for example, to define rationality as "the selection of the most appropriate means to a given end after careful weighing of all available information" without first determining how the judgment of appropriateness is to be made; e.g., whether by external observers possessing the most advanced scientific knowledge, or by the actor himself given only limited information. Kochen, Levy, and Simon argue effectively on the need for a continual qualifier to the term "rational". They point out that rationality must be regarded as a concept which has no meaning apart from a given set of rules. (4:20)

Related Research

Decision-making research has been conducted at an accelerating rate, particularly within the last decade. Much of it has been what we might call "mechanistic": who makes the decisions and about what, processes and models of decision-making, attempts to categorize and classify, and so forth. Less attention has been given to the psychological aspects of decision-making regarding cognition and what affects it. Least attention of all has been devoted to the philosophical dimensions of decision-making; perhaps we may yet discover that decision-making is essentially a philosophic enterprise. Because decision-making was treated somewhat philosophically in the discussion of its definition in Chapter I, the review of research is quite severely limited here to brief descriptions of research that is closely related to this study: attempting to measure rationality, exploring uniqueness and flexibility of individuals' approaches to decision, and seeking relationships among internal and external environmental characteristics of the decision-maker and decision processes.

Measuring Rationality

As discussed in the chapter on methodology, for this study the original plan for determining rationality was to use a forced-choice technique, and this method was abandoned in favor of open-ended questions. The original forced-choice instrument was based on a study by Rieck and Pulver. (29) Their research was designed to evaluate the

effects of Farm and Home Development in Wisconsin in teaching better decision-making. They developed an empirical measure of decision-making ability through which a rationality rating was established to represent the individual's ability relative to the norm of rational decision-making. Rational decision-making was defined as "a conscious process of setting goals, recognizing problems, getting information, and analyzing alternatives which will maximize family satisfactions." (29:1) The researchers established thirty-one individual measures, of which twenty-four were forced-choice questions and seven were observations. The responses to the questions were pre-coded into rational, intermediate, and non-rational categories depending upon the degree of agreement with the rational model of decision-making. Numerical ratings of 1, 2, and 3 respectively were assigned to these categories. The mean response value was obtained for each respondent, which represented his decision-making rating. While this study had some obvious weaknesses, mainly in the method of testing validity, this type of instrument appears to have some merit as a methodological tool in decision-making research.

In a similar study, Dean and co-workers (24) investigated the relationship between rationality in decision-making and eight socio-cultural variables considered to be associated with adoption of recommended farm practices. They defined rationality as involving "the use of deliberation, planning, and the best available sources of information

and advice in arriving at decision as a means of achieving maximum economic ends." (24:123) They combined nine questions into a "rationality index" and placed the responses on a 3-point scale of rationality: rational, intermediate, and non-rational in a similar fashion to Rieck and Pulver's method.

Uniqueness and Flexibility of Approach

Bustrillos (32) studied the flexibility of the decision process in exploring homemakers' decision-making styles. A decision-making style was conceptualized as the behavior profile resulting from the combination of the dimensions of the three elements: mode (hypothetical, factual, and action-suggestive); time reference (future, past, and present); and decision-making rule (preference ranking, objective elimination, and immediate closure). These dimensions could combine into twenty-seven styles. Three hypothetical problems were developed to elicit information about decision-making style; the responses were subjected to content analysis using pre-established categories, and then analyzed for decision-making styles. The significance of this research appears to be its recognizing and attempting to study another way of making decisions than the "normative" model, which may be inappropriate for studying decisions in families. Another significant feature is that the researcher attempted to explore the notion that individuals approach decision-making uniquely.

Research into how people think through their decisions

might well be classified as research into thinking or cognition, rather than decision-making research, depending upon its focus. In their research into thinking, Bruner, Goodnow, and Austin studied the sequence of decisions leading to concept formulation in relation to problem solving, the nature of psychological categories, and the strategies by which people discover cues appropriate to use in categorizing. They defined categorizing as "discovering the defining attributes of the environment so that they may serve with their proper values as the criteria for making judgments about identity." (5:30) They formulated two broad types of categorizing responses: identity and equivalence responses and three category types: conjunctive, disjunctive, and relational. They postulated four types of strategies: successive scanning, simultaneous scanning, conservative focussing, and focus gambling. Findings from their research indicated that the subjects differed in the sequence of decisions made in attaining a concept, that subjects displayed flexibility in adapting their strategies to the information, capacity, and risk requirements imposed on them, and they were able to adapt to imperfect cues. This research lends support to the notion of individual differences in approaching problem solving and decision-making.

Relationships Among Characteristics in Decision Situation

Among studies concerning how people make decisions, the research by Brim, Glass, Lavin, and Goodwin (4) is among

the most ambitious and comprehensive. Their research was exploratory, and they attempted to identify relationships among decision-making processes, personality characteristics, sex, social class, and type of situation, using paper and pencil tests with 100 pairs of parents. They devised a Decision Process Test around four child-rearing problems (masturbation, homework, obedience, and stealing), and the decisions concerned actions the parents might take. Out of six phases of the decision process, the research focussed on two: 1) the evaluation phase, which concerned the evaluation of provided courses of action in terms of probability of occurrence, the desirability and rapidity of the outcomes expected from each action, and 2) the strategy-selection phase which concerned the choice among alternative actions and selection of a sequence for their performance. Various personality tests were administered (i-Tests of Ability; ii-Tests of Affect Level--drive level, desire for certainty, general personality traits; iii-Tests of Beliefs; and iv-Social Background Characteristics questionnaire--social class, sex, religion). The researchers sought for relationships among over fifty variables tested, for consistency of people in their methods of decision-making, for congruence between some of the current models for rational decision-making and the decisions of the 200 men and women studied, and they attempted to compare individual and group thinking processes in decision-making. Because the study was exploratory and tapped so many dimensions,

the conclusions were complex. Rather than for its findings, this study seems most valuable for methodology and for the further research it may generate.

Belief Systems

Basic assumptions about man underlie any attempt to study his personality and behavior. That an individual views his world from within his own unique and quite consistent frame of reference and acts accordingly is an assumption shared by many behavioral scientists, particularly psychologists. While authors in various disciplines have dealt with belief systems and some research has been done, investigation into the relationships between belief systems and decision-making is scanty.

Brim and associates (4), as part of their research discussed above, created a "Test of Epistemological and Instrumental Beliefs" in an attempt to determine subjects' beliefs about the nature of the world. They related these beliefs to other personality dimensions and to decision-making.

Epistemological beliefs tested include: The degree of mastery which one believes he has over his environment, the opposing belief in fate, whether events occur through some natural order or whether they arise from supernatural or mystical causes, whether the world is viewed as predictable, whether events which occur in the world are mainly good or bad, and one's view of the complexity of the causal relations between events in nature.

The instrumental beliefs tested include: the emphasis on consideration of future events as against past or present, value placed upon originality and creativity, the degree of goodness or badness and of the probability or improbability of events, i.e., whether the world is an "either-or" type of environment, emphasis on considering a number of outcomes of a proposed solution, emphasis on selecting several potentially workable alternatives, and value placed upon being thoughtful and deliberate rather than spontaneous and impulsive.

To construct their test, they compiled a list of 800 proverbs that seemed relevant to "thinking" and which voiced some prevalent beliefs. They allocated these to sixteen categories or sub-tests under the two major headings of epistemological and instrumental beliefs. From the original proverbs they finally devised five test items for each category. The subjects were to check their agreement with the items on a 5-point continuum: "strongly agree, agree, ? , disagree, strongly disagree." The researchers assigned numerical scores to each item, and a high total score denoted a high degree of the indicated belief.

Kluckhohn and Strodtbeck (11) classified value orientations (essentially belief systems) into five variations: 1) human nature (innate goodness and badness of human nature); 2) man-nature (subjugation-to-nature, harmony with nature, mastery over nature); 3) time dimension

(past, present, future); 4) activity (being, being-in-becoming, doing); and relational (lineality, collaterality, individualism). This framework is useful for cross-cultural studies of beliefs, and these researchers used it in their studies with different cultural groups in southwest U.S.A. (Spanish-American, Navaho, Anglo-Saxon).

Rokeach (15) studied the structure of belief systems, not their content, and the relationship between belief and thought. He constructed two objective-type tests: The Dogmatism Scale and The Opinionation Scale. He suggests that if we know something about the way a person believes, it may be possible to predict how he will go about solving problems that have nothing to do with his ideology.

Both Boulding (3) and Kelly (10) recognize the importance of the individual's beliefs about the world as they relate to decision. Boulding states:

> Now we must ask what determines a person's value ordering, and what determines his image of the field of choice. It is evident that what determines his behavior is not the real field of choice, whatever that may be, but the perceived field of choice as it exists in his picture of the situation. These are large and difficult questions. They involve the whole mysterious process by which the person's "image", or "view of the universe" in all its manifoldness and complexity, is built up not only out of information actually received but also out of the power of inner growth which it possesses and exerts through the imagination. (3:423)

Kelly's work supports the notion that an individual's basic beliefs about the nature of the world will affect both the characteristic way he approaches making decisions and also

what alternatives he actually chooses. In Kelly's words:

> . . . our clients were making their choices, not in terms of the alternatives we saw open to them, but in terms of the alternatives they saw open to them. It was their network of constructions that made up the daily mazes that they ran, not the pure realities that appeared to us to surround them. (10:53)
>
> . . . . . .
>
> . . . the criteria by which a person chooses between the alternatives, in terms of which he has structured his world, are themselves cast in terms of constructions. Not only do men construct their alternatives, but they construe also criteria for choosing between them. (10:55)

How an individual perceives the world will influence how he anticipates the future, and Kelly says, "A person's processes are psychologically channelized by the way in which he anticipates events." (10:56) He considers that an individual's construct system

> provides him with both freedom of decision and limitation of action--freedom, because it permits him to deal with the meanings of events rather than forces him to be helplessly pushed about by them, and limitation, because he can never make choices outside the world of alternatives he has erected for himself. (10:58)

One of the conclusions drawn by Brim and associates in their study is that:

> . . . general values and orientation toward life, together with the cultural background of the respondents, seem to account for more variability in decision making than the more traditional personality traits. (4:234)

CHAPTER III

METHODOLOGY

This comparative and descriptive study was undertaken in an effort to determine relationships among decision procedure (the extent of rationality in decision-making), context within which the decision is made, and the decision-makers' beliefs about the nature of the world as controllable or subject to chance or fate.

Selecting the Sample

The sample consisted of sixty student wives living in Spartan Village at Michigan State University.

Rationale for Choice of the Sample

It was desired to hold relatively constant some variables in the study other than the dependent variable (extent of rationality) and the independent variables (decision context and beliefs). More homogeneity was expected in this sample than among families in general. Living quarters are identical; pattern of living is similar as all husbands are students; all are living on a temporary level of living until studies are completed. Age, social class, and education levels were not controlled, except that they were thought to range less widely than among families in general. No attempt was made to control religion or ethnic backgrounds, as the test of beliefs would take account, at

least partially, of these variables. Because the sample consisted of wives only, the sex variable was held constant.

Because it was desired to provide common stimuli to elicit responses through using familiar managerial decision problems and because such problems were easier to develop for wives only than if husbands and wives jointly were to be selected, wives were chosen as respondents.

Accessibility of the sample is another reason for its selection; being suitable in other respects, its proximity was thought to be an advantage for facilitating interviewing without car ownership.

Criteria for Choice of the Sample

The sample was chosen by the following criteria: 1) that the respondent be a student wife living in Spartan Village, and 2) that the respondent should have at least one child at least two years old. This second criterion was stipulated because of the decision question asked in the study concerning a child's being "difficult" in a way that worried the mother. It is believed that children are more prone to behavior which their mothers might describe as "difficult" just prior to and around two years of age than are infants, e.g., during toilet training and the negative behavior characteristic of two-year-olds. In this way an effort was made that the decision question would be as realistic to the respondents as possible and thus comparable to the other two questions used.

Choosing the Sample

The Michigan State University Housing Office provided a map of Spartan Village on which were marked the 64 buildings having twelve two-bedroom apartments. (Two-bedroom apartments are rented only to married students having children.) A random sample of 89 apartment numbers was drawn from the total population of 512 two-bedroom apartments, by using a table of random numbers. (7:452 ff)

Names corresponding to the apartment numbers were obtained from the mailboxes, and the 89 student wives were contacted either by knocking at their doors or by telephoning, and appointments were made.

Cooperation was excellent. Of the eighty-nine student wives contacted, twenty-two were ineligible because their children were under two years old; three were unable to respond because they did not understand and speak English well enough to be interviewed; three refused because they were too busy; one was too ill to keep her appointment, and a later appointment was not sought because she was far advanced in a difficult pregnancy and the family was moving the following week. The remaining sixty comprised the sample for the study.

Developing the Instrument

To determine decision-making procedure (extent of rationality) it was necessary to provide a decision stimulus to elicit decision-making behavior that could be quantified for rationality.

As two of the hypotheses to be tested concerned possible relationships between the extent of rationality and the contexts within which the decision was made, it was decided to frame the decision stimulus within the different contexts of family living, varying from technical through affective.

A means of tapping belief systems had to be found, to test the hypothesized relationship between the extent of rationality and the respondent's view of the world as controllable or subject to chance.

In summary, the method for this study was:

1) To devise decision stimuli for eliciting decision behavior, framed within technical through affective contexts of family living;

2) To devise a means of quantifying the extent of rationality present in behavior so elicited;

3) To devise or discover a means of quantifying beliefs about the nature of the world as controllable or subject to chance; and,

4) To identify relationships among extent of rationality shown in particular decision contexts and strength of beliefs.

Decision Procedure

To determine the decision procedure, i.e., extent of rationality, one method was developed, tested, and abandoned. A second method was then devised and adopted. Because the first method may be valuable for future studies if its weaknesses are corrected, it will be described,

reasons given for abandoning it, and suggestions made for possible future use.

Method Developed and Abandoned for Decision Procedure.--An attempt was made to develop an empirical measure for assessing extent of rationality, or reasoning, patterned after Rieck and Pulver's study (29) described in Chapter II.

Forced-choice questions were devised for each of three decision contexts: food buying, organization of work, and child discipline. These questions were directed towards parts of a decision-making model: identifying the problem, seeking information, and considering consequences. "Seeking alternatives" was omitted, because the alternatives were provided as the items from among which the respondents were to choose one. Six items (or alternatives) were developed to accompany each question, two designed as representing "most rational," two as "intermediate," and two as "least rational" solutions.

Below is an example of a question geared to the "seeking information" part of the decision model and the "child discipline" decision context, accompanied by six items from among which the respondents were to select one. In parenthesis opposite each item is its designated rationality--MR: most rational, I: intermediate, and LR: least rational (this key would not, of course, be on the question as presented to the respondents).

"Sometimes children misbehave in ways that we do not understand. How do you decide what to do when you don't understand your child's misbehavior?

(MR) Discuss the problem with a specialist, e.g., teacher, doctor.
(LR) Punish the child anyway.
(I) Ask relatives what they would do.
(LR) Overlook the misbehavior.
(MR) Look in a book on child care, e.g., Dr. Spock.
(I) Discuss the problem with my friends or neighbors."

As an aid in its development, the instrument was tested when partially completed with ninety-two undergraduate students enrolled in HMC 331, "Management and Decision-Making in the Family." To provide a partial test of validity, these students were asked to indicate the extent of rationality of each choice item accompanying the questions, using the following criteria:

Most rational: reasoned approach to decision based on inquiry and precise information.

Intermediate: falls between most rational and least rational; evidence of some reasoning and inquiry; information less precise.

Least rational: absence of reasoning; illogical; not based on information and inquiry.

The students also responded to open-ended questions similar to the forced-choice questions; it was hoped that their responses might provide additional usable items.

The instrument was then further developed and refined by eliminating items showing disagreement in their rationality ratings, and by substituting new items devised from student responses to the open-ended questions. The instrument was then tested with two selected student wives in married student housing. As a result of this testing,

doubts concerning the validity of the instrument were intensified. At this point, this method of assessing extent of reasoning in decision-making was abandoned for the following reasons:

1) Constructing suitable items to accompany the questions had proved very difficult. Items devised as "most rational" appeared too obviously the "right" responses; conversely, the "least rational" items were unlikely to be chosen, being too obviously "wrong" answers. In addition, developing short items that were unambiguous and that needed no further qualification was difficult.

2) Because of faulty item construction, the instrument was invalid, that is, it did not test the respondents' extent of <u>reasoning</u> used in making decisions; it merely tested their ability to select <u>reasonable</u> alternatives when these were laid before them.

This method, however, might be developed so that it would be valid for testing some aspects of people's decision-making, e.g., their preferred sources of information. Difficulty in item construction might be overcome to a large extent by using actual responses made by home managers, collected through use of open-ended responses.

<u>Method Developed and Adopted for Decision Procedure</u>.--As the attempt to develop a forced-choice instrument proved unfruitful, it was decided to use open-ended questions as a means of eliciting evidence of reasoning in decision-making. Instead of fixed responses having pre-determined

degrees of rationality, free responses to open-ended decision questions would be assessed against a set of criteria of rationality derived from the literature.

Six open-ended questions were formulated, two for each of three decision contexts (food buying, organization of work, and child discipline). These six questions were tested with four selected respondents. The questions, typed separately on cards, were handed one at a time to the respondents who were asked to think aloud through the decision. These responses were recorded by a tape recorder, then typed and roughly analyzed for evidences of rationality according to the criterion of the extent of reasoning and inquiry shown.

The responses from this small sample were encouraging; variations in responses appeared, each respondent having "thought aloud" through each decision in her own unique fashion. Evidence that this method was more fruitful than the forced-choice technique tried at first seemed sufficient to justify its adoption. This method seemed to tap <u>how</u> the respondent actually thought through a decision, therefore showing the extent to which she employed reasoning in this particular situation. No hint was given regarding any kind of response desired, and respondents seemed not to give what they might consider to be "right" answers.

In addition to answering the questions, the respondents were asked which of each pair of questions for the three decision contexts was more realistic, or less "armchair"

in nature, more important or less trivial. They were also asked for suggestions regarding the wording of the questions.

Following this trial, the three "best" questions were chosen on the basis of 1) productivity of responses and 2) the respondents' evaluations regarding the questions' realism, importance, and clarity. These questions were refined to make them more concise while retaining the meaning, and were used in the study in this form.

On the basis of this pre-testing, also, the decision was made to abandon the tape recorder, for these reasons: 1) an inhibiting effect was noted, some respondents being noticeably more self-conscious in answering the first than the later questions; 2) much editing of irrelevancies was necessary, e.g., sentences started and broken off, "uh's," "I mean's," etc.; and, most importantly, 3) small children were interested in the recorder to the extent that their mothers were highly distracted from what they were saying in their efforts to prevent the children's interference with the machine. It was therefore decided that the interviewer would write the responses as given, as nearly as possible in the respondents' own words. In comparison with a tape-recorded interview, the written version was quite faithful to the responses as recorded.

Decision Contexts

Food buying, organization of work, and child discipline were the three contexts within which the decision questions were to be framed, representing technical through

affective aspects of family living (as discussed in Chapter I). Decision questions were devised to meet the following criteria: 1) they should be equally important in all contexts; 2) they should be realistic decisions common to all respondents; and 3) they should present occasion for the respondents to reason, to weigh, and to seek additional information.

To meet these criteria, it was decided to frame the food buying question around the problems of meeting nutritional needs at low cost, and the work organization question around boredom and unfinished tasks. Because fewer child discipline problems were thought to be experienced in common due to age differences in respondents' children, it was decided to use the general term "difficult," to allow the respondents to provide their own interpretation of the word, and to ask them after they had thought through the decision how they had interpreted "difficult" in order to assess how serious they regarded the problem to be. The three decision questions devised are:

1) Mrs. A. has to keep food costs down and yet feed her family nutritiously. If you were in her situation, how would you decide what food to buy?

2) Mrs. B. becomes bored with repetitive time-consuming tasks, and she is never caught up with her work (e.g., ironing). If this were your problem, how would you decide on ways to get the work done?

3) Mrs. C.'s child became "difficult" in a way that worried her. If this were your problem, how would you decide what to do about it?

In order to probe further without biasing responses,

a set of standard questions were devised to use after response had been made to each of the three decision questions above:

a) On what basis would you decide this way?

b) Have you ever had this problem?

c) What did you do then? (If discrepancy with main response, follow with d) Why did you do what you did?)

As a check on criterion (1) above regarding how important respondents viewed the problems to be, it was decided to request them to look at all three problems together and to ask, "If these three problems were real problems for you, equally serious, which would worry you the most"? "Why"? "Which would you consider next in importance"? "Why"? "Why would you place the remaining one last"? It was thought that these questions might also elicit interrelationships respondents saw among the decisions.

The decision questions devised, together with the standard set of probing questions, were used to elicit decision-making data that could be analyzed for decision procedure used by each respondent.

Decision-Maker

For measuring respondents' beliefs about the nature of the world, the "Test of Epistemological and Instrumental Beliefs" (Appendix I), devised by Brim et al. (4:309-311), was used. It offered these advantages: 1) it had been pretested on a large heterogeneous sample; 2) its reliability had been established statistically; 3) it is semi-projective

in nature, including thereby the advantages of both projective and objective tests. The test has the projective characteristic of providing "a standard set of stimuli against which characteristic ways of thinking, speaking, and perceiving are easily detected and compared." (28:620) It shows two objective characteristics: the test designers had predetermined the responses out of which the subjects could choose, and they predetermined the interpretation. Satz and Carroll comment on weaknesses in both varieties of tests:

> Objective personality tests have generally been suspect in the area of validation. Additional criticism has been levelled at the marked restriction of spontaneous behavior inherent in such paper and pencil tests. On the other hand, projective instruments have often been criticized because of their lack of standardization norms, scoring objectivity, and low reliability. (30:205)

They believe that incorporating the better features of both kinds of tests in an instrument permits a larger sample of spontaneous behavior and yet lends the responses to more objective measurement. Brim and co-workers' test shares these claimed advantages.

Following correspondence with Brim, the decision was made to use only the three items per sub-test showing the highest reliability instead of the five given in the test as published. (4:72-73)

Data Collection

After initial contact, the interview took place in each respondent's apartment at the agreed-upon time.

Demographic data were obtained (see Appendix II).

The "Test of Epistemological and Instrumental Beliefs" was briefly explained and then administered to the respondent. This test took 10-15 minutes to complete. The respondent was then asked to think aloud through the three decisions, one at a time. The first decision question, typed on a 3" x 5" index card, was handed to her, and the interviewer wrote the response as it was given. If the response was brief, a prompting question such as "Is that all?" or "Anything else?" elicited a little more data. The three standard probing questions were then asked. Similarly, the next two questions were presented. The respondents were then requested to look at all three decision questions together and to rank them in importance. The same procedure, including the order of presenting the questions, was followed in each interview. (See Appendix II for Interview Guide.)

The interview lasted approximately one hour. Respondents were cooperative and most of them talked quite freely. Many commented that they found the interview interesting.

The influence of the interviewer on the data collected was minimized in several ways: 1) the same interviewer conducted all interviews; 2) the same set of stimuli was used for all respondents; and 3) the interviewer followed a set format in presenting the stimuli and in handling respondents' questions.

Method of Analysis and Quantification

Belief Test

The "Test of Epistemological and Instrumental Beliefs" was scored according to directions given by Brim et al. (4:74), a total score for each sub-test being compiled for each respondent.

Decision Procedure

Criteria for Judging.--Criteria against which to judge the presence of more or less rationality were developed. Eight categories were set up on the basis of reasoning, weighing, and information-using. These categories, together with the justification for their inclusion, follow:

Category	Justification
A. Whole Response	In making a decision, it seems more rational to consider all dimensions of the problem as presented than to consider only part.
B. Reasoning	
B.1. Diagnostic approach--looking for cause or root of the problem	Many "normative" models of decision-making list "identifying the problem" as the first logical step in the process. As the problem is already identified in question #1, this category was expanded to include the notion of assessing or restating the problem.
B.2. Giving reasons	The literature supports "reason-giving" as rational (e.g., Stevenson (19:139)). No judgment would be made regarding the "goodness" or "badness" of the reasons given, just whether or not reasons were given.

B.3. Making relationships: cause and effect, consequences	Rational decision-making involves maximizing efficiency or utility by the adaption of means to ends. (14; 25; 6; 21) Some "normative" models of decision-making include "considering consequences" as a step in the process.
B.4. Planning	To make a plan, devise a policy, or advocate these seems to be evidence of doing more reasoning than not.
C. Weighing	
C.1. Comparing, ranking, allocating	One of the steps in "normative" models of decision-making is "weighing alternatives"; comparing, ranking and allocating can apply to alternatives in means or ends, and these mental activities are evidences of rationality. As a kind of reasoning, Diesing gives "reason as calculating." (6:247)
C.2. Alternatives	Seeing several alternatives is more conducive to weighing and reasoning than seeing only one way. It was decided arbitrarily that "seeing three or more alternatives" would be considered evidence of more rationality than seeing two or only one.
D. Inquiry for or Use of Information	Among others, Parsons (14:22) has indicated the importance of using knowledge as a necessary part of rationality. The "goodness" or "badness" of the source of information used by the respondents was not to be judged; instead, sources were to be judged according to the extent to which the respondents gave evidence of thinking, of discriminating, or of evaluating the sources they used. Thus, in reference to the problem with the child, a statement in the form "I'd ask my neighbor" would be judged less rational than "I'd ask my neighbor--she's a teacher."

Each of the above categories was described in detail for each degree of rationality: most rational, intermediate, and least rational. (See Appendix III for the full category descriptions.) Some arbitrary decisions were made regarding the dividing line between "most rational," "intermediate," and "least rational"; what has been called "fuzzy transition zones" between categories needed to be made less fuzzy and more clear-cut to provide consistency in scoring.

Analysis and Quantification.--Responses to the decision questions were then analyzed according to the established criteria. The response fitting each category was quantified by assigning scores of 3, 2, or 1 points according to judgment as "most rational," "intermediate," or "least rational" respectively. Each respondent's total score for all eight categories for each decision question could therefore fall between 8 and 24 inclusive. Responses receiving a total score of 19-24 inclusive were classified as "most rational," 14-18 inclusive as "intermediate," and 8-13 inclusive as "least rational." (See Appendix IV for sample scoring sheet.)

Reliability

To determine the reliability of the analyzing and quantifying procedure, a home management graduate student scored approximately one-fifteenth of the responses to decision questions against the established criteria. Where

lack of agreement or uncertainty occurred, the criteria were refined and made more definitive. Two senior staff members in home management then scored some responses, the criteria were given slight additional refinement, and they then scored approximately one-third of the total data.

An independent scorer was hired, and after a short introductory and training session, she scored the remaining two-thirds of the responses to the decision questions. While no statistical measure of reliability was established, there was high agreement between the scorer's results, performed independently, and the researcher's; on this basis, the criteria for analyzing and quantifying were accepted as reliable.

Testing the Hypotheses

After the responses were analyzed for evidence of rationality and were quantified, statistical tests were applied. On these bases, the hypotheses would be accepted or rejected.

Hypothesis I claimed non-independence between decision procedure (extent of rationality) and decision contexts. A χ^2 test was applied to test the null hypothesis of independence. Hypothesis I would be accepted or rejected on this basis, at the 0.05 level of significance.

Hypothesis II postulated consistency of individuals' decision procedure in relation to the three decision contexts. Upon advice from the Statistics Department, no

statistical tests were applied. Consistency was compared on a counting basis, and the hypothesis would be accepted if more than half the respondents showed consistency in all or in two out of three contexts.

To test Hypothesis III, a correlation was run on the decision procedure (rationality) and belief test scores of each respondent to identify the significant relationships. The hypothesis would be accepted or rejected on the basis of negative correlation with fatalistic belief at the 0.05 level of significance. (See Appendix V for correlation formula used.)

CHAPTER IV

DESCRIPTION OF THE SAMPLE

The description of the sixty student wives comprising the sample includes: age, number and age of children, husband's education level (academic degree towards which he is working), own education, home economics education, and religion.

Age of Wives

Table 1.--Ages of student wives

Age group	Number	Percentage
Under 20 years	0	0
20-25 years	18	30
26-29 years	24	40
30 years and over	18	30
Total	60	100

How representative this sample is of the total student wife population is difficult to say, as statistics on this population are meager. Several recent studies on different aspects of married students' situations have been selective from the population, e.g., married undergraduates, and the data on the wives are scarce. Oppelt (33) found the mean age of male married undergraduates to be 25.13 years, and while he collected no data on wives' ages, they

may be presumed to be slightly younger. The present study may not be any more representative than Oppelt's, for while it includes respondents having husbands in graduate school (see Table 4), the criterion for choosing the sample (that each respondent should have at least one child at least two years old) may bias the respondents' age upward and may account for there being none in the "under 20" age group.

Number of Children

In these families, the most common number of children is two, 33 or 55% of the sample having this number each. Table 2 shows the distribution of children.

Table 2.--Number of children per wife

Number of children	Number of wives	Percentage
1	11	18.33
2	33	55.00
3	11	18.33
4	4	6.67
5	1	1.67
6 or more	0	0
Totals	60	100.00

Oppelt's study (33) showed married undergraduate men to have an average of one child each (0.96), while Shaffer's study (31) of undergraduates indicated that 51% had children, and 22% had more than one child. This compares with about 83% having more than one child in the

present study; the inclusion in the sample of wives whose husbands were in graduate school and the criterion of having one child at least 2 years of age would undoubtedly account for both the presumed higher age of the sample and for the larger number of children.

Age of Children

Table 3.--Age of children

Age range	Number of children	Percentage
Under 2 years	24	18.75
2-6 years	74	57.81
7-12 years	24	18.75
13-18 years	5	3.90
Over 18 years	1	0.78
Totals	128	99.99

Because the criterion for sample selection stipulated that each respondent should have at least one child at least 2 years old, children's ages were biased upwards slightly, and approximately 58% of all children fell into the 2-6 year age range. However, each family did not have a child in this grouping, e.g., some families had only teenaged or elementary school aged children; several families jumped this 2-6 year group, e.g., one having an 8 year old and a 9 months old child. Many families had several children in this range. The 5 children in the only family that had five children fell into the two youngest ranges, being

aged 4 1/2, 3 1/2, 2 1/2 years, 16 months, and 3 months. From these examples, as well as from Table 3, it is evident that ages and spread of children in families varied.

Education

The sample showed variation in the levels of the husbands' education. Table 4 presents the academic programs in which husbands were currently working.

Table 4.--Student level of the husbands

Student level	Number of husbands	Percentage
Undergraduate	14	23.33
Master's	22	36.67
Doctoral	19	31.66
Other	5	8.33
Total	60	99.99

Table 5 shows the distribution of the educational level of the student wives in the sample.

A fairly high discrepancy shows up between husbands' and wives' education levels. Approximately 76 per cent of the husbands were on programs beyond the bachelor's level compared with only 25 per cent of the wives having bachelor's or more advanced degrees (excluding the one currently working on her bachelor's degree), and 40 per cent of wives having only high school or high school plus additional training.

While the Oppelt and Shaffer studies concerned undergraduate students, a comparison of their data with the present

Table 5.--Education level of wives

Education completed	Number of student wives		Percentage	
High school only or high school and additional training		24		40.00
3 years high school only	1		1.67	
Complete high school only	15		25.00	
High school + some business training	1		1.67	
High school + special training (hairdressing, secretarial, nursing school)	7		11.67	
Non-degree professional training		5		8.50
Registered nurse's training	2		3.33	
Registered nurse + 2 years college	1		1.67	
Teaching certificate	2		3.33	
College training, 1-3 years		15		25.00
College training--1 year	4		6.67	
College training--2 years	8		13.33	
College training--2 years + some nurse's training	1		1.67	
College training--3 years	2		3.33	
College training, degree obtained		11		18.33
Bachelor's degree	8		13.33	
Bachelor's degree + teaching certificate	2		3.33	
Master's degree	1		1.67	
Currently working on degrees		5		8.50
Currently working on bachelor's degree	1		1.67	
Currently working on master's degree	3		5.00	
Currently working on doctoral program	1		1.67	
Total	60	60	100.01	100.33

study may provide a check on how representative this sample is of the married student population. Their samples are not representative in that they concern only undergraduates, while the criterion regarding having a child two years old may bias the representation in this study.

The higher level of education attained by wives in this sample (25 per cent college graduates plus 8.5 per cent non-degree professionally trained) may be related to the presumed older age of the couples and the higher education of the husbands. However, it is interesting that the figures for those having no college training or its equivalent is identical in all three studies, 40 per cent.

Table 6.--Amount and kind of home economics training

Kind of training	*Number of student wives
None	6
High school	
1 year or less	13
2 years	21
3 years or more	17
College	
Degree course, 1 year	1
Individual courses taken	8
Adult courses	5
4-H club work	
1-3 years	7
4-8 years	3
9 years or over	4

*Numbers do not add to 60 because the same individuals may have had several kinds of training, e.g., high school and 4-H.

Religion

Relatively little variation occurred in religious affiliation, shown in Table 7.

Table 7.--Religious affiliation of wives

Religious affiliation	Number of student wives	Percentage
Protestant	45	75.00
Roman Catholic	10	16.67
Jewish	1	1.67
Other	2	3.33
None	2	3.33
Total	60	100.00

CHAPTER V

FINDINGS

Introduction

The variable, decision procedure (extent of rationality) was compared to the two variables, decision-context and decision-maker's beliefs about fate. The results of this analysis follow and are presented in relation to each of the three hypotheses. In addition, descriptions of other relationships among the data are given.

Decision Procedure and Decision Context

The first hypothesis tested in this study is:

Homemakers will make decisions using a more rational procedure in the more highly technical contexts, and a less rational procedure in the more highly affective contexts, of family living.

Table 8 shows individual decision procedure scores for the three decision contexts. For each decision context, a respondent's score could range from 8-24 inclusive. A total score for each respondent for all three decision contexts could range from 24 to 72 inclusive. (Total scores are not involved in testing hypothesis I but are included here for later reference.)

The respondents' individual numerical scores for the three decision contexts, as given in Table 8, could follow six possible orders: 1) 1, 2, 3 (lowest score in

Table 8.--Individual decision procedure scores by decision contexts

Respondent number	Decision Context I (food buying)	Decision Context II (work organization)	Decision Context III (child discipline)	Total for all contexts
1	18	17	18	53
2	24	17	22	63
3	13	18	18	49
4	16	16	17	49
5	22	15	22	59
6	20	17	16	53
7	18	23	23	64
8	20	16	17	53
9	23	15	19	57
10	22	14	21	57
11	23	14	12	49
12	20	15	13	48
13	18	19	14	51
14	21	20	18	59
15	21	14	19	54
16	22	20	21	63
17	9	11	16	36
18	22	16	12	50
19	19	14	19	52
20	22	21	21	64
21	16	13	22	51
22	20	15	22	57
23	17	14	19	50
24	21	19	22	62
25	18	18	17	53
26	14	16	15	45
27	20	19	19	58
28	20	15	21	56
29	19	18	10	47
30	12	16	8	36

Table 8 (continued)

Respondent number	Decision Context I	Decision Context II	Decision Context III	Total for all contexts
31	19	14	13	46
32	23	22	15	60
33	13	11	17	41
34	12	18	14	44
35	20	17	18	55
36	21	15	16	52
37	17	21	17	55
38	15	16	23	54
39	18	18	21	57
40	15	17	21	53
41	20	17	14	51
42	20	15	18	53
43	21	17	18	56
44	10	16	14	40
45	23	19	17	59
46	13	17	11	41
47	19	21	19	59
48	20	16	24	60
49	17	13	12	42
50	13	19	18	50
51	22	15	19	56
52	17	18	22	57
53	16	17	19	52
54	16	16	15	47
55	13	17	17	47
56	17	15	21	53
57	18	14	14	46
58	21	20	22	63
59	20	17	20	57
60	20	17	19	56

the first context, higher in the second, and highest in the third); 2) 1, 3, 2; 3) 2, 1, 3; 4) 2, 3, 1; 5) 3, 1, 2; 6) 3, 2, 1. Table 9 shows the number of respondents whose individual scores of decision procedure for the three decision contexts followed the six orders indicated above.

Hypothesis I claims non-independence between decision procedure and decision context. It predicts that the highest decision procedure scores would be obtained in decision context I, decreasing through II to III; that is, the predicted order is 3, 2, 1. Table 9 shows that 14 out of 60 respondents scored in the predicted way, and 15 respondents scored 3, 1, 2, representing a trend in the same direction. A χ^2 test accepted the null hypothesis of independence (χ^2 = 6.8 with 5 degrees of freedom), thereby denying hypothesis I as stated. The hypothesis was therefore rejected at the 0.05 level of significance.

Table 9.--Order of decision procedure scores in decision contexts*

Number of wives	Order	χ^2
7	1, 2, 3	.9
7	1, 3, 2	.9
10	2, 1, 3	0
7	2, 3, 1	.9
15	3, 1, 2	2.5
14	3, 2, 1	1.6
Total 60		6.8

*Decision contexts: I, food buying; II, organization of work; and III, child discipline.

A descriptive way of comparing decision procedure scores with decision contexts is shown in Table 10. From the data in Table 8, a "most rational" rating was given to scores of 19-24 inclusive; "intermediate" rating to scores of 14-18 inclusive; and "least rational" rating to scores of 8-13 inclusive. In comparing the number of respondents who received "most rational" scores, 45 per cent in decision context III is not according to expectations. The number scoring "most rational" with respect to context II is very low compared with both other contexts. We note the very high number (71 per cent) of respondents receiving an "intermediate" score for decision context II. Relatively little difference shows for the number scoring "least rational" for all three contexts (15, 6, and 13 per cent respectively).

Table 10.--Decision procedure by decision contexts

Decision procedure	Decision Context I (food buying)		Decision Context II (work organization)		Decision Context III (child discipline)	
	Number of wives	Percentage	Number of wives	Percentage	Number of wives	Percentage
Most rational	33	55.0	13	21.7	27	45.0
Intermediate	18	30.0	43	71.7	25	41.7
Least rational	9	15.0	4	6.6	8	13.3
Totals	60	100.0	60	100.0	60	100.0

Consistency of Decision Procedure

The second hypothesis stated:

Homemakers will tend to show consistency in approaching decisions, i.e., those using a more rational procedure in the technical contexts will tend to use more rational procedures in the affective contexts, while those who use less rational procedures in the technical contexts will also tend to use less rational procedures in the affective contexts of family life.

No statistical test of consistency was considered necessary for accepting or rejecting this hypothesis. From the data in Table 8, individual respondent's decision procedure ratings (most rational, intermediate, least rational) were categorized by amounts of consistency shown. Table 11 presents the number of respondents who showed varying amounts of consistency in decision procedure ratings for all three decision contexts.

Table 11.--Consistency of decision procedure

Consistency criteria	Number of wives	Percentage
Identical rating in all contexts	11	18.3
Identical in 2 out of 3 contexts	42	70.0
Ratings different in all contexts	7	11.7
Totals	60	100.0

It had been decided to accept the hypothesis if over half the respondents showed consistency in all or in two out of three contexts. As 53 respondents, or 88 per cent, showed consistency, the hypothesis was accepted on sight.

Decision Procedure and Decision-Maker

The third hypothesis stated:

Homemakers who use a more rational approach to decision will tend to perceive themselves as being able to exercise control over their environment, while those using a less rational approach will tend to perceive themselves as being more subject to chance or fate.

This hypothesis postulates a negative correlation between decision procedure and fatalistic beliefs.

Correlations were used to discover relationships between total decision procedure scores and scores from the sixteen sub-tests in the "Test of Epistemological and Instrumental Beliefs." Total decision procedure scores were derived from the data presented in Table 8: "most rational," 57-72; "intermediate," 41-56; "least rational," 24-40. (See Appendix IV for correlation formula used.)

The following correlations were discovered between decision procedure (extent of rationality) and the sixteen sub-tests: six sub-tests correlated negatively and no sub-tests correlated positively at a significant level.

Table 11 shows the direction and correlation of each belief sub-test with decision procedure.

While other belief dimensions are related, the one particular sub-test most pertinent to the hypothesis is "belief in fate." As rationality was negatively correlated with this sub-test at the high significance level of 0.01, hypothesis III is accepted.

Table 12.--Correlation between belief sub-tests and decision procedure

Belief sub-test	Direction and correlation
Epistemological beliefs	
1. Belief in animism	- .2273
2. Belief in supernatural causes	- .2862*
3. Belief in fate	- .4051**
4. Belief in predictability of life	+ .2172
5. Belief in multiple causation of events	+ .2209
6. Belief that good things will happen	- .3024**
7. Belief that good things won't happen	- .1282
8. Belief that bad things will happen	- .1259
9. Belief that bad things won't happen	+ .0629
Instrumental beliefs	
10. Future time orientation	- .8025***
11. Anti-traditionalistic orientation	+ .0835
12. Belief that events clearly are either good or bad	- .6528***
13. Belief that events clearly are either highly probable or highly improbable	- .2910*
14. Belief that actions have many consequences	- .0399
15. Belief in trying many actions in solving problems	+ .0666
16. Belief in thinking before acting	+ .0073

*Significant at 0.05 level.
**Significant at 0.01 level.
***Significant at 0.001 level.

Decision Procedure and Other Variables

Besides the relationship stated in the hypotheses, possible relationships were sought between decision procedure and age, education, and religion. Tables 13, 14, and 15 present these comparisons.

While no statistical tests were applied, an examination of the data suggests little relationship between age and decision procedure. In comparing the proportion in each age group for the whole sample, slight evidence seems to suggest a relationship: in the 20-25 years age group, 15 per cent scored "most rational" compared with 30 per cent in the total sample falling into this group; in the 26-29 years age group, 60 per cent scored "most rational" compared with 40 per cent in the total sample; but the trend breaks down in the 30 years and over age group, only 26 per cent scoring "most rational" compared with 30 per cent of the total sample falling into this group. As comparisons by the "intermediate" and "least rational" ratings also fail to show consistent relationship with age, we can conclude that these data seem to show little evidence that these variables are related.

A slight relationship is suggested between education and the "most rational" ratings. In the total sample, 40 per cent had high school or high school plus additional training, and only 26 per cent of those scoring "most rational" were in this educational group. Above this level of education, a slightly higher proportion of respondents

Table 13.--Age compared with decision procedure

Age group	Total number of wives		Decision Procedure					
			Most rational		Intermediate		Least rational	
	Number	Percentage*	Number	Percentage*	Number	Percentage*	Number	Percentage*
20-25 years	18	30	3	16	14	39	1	20
26-29 years	24	40	11	60	9	25	4	80
30 years and over	18	30	5	26	13	36	0	0
Total	60	100	19	100	36	100	5	100

*Percentage rounded to nearest whole number.

Table 14.--Education compared with decision procedure

Education level	Total number of wives		Decision Procedure					
			Most rational		Intermediate		Least rational	
	Number	Percentage*	Number	Percentage*	Number	Percentage*	Number	Percentage*
High school or high school plus additional training	24	40	5	26	15	42	4	80
Non-degree professional training	5	8	2	11	3	8	0	0
College training, 1-3 years	15	25	5	26	9	25	1	20
College training, degree obtained	11	18	5	26	6	17	0	0
Currently working on degree	5	8	2	11	3	8	0	0
Total	60	100	19	100	36	100	5	100

*Percentage rounded to nearest whole number.

Table 15.—Religion compared with decision procedure

Affiliation	Total number of wives		Decision Procedure					
			Most rational		Intermediate		Least rational	
	Number	Percentage*	Number	Percentage*	Number	Percentage*	Number	Percentage*
Protestant	45	75	14	74	27	75	4	80
Roman Catholic	10	17	4	21	5	14	1	20
Jewish	1	2	0	0	1	3	0	0
Other	2	3	0	0	2	6	0	0
None	2	3	1	5	1	3	0	0
Total	60	100	19	100	36	100	5	100

*Percentage rounded to nearest whole number.

scored "most rational" at each level than in the total sample, and particularly higher for the level "college degree obtained." It can be noted that a much higher proportion (80 per cent) of the "least rational" scorers had high school level of education than the 40 per cent in the total sample; however, the total number scoring "least rational" is very small. These data seem to provide a slight indication of relationship between education and decision procedure.

No evidence from the data suggests relationship between religion and decision procedure.

Preferred Sources of Information

Analysis of the responses to the three decision questions representing the three decision contexts revealed that respondents varied regarding the sources of information they preferred. Table 16 presents the preferred sources of information, by decision contexts.

For the food buying decision, 34 respondents referred to "evaluated experience of self or others" as a source of information, and 24 referred to "authoritative or evaluated sources."

For the work organization decision, 46 respondents called upon "evaluated experience of self or others," while only 2 referred to "authoritative or evaluated sources."

For the child discipline decision, respondents turned to "authoritative or evaluated sources" far more

frequently than for the other two decision questions, 47 respondents mentioning this source. A quarter of the sample, 15 respondents, referred to "evaluated experience of self or others."

Table 16.--Preferred sources of information

Source of information	Context I (Food buying) Number* of wives	Context II (Organization of work) Number* of wives	Context III (Child discipline) Number* of wives
Trial and error with observation and comparison	5	2	9
Qualified observation	11	17	5
Evaluated experience of self or others	34	46	15
Information from authoritative or evaluated sources	24	2	47
Courses, classes, or other formal learning situations	8	0	0
Unqualified trial and error	0	1	2
Unqualified observation	0	0	1
Unevaluated experience of self or others	8	2	7
Uncritically stated or unspecified sources of information	4	0	6
Feeling, hunch, or "I don't know"	0	0	1

*Responses do not add to 60 because respondents often cited more than one source.

Comparative Importance of Decision Contexts

After respondents had dealt with each decision question representing each context, they were asked to look at the three together and to compare them in importance, giving their reasons for so ranking them; Table 17 presents the rank ordering.

Table 17.--Rank-ordering in importance of decision context

Decision context	Rank	Number	Percentage
I	first	6	10.00
II	first	0	0
III	first	44	73.33
I and II	equally first	2	3.33
I and III	equally first	5	8.33
II and III	equally first	0	0
-	not ranked	3	5.00
Totals		60	99.99

A majority of the respondents (73 per cent) rated decision context III (child discipline) as most important; decision context I (food buying) was next in importance; decision context II (organization of work) is obviously considered least important, 32 respondents (53 per cent) ranking it in last place.

Summary

Hypothesis I stated:

Homemakers will make decisions using a more rational procedure in the more highly technical contexts, and a less

rational procedure in the more highly affective contexts, of family living.

This hypothesis was rejected.

Hypothesis II stated:

Homemakers will tend to show consistency in approaching decisions, i.e., those using a more rational procedure in the technical contexts will tend to use more rational procedures in the affective contexts, while those who use less rational procedures in the technical contexts will also tend to use less rational procedures in the affective contexts of family life.

This hypothesis was accepted.

Hypothesis III stated:

Homemakers who use a more rational approach to decision will tend to perceive themselves as being able to exercise control over their environment, while those using a less rational approach will tend to perceive themselves as being more subject to chance or fate.

This hypothesis was accepted.

No relationship appeared to exist between decision procedure (extent of rationality) and age or religion, but the data suggested a relationship between decision procedure and education.

Respondents varied in their preferences for sources of information depending upon the context in which the decision was made.

Respondents ranked the decision question about child discipline as most important and that of organization of work as least important.

CHAPTER VI

CONCLUSIONS AND IMPLICATIONS

Introduction

The previous chapter presented findings. In this chapter conclusions relevant to the findings will be drawn, limitations in the study indicated, and implications for teaching and research suggested. The discussion of conclusions will center around the hypotheses tested.

Decision Procedure and Decision Contexts

Hypothesis I was rejected, that decision procedure (extent of rationality in approaching decision-making) would be related to the context within which the decision is made.

Rationale

The rationale underlying hypothesis I was that decision procedure and decision contexts each fall along a continuum, and that these two continua would parallel each other in a relative way although not in a direct one-to-one relationship. It was believed that in a highly technical context a more reasoned decision is most possible, and, conversely, in a highly affective context, a highly reasoned decision is least possible, because of the characteristics of the decision contexts, viz., affect and information (see Appendix VI).

Responses to the decision questions representing

the decision contexts support the notion of a continuum of affect, at least as perceived by the respondents. In the food buying decision, responses showed little affect. One respondent was quite explicit on this point in answering the request to rank-order the three questions in order of importance, saying,

> Number 3 [child discipline] is the most difficult to solve because personal relationships are involved. It's easier to work with things and lists, etc. I'd place the problems: 3, 2, 1, in that order. Number 2 [work organization] and number 3 are related in that my mental outlook is reflected in my relationship to my child--then maybe number 2 is the most serious of all--would see my child and the problem in a different light. Number 1 [food buying] last, not because it is not equally important but easier to solve--when working with numbers and things you can figure this out--but human relations and feelings can't be reasoned out easily, sometimes impossible.

Responses provided some evidence of more family interaction and affect in the work organization decision than the first more technical context represented by food buying. Evidence of feelings regarding role expectation, family interaction, and other emotional overtones may be seen in such fairly frequent and typical responses as:

> If my husband criticized I'd go right through the ceiling because I'm touchy about it.

> I hate housework. I just hate it. That's my downfall--too repetitious--you never get done, never accomplish anything. I don't get any thrill out of seeing a nice clean ironed shirt--it's the least of my thrills. I'd get help if I had money.

> My husband cares how the house looks, so I care, but if just myself, I wouldn't care so much.

> I go through a period of being irritable and nervous before I get busy and reorganize.

About once a week everything seems to be glaring at me.

When I'm not caught up with my work, my husband lets me know about it, so I try to keep caught up.

Some people work with a schedule, but I prefer to have variety. Want to be able to change my mind without feeling guilty.

Respondents provided much evidence of affect and family member interaction in connection with the third context, e.g., many statements regarding how important and "dear" their children were to them, that they worried whether they were doing the right things, and the importance of giving love and understanding.

The rationale seems to be sound with respect to a continuum of affect and family interaction in the three decision contexts.

The precision and amount of available information pertaining to the respective decision contexts can be verified empirically. But the sources of information preferred by the respondents did not conform to the characteristics stated for technical through affective decision contexts (see Appendix VI). As shown in Table 16 (page 68), respondents' preferred sources of information in decision context I (food buying) were "evaluated experience of self or others" and "authoritative or evaluated sources"; in decision context II (work organization), "evaluated experience..." was the highly preferred source; and in decision context III (child discipline), "authoritative or evaluated sources" were preferred by many more respondents and

"evaluated experience..." by fewer than chose these sources in the other two decision contexts.

According to the rationale, in decision contexts where a greater amount of precise information is available, such information will be used, especially when affect is low; where less precise information is available, "conventional wisdom" (beliefs based on collective experience and wide acceptability) will supplement or replace it, particularly where high affect exists simultaneously to make reasoning difficult and to influence people to live by "conventional wisdom." That more "experience" and less "precise information" is sought in decision context I and the reverse in decision context III may indicate that the rationale may be unsound with respect to preferred sources of information, and the findings could be biased as a result. However, the criteria for judging decision procedure in this study protected against this bias. Judgments were not made about the source <u>per se</u> but about the evidence given by the respondent of thinking, of discriminating, or of evaluating the source she mentioned. In quantifying the responses, equal weight was assigned to "evaluated experience..." and to "authoritative or evaluated sources," because choosing either provided such evidence.

In this study, the data seem to be in accord with the rationale underlying hypothesis I. Support is seen for the notion of a continuum of affect through the decision contexts. While the respondents' preferred sources of

information ran counter to the rationale, the criteria for judging decision procedure seem to protect the findings from the bias that this discrepancy might have introduced.

Adequacy of Decision Questions

While the rationale regarding the decision contexts themselves may be sound, the decision questions representing them could introduce bias; that is, respondents could react to content rather than context.

In devising the decision questions for each context, an attempt had been made to make all three equally realistic and important to the respondents. The responses indicated that all questions were realistic to the majority of respondents. Because respondents ranked decision context II (work organization) so low in importance (see Table 17, page 69), it is interesting to note that they nevertheless identified strongly with the decision question; a few typical reactions serve to show that this question was truly realistic to them:

> This is my problem!
>
> Mrs. B. sounds like me!
>
> Do you hit everything on the head!
>
> This is my problem! I can tell you intellectually but I don't do it--about the world's worst--never up to date.
>
> This sounds so true.
>
> That's my problem--have never decided how to get the work done.
>
> Oh, boy! This is me!

In ranking all three decision questions in order of importance, giving their reasons, 73 per cent of the respondents ranked the child discipline decision question (III) as most important, and 53 per cent ranked the work organization decision question (II) least important (Table 17). In addition to ranking II least important, respondents' reasons were revealing. A few typical examples follow:

> I'm not really caught up and I don't worry--always another tomorrow.
>
> Wouldn't worry about the work--it'll get done sooner or later.
>
> I do what's vital; it's amazing how little is vital.
>
> Relatively trivial.
>
> Annoying to me most of the time but not to the point I'm worried.
>
> Number 2 is the least of my worries, guess because I could always lie down beside a big pile of work and go to sleep--I think there are so many things so much more important.

It is also interesting that those who ranked this question other than least important usually did so because they saw its relationship to the child discipline decision or to total family well being. A good example was seen in the earlier quotation,

> Numbers 2 and 3 are related in that my mental outlook is reflected in my relationship to my child--then maybe number 2 is the most serious of all--would see my child and the problem in a different light.

Others sometimes qualified their ranking, e.g., "I'd feel that the child would come first, feeding the family second, and work third, though I believe it is bad for the family

to live in a place that is chaotic all the time."

The last two examples are atypical, however; very few of the total sample saw the work organization decision as anything but their own problem, something that was annoying but not important enough to worry or do anything about, and generally saw it as unrelated to family well-being.

The decision question on food buying was seen as important in relation to health or to worries about money. Because it affected everyone in the family and on a longer range basis, respondents considered it more important than the decision question about work organization.

In placing the decision question about child discipline first in importance, respondents stated as reasons the long-range consequences to the child and the immediacy of the problem, e.g., "if the problem isn't solved now, it may affect his whole life; it cannot be let go," the effect on the whole family, and above all, the importance of the child to them.

As devised, then, the decision questions seemed not to be equally important to the respondents. The importance of the decision may be the only vital, the only significant variable. Neither decision context, per se (which was hypothesized to influence decision procedure through its amount of affect and the amount of precise information available), nor the realism of the decision appear to have much to do with the way people approach decision

making or with the amount and kind of information used. What does appear to make a difference is the importance to the decision-maker of the decision. The readiness with which respondents turned to information from authoritative or evaluated sources in the decisions that were important to them is striking. The family doctor, and recognized authors to a lesser extent, the teacher if the problem was seen as a school difficulty, child guidance clinics, the visiting psychiatrist in the school, nursery school teachers, and pediatricians were among those most frequently mentioned. In the food buying decision, second in importance to the child discipline decision, many mentioned government bulletins, home economics departments, the basic four food groups, books from the library, courses in buying, series on TV, and so forth. In the decision question regarded as least important and most trivial (and yet one with which respondents identified strongly), only two respondents suggested going to outside sources: one stated that magazines give suggestions and hints, e.g., Redbook, and another suggested that one could go to a family service center for help in scheduling for housework.

The importance of the decision seems to be related to decision procedure, although not conclusively. As shown in Table 10, the smallest proportion, only 21 per cent, of the respondents were rated "most rational" in the work organization decision, which was considered the least important of the three. The largest proportion of respondents,

55 per cent, were rated "most rational" in the food buying decision, which was rated second in importance to the decision-maker. A smaller proportion, 45 per cent, of respondents were rated "most rational" in the child discipline decision, although this decision was considered most important by them. Affect and precision of information may have had enough influence on the decision procedure to offset the importance of the decision to the decision-maker.

Consistency of Decision Procedure

The second hypothesis was accepted, that respondents would show consistency in decision procedure in the three decision contexts. Behavioral scientists believe that man exhibits a certain consistency in his behavior, otherwise his actions would be completely unpredictable. That individuals exhibit similar decision procedure (extent of rationality in approaching decision) seems to be one instance of behavioral consistency. If we know how a homemaker habitually approaches her decision-making, we are in a better position to make predictions about her decisions and about her management in the home.

Decision Procedure and Decision-Maker

Hypothesis III was accepted, that homemakers who use a more rational approach to decision will tend to perceive themselves as being able to exercise control over their environment, while those using a less rational approach will tend to perceive themselves as being more subject

to chance or fate.

Epistemological Beliefs

In this study, the modified "Test of Epistemological and Instrumental Beliefs" (see Appendix I) was used to test the third hypothesis. Only three of the nine epistemological beliefs in the test are shown to be related to decision procedure (extent of rationality): "Belief in fate" (negatively correlated at the 0.01 level of significance), "belief in supernatural causes" (negatively correlated at the 0.05 level of significance), and "belief that good things will happen" (negatively correlated at the 0.01 level of significance). The hypothesis was accepted on the basis of the negative correlation between decision procedure and "belief in fate." The significant negative correlation with "belief in supernatural causes" further supports the hypothesis. In their discussion (4:54-57), Brim et al. relate both "belief in supernatural causes" and "belief in animism" to fatalistic beliefs. "Belief in animism" shows some correlation in a negative direction, but not significantly.

As stated above, "belief that good things will happen," is negatively correlated with decision procedure. This is one of two sub-scales comprising the test of optimism; the other, "belief that bad things won't happen," was not significantly correlated. Brim et al. expected that these beliefs would be related to desirability estimates in decision-making (4:55-56). By extension, they

should be related to decision procedure in a positive direction, because estimating desirability of outcomes is a rational (reasoning, weighing) activity. On the other hand, "belief that good things will happen" may indicate a chancey, laissez-faire view of the universe: good things will happen whether we do anything to bring them about or not, it's the nature of the world that good things happen. That both this belief dimension and the "belief in fate" dimension are negatively correlated with decision procedure at the 0.01 level of significance, as well as "belief in supernatural causes" at the 0.05 level, seems to indicate a relationship among the three beliefs with respect to decision procedure. The negative correlation of optimism to decision procedure seems to present a contradiction to Brim's expectation of its role in decision-making.

Instrumental Beliefs

Of the seven instrumental beliefs in the "Test of Epistemological and Instrumental Beliefs," only three are significantly related to rationality in this study, but negatively, which is the opposite direction than was expected.

That "future time orientation" should be negatively correlated with rationality and at such a high level of significance (0.001) is surprising in the extreme. Of this sub-test, Brim says:

> An orientation toward consideration of future consequences of one's actions reflects a prior epistemological view that the individual believes himself to be involved in and in part responsible for some of the outcomes and events in the world. He

> sees himself, that is, as having sufficient control over events actually to influence these distant consequences. (4:56)

The negative correlation of "future time orientation" with decision procedure is not compatible with the negative correlation of "belief in fate." If a high rationality score corresponds with a low one in "belief in fate" (and, by inference, with a high belief in having control over one's environment), a high rationality score should correspond with a high score in "future orientation," which, Brim says above, reflects a belief in having a degree of control over events. This finding is difficult to explain. That the correlation is coincidental is ruled out by the high level of significance. It may be that the test items devised by Brim et al. do not actually test future time orientation.

Because the "Test of Epistemological and Instrumental Beliefs" is semi-projective in nature, it is open to the most frequently levelled criticisms of this type of test, viz., that validity is difficult to establish. The three items for the test of future time orientation were:

> Happiness comes from living day to day.
>
> Our grand business is not to see what lies dimly at a distance but to do what lies clearly at hand.
>
> The pleasures of one day today are worth those of two tomorrows. (See Appendix I.)

These items clearly seem to indicate preference for present over future time.

This seems not to be the same interpretation given

by Brim et al., viz., "An orientation toward consideration of future consequences of one's actions." Consideration of future consequences is assumed to be related to reasoning and weighing in decision-making, but preference for future time may not be.

The remaining two instrumental beliefs that showed correlation with rationality are "belief that events clearly are either good or bad" (negatively correlated at the 0.001 level of significance) and "belief that events clearly are highly probable or improbable" (negatively correlated at the 0.05 level of significance). Of these belief dimensions Brim says that the objective is to determine the degree to which individuals view the world as an "either-or" type of environment, and says:

> The beliefs should be related to the decision process through their effects upon the amount of consideration given to middle-range probabilities and to a mixture of good and bad outcomes, in contrast to extreme judgments of both in the evaluation process. (4:56)

These beliefs seem less related than future time orientation to decision procedure.

Implications

Variations observed among respondents in their preferred sources of information suggest that more needs to be known about what or whom families consider to be valid sources of information. Little is known about the use made of information from the home economics field, how this profession is evaluated as a source of information, or for

what kinds of information home economics is considered a valid source. Such knowledge would be helpful, especially for professionals working with families. Perhaps home economists can work most productively with and through sources that families consider significant. The family doctor, for example, was a significant source to many respondents for information about nutrition and child growth and development. Home economists having specialized knowledge in these areas need to be alert regarding the quality of information being disseminated by change agents whom families trust and respect as information sources.

The findings suggest relationship between decision procedure employed and the importance of the decision as perceived by the decision-maker. The possible relationship between importance of the decision and the amount and kind of information sought suggests a fruitful line of inquiry. We need to know, and to find ways of knowing, what is really important to families. In working with families and in teaching, professional home economists need to emphasize the integrated nature of home management. If families can see interrelationships among their problems, rather than viewing them in isolation, they are more likely to assess accurately the true importance of each.

Much more needs to be known about decision procedures and variables affecting them so that people working with families may define their tasks. If we know that families see consequences and relationships, that they reason

and weigh, and that they will seek information, even if reasons are invalid and the information is "poor," our task is to make well-established information available. But if they cannot or do not reason, the task in working with them is a very different and a more difficult one.

This research investigated one approach to studying decision procedure; others could be tried. Using the raw data obtained, an instrument could be developed for further testing in a larger and more varied population.

Further research into the mental processes of decision-making is required. Much more investigating is needed to find out what variables are most crucial in influencing decision-making.

In this study, a slight relationship was seen between education and decision procedure; this relationship needs further exploration. Also, this study provides tentative evidence that decision procedure is related to an individual's view of the world as controllable or controlled by fate. A great deal more study is needed about how individuals view their world, how they perceive themselves in relation to it, and how these perceptions affect their decision-making.

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APPENDIX I

Name _____

TEST OF EPISTEMOLOGICAL AND INSTRUMENTAL BELIEFS

These are proverbs and statements about life. You will find you agree with some, and disagree with others.

For each of these sayings, circle the answer at the right which best expresses how you feel about it.

	Strongly Agree	Agree	?	Disagree	Strongly Disagree
1. Flowers know where the sun is, and feel its warmth.	SA	A	?	D	SD
2. Every human problem can be solved and every hunger satisfied and every promise can be fulfilled if God so wills.	SA	A	?	D	SD
3. Man's existence is completely under the control of destiny.	SA	A	?	D	SD
4. Things that seem mysterious and unpredictable now will one day be predicted by science.	SA	A	?	D	SD
5. Few things have but a single cause; for most the "cause" is really a multitude of little things happening together.	SA	A	?	D	SD
6. The highest wisdom is continual cheerfulness.	SA	A	?	D	SD
7. He who never hopes can never despair.	SA	A	?	D	SD
8. To fear the worst often cures the worst.	SA	A	?	D	SD
9. One often expects misery in vain.	SA	A	?	D	SD
10. Old houses, like old people, feel very tired at times.	SA	A	?	D	SD
11. As God created the world, so He can change or end it as He pleases.	SA	A	?	D	SD

	Strongly Agree	Agree	?	Disagree	Strongly Disagree
12. There is a divinity that shapes our ends, roughhew them as we will.	SA	A	?	D	SD
13. The world moves in an orderly fashion.	SA	A	?	D	SD
14. For any event there are an infinite number of results.	SA	A	?	D	SD
15. To fear the worst is to go through life with an unnecessary burden.	SA	A	?	D	SD
16. One's fondest hopes rarely come true.	SA	A	?	D	SD
17. Life often presents us with a choice of evils rather than of good.	SA	A	?	D	SD
18. It is madness to be expecting evil before it comes.	SA	A	?	D	SD
19. The unlighted match feels its own heat when lighted.	SA	A	?	D	SD
20. God is powerless in the face of natural laws and to ask Him for help is to shout at the wind.	SA	A	?	D	SD
21. Nothing comes to pass but what fate wills.	SA	A	?	D	SD
22. People try to find order in the world when in fact there is none.	SA	A	?	D	SD
23. The causes of any event are so intertwined that it is difficult to know how important each may be.	SA	A	?	D	SD
24. It is worth a thousand dollars a year to have the habit of looking on the bright side of things.	SA	A	?	D	SD
25. He that lives on hope will die starving.	SA	A	?	D	SD

	Strongly Agree	Agree	?	Disagree	Strongly Disagree
26. Forewarned is forearmed.	SA	A	?	D	SD
27. Nothing is so wretched or foolish as to anticipate misfortunes.	SA	A	?	D	SD
28. Happiness comes from living day to day.	SA	A	?	D	SD
29. When ancient opinions and rules of life are taken away, the loss to people cannot possibly be estimated.	SA	A	?	D	SD
30. One of the most important things in life is to be absolutely sure of what you want.	SA	A	?	D	SD
31. Uncertainty and expectation are the joys of life.	SA	A	?	D	SD
32. For every action there's a limited number of outcomes; it's smart to consider them all beforehand.	SA	A	?	D	SD
33. It's important to decide upon one thing and stick to it.	SA	A	?	D	SD
34. Nothing is less in our power than the heart, and far from commanding it we are wiser to obey it.	SA	A	?	D	SD
35. Our grand business is not to see what lies dimly at a distance, but to do what lies clearly at hand.	SA	A	?	D	SD
36. The tried and true ways are the best.	SA	A	?	D	SD
37. It is easy to classify most things as either good or bad.	SA	A	?	D	SD
38. To know what may happen tomorrow is one of the dullest things in life.	SA	A	?	D	SD

	Strongly Agree	Agree	?	Disagree	Strongly Disagree
39. You can only confuse yourself by thinking of all that might happen.	SA	A	?	D	SD
40. Each important thing that happens to man can be traced to a single cause.	SA	A	?	D	SD
41. Happiness comes from impulse, rather than reason.	SA	A	?	D	SD
42. The pleasures of one today are worth those of two tomorrows.	SA	A	?	D	SD
43. To live by custom is a foolish thing.	SA	A	?	D	SD
44. It's best not to get too excited about anything.	SA	A	?	D	SD
45. Certainty alone brings peace of mind.	SA	A	?	D	SD
46. In deciding whether or not to do something it's wise to make as long a list as you can of all the outcomes.	SA	A	?	D	SD
47. To try to do many things is to do none of them well.	SA	A	?	D	SD
48. Our first impulses are good; thought usually weakens them.	SA	A	?	D	SD

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APPENDIX II

INTERVIEW GUIDE

Demographic Data

Name: Age group:

Number and age of children: Under 20 years ---

Student level of husband: 20 to 25 years ---

Wife's education: 26 to 29 years ---

Home economics training received: Over 30 years ---

Religion:

Decision Questions

1. (Typed on 3 x 5" index card and handed to respondent)

   Mrs. A. has to keep food costs down and yet feed her family nutritiously. If you were in her situation, how would you decide what food to buy?

   (Standard probing questions asked after respondent appeared to have no more to say)

   a) On what basis would you decide this way?

   b) Have you ever had this problem?

   c) What did you do then? // If discrepancy with main answer, d) This is a little different from your answer to the problem question. Why did you do what you did? //

2. (On 3 x 5" index card)

   Mrs. B. becomes bored with repetitive time-consuming tasks, and she is never caught up with her work (e.g., ironing). If this were your problem, how would you decide on ways to get the work done?

   (Standard probing questions asked as above)

3. (On 3 x 5" index card)

Mrs. C.'s child became "difficult" in a way that worried her. If this were your problem, how would you decide what to do about it?

(Standard probing questions asked as above)

(On completion of the three decision questions and probing questions) "Now that you have thought through these three decision questions, will you look at all three again [handing all three back and spreading out]. If these three problems were real problems for you, equally serious, which would you consider most important, that is, which would worry you the most"? "Why"? "Which would you consider next in importance"? "Why"? "Why would you place this remaining one last"?

APPENDIX III

CRITERIA FOR JUDGING DECISION PROCEDURE

	MOST RATIONAL Score 3	INTERMEDIATE Score 2	LEAST RATIONAL Score 1
A. WHOLE RESPONSE	Global appraisive view, consideration to all parts of whole problem as presented; general, able to be applied beyond respondent's own situation.	Whole problem recognized but only part discussed; narrow concentration on own situation rather than general treatment.	Only part of problem recognized, other parts ignored; or problem seen as a whole without component parts.
B. REASONING			
1.Diagnostic approach	1.Definition or restatement of whole problem, clearing assumptions, advocating finding out or getting to the root of the problem, e.g., "Find out...," "See why...," etc., explicitly stated.	1.Definition or restatement of part of problem, clearing assumptions or advocating finding out part of problem, suggestion of looking for root of the problem, e.g., "maybe...because"; "asking advice" implies looking for root of problem but may be looking for solution only.	1.No evidence of redefining or looking for root of problem.
2.Reasons	2.Reasons given (facts, beliefs, opinions), "because" stated or implied, e.g., "so" (for that reason), "that's why," etc.; or words omitted but understood and could be inserted, e.g., "buy food in season--(because) --it's cheaper."	2.Suggestion of reasons, e.g., "it might be...," "probably is," etc., but not clearly stated as reasons or understood as such.	2.No reasons given.

3.Relationships	3.Definite consideration of cause and effect, or of consequences, e.g., "so" (as a result), "...will affect...," etc.	3.Tentative consideration or suggestion of cause and effect relationship, or of consequences, but not clear-cut, rather doubtful.	3.No evidence of cause and effect relationship or stating consequences.
4.Plan	4.Advocating or reporting definite planning: "plan," "menu," "list," "routine," "schedule," "keep a budget," etc., explicitly stated; or obvious policy indicated (as when same idea runs throughout response, or when policy is elaborated) for whole problem, not just part (e.g., for food buying in general, not just regarding meat).	4.Suggestion of advocating or reporting planning or policy, but words "plan," etc., not explicitly stated; policy for part of problem, not for whole.	4.No evidence of plan or policy.
C. WEIGHING			
1.Comparing, ranking,	1.Definite comparing, ranking, allocating, e.g., "it depends," "this...but that," "if this...then that" (unless consequence), "this...instead of that."	1.Suggestion of comparing, ranking, allocating, but not clear-cut.	1.No evidence of comparing, ranking, or allocating.
2.Alternatives	2.Considering 3 or more ways of dealing with the problem.	2.Considering 2 ways of dealing with the problem.	2.Considering only 1 way, or "I don't know."

D. INQUIRY FOR AND USE OF INFORMATION	Evidence of using 2 or more from list "A."	Evidence of using at least 1 from list "A," or 1 from "A" and 1 or more from "B," or 2 or more from "B."	Evidence of using 1 from "B" or none.
		"A"	"B"
a) Trial and error	a) Trial and error with observation and/or comparison.		a) Unqualified trial and error.
b) Observation	b) Qualified observation (e.g., knowledge of amount of money spent; assessment of own work and self as worker; assessment of relationship with child).		b) Unqualified observation.
c) Experience	c) Evaluated past experience of self or others (e.g., comparison of past with now, what worked for self or others).		c) Unqualified past experience (experience <u>per se</u>).
d) Sources	d) Authoritative or evaluated sources, e.g., specified magazines or books, specialists, "basic 4," friends or relatives if their special competence as a source is stated, specified TV programs, government bulletins.		d) Uncritically stated or unspecified or unevaluated sources of information, e.g., "reading," "magazines," friends or relatives, their special competence as sources unstated.
e) Other	e) Courses, classes, or other formal learning situation, e.g., nurse's or teacher's training.		e) Feeling, hunch, "I don't know."

APPENDIX IV

SCORING SHEET FOR DECISION PROCEDURE

Below is the format of the scoring sheet used in scoring the responses for decision procedure. Scores for each category were allocated as indicated in Appendix III.

Decision Context I (II or III)

Respondent number:	1	2	3	4*	
Category					
A. Whole Response					
B. Reasoning					
B1. Diagnostic approach					
B2. Reasons					
B3. Relationships					
B4. Plan					
C. Weighing					
C1. Comparing, ranking, allocating					
C2. Alternatives					
D. Inquiry for Use of Information					
D a) Trial and error					
D b) Observation					
D c) Experience					
D d) Sources					*through 60
D e) Other					
Total decision procedure score					

APPENDIX V

CORRELATION FORMULA FOR TESTING HYPOTHESIS III

$$R_{XY} = \frac{N \Sigma XY - (\Sigma X)(\Sigma Y)}{\sqrt{[N \Sigma X^2 - (\Sigma X)^2][N \Sigma Y^2 - (\Sigma Y)^2]}}$$

APPENDIX VI

SCHEMATIC PRESENTATION OF HYPOTHESIS I

Decision procedure continuum:

Most rational...Intermediate...Least rational

Decision context continuum:

Technical...Technical-affective...Affective

Characteristics of decision contexts:

1) Affect:

Least affect.....Most affect

Little emotion and/or family interaction inherent	Intermediate amount of emotion and/or family interaction inherent	Most emotion and family interaction inherent

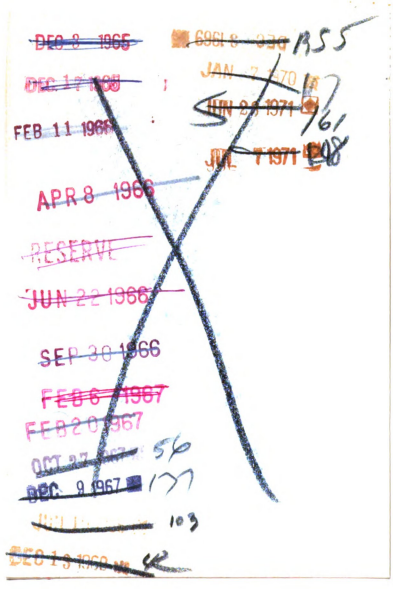
2) Information:

Most precise.....Least precise

Large body of precise information available	Intermediate amount of precise information available; some "conventional wisdom" preferred source of information	Smallest amount of precise information available; "conventional wisdom" frequent source of information

Decision question representing context:

Food buying	Organization of work	Child discipline


DEC 8 1965
FEB 11 1966
APR 8 1966
RESERVE
JUN 22 1966
SEP 30 1966
FEB 6 1967
FEB 20 1967
DEC. 9 1967
JAN 7 1970
JUN 28 1971
JUL 7 1971
56
177
103