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STRUCTURAL CONSTRAINTS AND SITUATIONAL INFORMATION SEEKING:
A TEST OF TWO PREDICTORS IN A SENSE-MAKING CONTEXT

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Structural Constraints and Situational Information Seeking:

A Test of Two Predictors in a Sense-Making Context

by

MICHAEL SANFORD NILAN


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of the requirements for the degree of

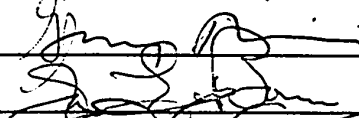
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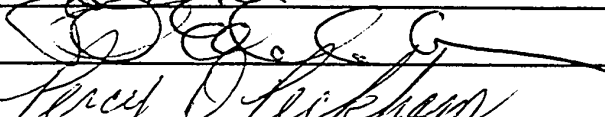
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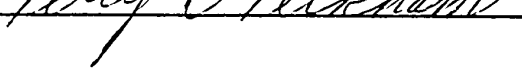
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Abstract

**STRUCTURAL CONSTRAINTS AND SITUATIONAL INFORMATION SEEKING:
A TEST OF TWO PREDICTORS IN A SENSE-MAKING CONTEXT**

by Michael Sanford Nilan

Chairperson of the Supervisory Committee:
Professor Brenda Dervin, School of Communications

This study examines the existing controversies of mechanistic versus non-mechanistic and individual versus structural conceptualizations of human information seeking behavior in communication research. In examining traditional, structuralist, and interpretivist approaches, these two issues seem to have similar bases. Rather than abandon a focus on individual behavior in favor of structural concerns, the purpose of the study is to try to address these concerns using actor assessments of structure rather than observer assessments of structure. After a discussion of these two controversies, an interpretivist approach (Sense-Making) is chosen as a base line for beginning to address structuralist concerns within an interpretivist framework.

Using dimensions suggested by structural approaches to information seeking, two experimental structural predictor variables, Perceived Relative Status and Perceived Openness of Communication, are conceptualized in a manner consistent with the Sense-Making approach. These two variables were

actor assessments of structure rather than the observer assessments characteristic of structuralist conceptualizations. These two experimental structural variables are examined in a 3 X 2 X 2 repeated measures design using factor analytic criterion variables based upon the empirical generalizations of the ten-year programmatic research of the Sense-Making approach. Using factorial analyses of variance in conjunction with a measure of association (estimated variance accounted for), the study addresses hypotheses relating to the utility of the two experimental structural predictor variables within an interpretive approach.

The study concludes that, in the context of an interpretive approach, the two experimental structural predictors of information seeking behavior contribute to our understanding of human information seeking behavior. Further, the study concludes that the results obtained with these two predictor variables are consistent with both interpretivistic conceptualizations of information seeking and structuralist expectations. Further research is called for in the area of expanding the coverage and context of relevance for individually perceived structural dimensions to information seeking.

TABLE OF CONTENTS

	Page
List of Figures	v
List of Tables	vi
Chapter I: Introduction	1
Conceptual Framework	1
Criticism of the Mechanistic Approach	2
Interpretivists	4
Criticism of the Individualistic Approach	6
Structuralists	8
The Author's Position	13
The General Purpose	15
The Current Sense-Making Model	15
The Problem	19
Some Typical Structuralistic Variables	20
How Do People Make Sense Out of Structures?	23
The Alternative Structural Variables	26
The General Study Design	27
Hypotheses	28
Chapter II: Method	31
The Variables	31
Predictor Variables	32
Situation Movement State	32
Perceived Relative Status	34

TABLE OF CONTENTS (continued)

	Page
Perceived Openness of Communication	36
Criterion Variables	38
Factor Analysis of Criterion Variables	40
The Study Design	44
The Questionnaire	46
Fielding	52
Analysis of the Data	53
Content Analysis Check of the Predictor Variables	53
Factor Analysis of Criterion Variables	56
Statistical Analyses	57
Chapter III: Results	65
Chapter IV: Summary, Conclusions and Implications	99
Summary of Results and Implications	99
Summary and Implications for Hypothesis #1	99
Summary and Implications for Hypothesis #2	104
Summary and Implications for Hypothesis #3	107
Summary and Rationales	110
Qualitative Findings for Situation Movement State	113

TABLE OF CONTENTS (continued)

	Page
Qualitative Findings for Perceived Relative Status	115
Qualitative Findings for Perceived Openness of Communication	116
Conclusions	117
Strengths and Weaknesses	119
Suggestions for Future Research	123
Bibliography	126
Appendix A: The Questionnaire	136
Appendix B: Factor Analysis of Criterion Variables	158
Appendix C: Raw Data Codebook	168
Appendix D: Predictor Variable Content Analysis Schemes	172

LIST OF FIGURES

Number	Page
1. The Study Design in Two Dimensions	47
2. The Study Data Base Design	47

LIST OF TABLES

Number	Page
1. Statistical Design for Analysis of Variance with Repeated Measures	60
2. Formulae for Estimating the Expected Mean Squares	62
3. Factorial Analysis of Variance with Repeated Measures of the Information Seeking Factor Analytic Criterion: Defining	67
4. Factorial Analysis of Variance with Repeated Measures of the Information Seeking Factor Analytic Criterion: Doing	71
5. Factorial Analysis of Variance with Repeated Measures of the Information Seeking Factor Analytic Criterion: Connecting	78
6. Factorial Analysis of Variance with Repeated Measures of the Information Seeking Factor Analytic Criterion: Removing	82
7. Factorial Analysis of Variance with Repeated Measures of the Information Seeking Factor Analytic Criterion: Projecting	88
8. Factorial Analysis of Variance with Repeated Measures of the Information Seeking Factor Analytic Criterion: Motivating	94
9. Summary of significant relationships for all factorial analyses of variance across all six factor analytic criterion variables	101
10. Summary of estimated variance explained for all factorial analyses of variance across all six factor analytic criterion variables	106

LIST OF TABLES (continued)

Number	Page
11. Summary of qualitative findings and significant relationships for all situational predictor variables by each criterion variable	112
12. Varimax factor analysis of the 18 closed-ended items tapping respondent's information seeking in a particular situation	163

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Chapter 1

INTRODUCTION

This chapter will introduce the conceptual premises which guide this study, and will discuss those premises in terms of existing controversies in the field of communication research. In addition, this chapter will present the purpose, problem and hypotheses of the study.

Conceptual Framework

In descriptions of a "paradigm shift" in the social sciences in general (e.g., Bronowski, 1977; Apel, 1977) and communication research in particular (e.g., Rogers, 1976; Nilan, 1982), there are currently two major criticisms of the conceptual approaches used by a majority of researchers in the field of communication research. The first, is that the conceptualizations of communication behaviors are too mechanistic (e.g., Thomas, 1980; Dervin, 1980a, 1983b; Dervin et al., 1980, 1982c; Curtis, 1978; Grunig and Disbrow, 1977; Apel, 1977; Delia, 1977; Clarke and

1 There are many other criticisms that focus on different, less pervasive issues, or else are related to the two issues raised here. For example, a criticism by "critical scholars" of much communication research is the "value-laden" nature of their conceptualizations and the goals toward which their research is directed. See Jacobson, 1982 for a thorough discussion of this issue.

Kline, 1974; Edelstein, 1974; Carter, 1973, 1975), and the second, is that the conceptualizations are too individualistic (e.g., McAnany et al., 1981; Katz & Szecsko, 1981; Halloran, 1981; Thomas, 1980; Capriles, 1980; Blumler, 1978, 1980; Habermas, 1979; Nordenstreng and Schiller, 1979; Galtung, 1971).

Criticism of the Mechanistic Approach

Everett M. Rogers' work in the "diffusion of innovations" (Rogers, 1963, 1969; Rogers and Schumacker, 1971) is a good example of an approach to communication behavior that has been criticized² as too mechanistic:

"Development is a type of social change in which new ideas are introduced into a social system in order to produce higher per capita incomes and levels of living through more modern production methods and improved social organization."
(Rogers and Schumacker, 1971, p. 11)

Implicit in this statement and in the applications of the "diffusion of innovations" model for social change is a mechanistic relationship between social change and information. The individual communication behavior of accepting "new ideas" introduced into a society is seen to lead to "higher per capita incomes and levels of living" almost automatically. Neither individual communication behavior nor social change are accounted for per se or

² Rogers himself ultimately made similar criticisms in a 1976 article entitled "Communication and Development: The Passing of a Dominant Paradigm."

coherently integrated into the conceptualization.

A communication theoretician, Lawrence Grossberg, has characterized this mechanistic orientation to communication research as "physicalist" in that:

"...if meaning is itself nothing but behavior or patterns of behavior, then communication is describable as a specific instance of the more general process of learning and hence, persuasion. This is what is commonly referred to as the effects model....if meaning is taken to be information, its physicality lies in the real world that it refers to or represents. In such a model, communication is described as the exchange of information...." (Grossberg, 1982, p. 173)

A major criticism of the mechanistic view, addressing information theory's conceptualization of information and its use by humans, was made by Dervin et al., 1982a in terms of a challenge to "traditional" communication research:

"The challenge says that traditionally the field has looked at information as if it were a thing, something that existed outside of people and could, thus, be transferred from person to person. In this view, humans are posited as adaptive creatures, computer-like in their information processing strategies. These traditional approaches posit man as an imperfect information processor and measure the discrepancy between what sources think they have transmitted informationally and what receivers get." (Dervin et al., 1982a, p. 807)

While information processing has traditionally been looked at as a mechanistic process, social scientists and communication researchers are coming to understand that it is instead a cognitive, symbolic, constructive and interpretive act (Apel, 1977; Carter, 1973, 1975, 1980;

Curtis, 1978; Dervin, 1977, 1979, 1980b; Watzlawick et al., 1974). This view is illustrated by Dervin (1980b):

"The individual, in his time-place, needs to make sense, by definition, But the sense he needs to make is for his world, his time-space. He needs to inform himself constantly. His head is filled with questions. These questions can be seen as 'information needs.' These questions deal with the here-and-now of the world he sees himself as being in, the places he is from, and the places he sees himself as going." (Dervin, 1980b, p. 26)

So, in place of conceptualizations of human communication behavior that are seen as too mechanistic, attempts have been made to establish constructive or interpretive conceptualizations. For the purposes of this dissertation, scholars calling for non-mechanistic approaches to human communication behavior are called "interpretivists."

Interpretivists. Arguments that the dominant mode of communications research is too mechanistic often begin with the idea that the "self" in communication is essentially interpretive and individual selves interpret events in their environments in unique ways, so, it is argued, communication research must take this uniqueness of interpretation into account (e.g., Edelstein, 1974; Delia, 1977; Dervin, 1980b).

The intellectual heritage of most of the interpretivists can be traced, in part, to the symbolic interactionists (e.g., Mead, 1934; Blumer, 1969; Kuhn &

McPartland, 1954). This heritage emphasizes the creative aspects of individual human communication behavior (e.g., Brunner, 1973). Another important aspect of the interpretive intellectual heritage is the notion of individuals manipulating symbols through interaction with other individuals for the social creation of reality (e.g., Mead, 1934; Berger & Luckmann, 1966). The individual's communication behavior is seen as dependent on past experience and the specific situational (i.e., time and space specific) conditions perceived by the individual (e.g., Thomas, 1928; Boulding, 1956; Goffman, 1974; Schutz, 1982).

Lawrence Grossberg characterized the interpretivist approach, emphasizing the creative qualities as well as the interpretive nature of "reality orientation:"

"The individual is neither an isolated consciousness nor merely an actor within a context of interactions. It is an organism constantly related and oriented to its environment and hence, it is the locus of particular interpretive processes by which that orientation is accomplished. Meanings are not located within some privileged domain of consciousness but are toward which the individual is oriented....Thus 'reality' is constituted in a continuous process of interpretation by which the individual makes sense of and acts in the world." (Grossberg, 1982, p. 183)

A number of researchers in the communication field have been working on a variety of ways of incorporating cognitive, constructive and interpretive behavior into their

conceptual framework. Among these are Delia (1977), who has been addressing the multidimensional notion of "cognitive complexity" and Stamm & Grunig (1977) addressing "cognitive strategies" in communication situations.

Dervin's "Sense-Making Model"³ is another approach that addresses the complexity of human beings and criticizes the mechanistic "source-message-channel-receiver" model of the dominant mode.

This model has its roots in Carter's "Discontinuity Theory" (e.g., Carter, 1980) and his central premise about gaps (see "The current Sense-Making Model" below). Using an argument that focuses on the epistemological and metaphysical assumptions of "traditional" communication researchers, Dervin presents non-mechanistic assumptions which have been programatically applied to a variety of contexts, and which account for individual human creativity (e.g., Dervin, 1983b; Dervin et al., 1982a, 1982b, 1982c).

Criticism of the Individualistic Approach

The second group of critics argues that conceptualizations of communication research have been too individualistic. Such criticism comes predominantly from scholars whose concern is with the broader social structural context of communication. These scholars focus on the

3 See Dervin, 1983a for an exhaustive review of the model and research conducted from this perspective.

properties of a social aggregate without characterizing the elements that comprise the aggregate, i.e., the individual. McAnany (1981) is representative of this group in his criticism of U.S. mass communication studies. He offers an alternative in terms of the focus of research, which:

"...takes as its task the expansion of the typical research agenda of U.S. mass communication studies to include those perspectives that are critical of how the system operates as a whole, and does not accept an agenda that simply studies how the system functions at the level of individual effects. Rather, this work focuses on the ways in which the system through its structures tends to maintain itself, with the ultimate goal of trying to suggest how the system might be changed."
(McAnany, 1981, p. 7)

The basis for these scholars' perception of the dominant mode's conceptualizations being too individualistic is illustrated by Grossberg:

"The structural view of communication...focuses on a description of the objectivity and stability of the system within which particular communicative interactions take place. It describes this context as a structure that pre-exists and constitutes the possibility of concrete interactions. Particular events of communication -- the concrete emergence of a shared meaning -- are merely the expression of the structure within which they are articulated." (Grossberg, 1982, p. 178)

According to these critics, communication researchers who focus on the individual miss the major source of constraint to individual communication behavior, which is unobservable at the individual level since it is external to the individual (Katz & Szecsko, 1981; McAnany et al., 1981;

McAnany, 1980; Capriles, 1980; Nordenstreng and Schiller, 1979; Habermas, 1979; Beltran, 1976; McCombs and Shaw, 1972; Galtung, 1971; Freire, 1968; Ellul, 1965). In this dissertation, because of their focus on the broader social structural context of communication, these scholars are called "structuralists."

Structuralists. Unlike the intellectual heritage of the interpretivists, in the mind of some scholars, the orientation of the structuralists is seen as a bit more eclectic (e.g., Jacobson, 1982; Pool, 1980; Dervin, 1980a). Many scholars agree that structuralist approaches had an early Marxist orientation (e.g., Rogers, 1982; Jacobson, 1982) as well as a foundation in European sociology of knowledge (e.g., Merton, 1951), which emphasizes a wholistic approach (e.g., Nordenstreng, 1976; Blumler, 1982). Rogers (1982) defines this "essence" by:

"...its more philosophical emphasis, its focus on the broader social structural context of communication, its early Marxist orientation (although by no means are all [these] scholars Marxists), and a central concern with the issue of who controls a communication system. [These] scholars believe that a theory of communication is impossible without a theory of society, so their scope of analysis is much wider...." (Rogers, 1982, p. 125)

The goal of many structuralists (excluding those whose purpose is merely to describe) is to change these social relationships. McAnany describes the change as:

"...a basic shift in the relationship among

different social groups, whether these are defined in terms of social class, ethnic identity, sex, age, or other characteristics. It is membership in a given social group that dictates the expected roles that individuals will play, and it is that membership also that tends to allocate the various political, social and economic benefits of communications in a society to its members." (McAnany, 1981, p. 6)

An example of one position that has received some support in the field comes from Capriles (1980):

"The communication researcher should emphasize their investigations of the structural and overall determinations of the communication and information phenomena and of the insertion of the systems, networks and forms of communications social formation, as elements of the reproduction of the social relationships and structures." (Capriles, 1980, p. 49)

Three problems have been found with the structuralists' criticisms of the dominant mode.

First, there is the problem of what it means to focus attention on structures (e.g., Pool, 1980). What are the structures to which these scholars refer? Blau (1975) summarizes the various conceptualizations and points out that they:

"...differ greatly and even contain contradictory elements. Some juxtapose social structure and culture, whereas for others cultural symbols and ideas are the very crux of deep structure. Some conceptualize the structure as the theory that postulates patterns and thereby makes sense out of empirical observations, whereas others consider the social structure to exist out there in empirical reality and to constitute the explicandum to be explained by the theory, not the theory itself. Some define structure in terms of differences in positions or ranks which influence social relations from which they derive

distinctions among positions. In the eyes of some, structural sociology abstracts the purely formal aspects of social life -- size, differentiation, hierarchy -- and ignores all substantive content, but in the view of others, macrosociological structural inquiry centers attention on the distinctive character of historical social systems at particular times and places. Integration, order, and consensus are the defining attributes of social structure emphasized by some; differentiation, contradiction, and conflict are those stressed by others." (Blau, 1975, p. 9)

Obviously, there is still some ambiguity as to the nature of the phenomenon to be observed.

The second problem with the structuralist position is the lack of coherent conceptual consideration for the mechanistic versus interpretivistic issue. As one of the few interpretivists to address this issue, Dervin (1980a) notes that although the structuralist position criticizes the dominant mode, it:

"...is, at root, less concerned with the nature of communicating and more concerned with the nature of power....[which] posits essentially a series of 'mal-intent' charges suggesting that the source-sending-messages-to-receivers paradigm was a product of a particular kind of society which then attempted to impose the paradigm on different kinds of society." (Dervin, 1980a, p. 86)

The problem with this position according to Dervin is that:

"While the [structuralist] literature...makes a call for turning away from the source-sending-messages-to-receivers model to a model where receivers are the initiators, as a body of literature it has not generated a cohesive theoretic way of looking at receivers so as to avoid the very pitfalls of the model it abhors." (Dervin, 1980a, p. 85)

Here Dervin is clearly calling for an approach that generates a coherent, cohesive theoretic formulation of the role of structural conditions as constraints to individual human communication behavior.

The third problem is the emphasis of the structuralists on the external structures and the shared meanings mandated by the structures, without the creativity of individual humans being taken into consideration. Like in the dominant mode, the creative aspect of human nature is not specifically addressed, in fact, as a concept it is conspicuously absent.

In spite of these three problems, not only has the dominant mode accepted some of the structuralists' criticisms of a lack of consideration of the socio-political realities that effect individual behavior (e.g., Rogers, 1982), but the interpretivists have also called for the same consideration (e.g., Dervin, 1983a quoted above; Atwood and Dervin, 1982; Nilan, 1982; Atwood and McLean, 1983).

The notion of structures, therefore, seems to be desirable and useful for inquiry into human communication behavior.

Interestingly, those critics who call communication research either too mechanistic or too individualistic seem almost to contradict each other. On the one hand the mechanistic view of communication is criticized because

individual behavior is seen to follow mechanistic patterns, leaving out cognitive aspects of individual human creativity. On the other hand, the individualistic view of communication behavior is criticized as blind or irrelevant because, in fact, constraints to individual behavior are inaccessible to the individual.

The question arises as to why these two contradictory issues have been raised. The answer is relatively simple: the dominant mode of research in the field of communication has been both too mechanistic and too individualistic (e.g., Atwood and Dervin, 1982; Dervin, 1980a; Thomas, 1980; Nilan, 1983; Rogers, 1976, 1982).

4

Unfortunately, the primary force criticizing the dominant mode of communication research only addresses one of these two issues, i.e., that the dominant mode is too individualistic. This primary force, i.e., the structuralist position, has been gaining recognition in the communication research literature, and researchers

4 This "primary force" has been called the "critical school" (e.g., Rogers, 1982; Carey, 1982; Dervin, 1980a). The reader should be cautioned here that the term "critical" as used by these authors does not just mean the scholars of the Frankfurt School of Sociology, but also includes scholars from other intellectual traditions whose perspective is critical of the dominant mode of communication research, particularly Third World scholars. The label used here, "structuralist," comes closer to the dimension that unites the positions of all these scholars.

representative of the dominant mode have attempted to answer some of the criticisms (e.g., Rogers, 1982).

There are, however, too many stereotypes being used by both the dominant mode researchers and the structuralist researchers who criticize the individualistic focus of the dominant mode. The charges and countercharges have been defensive (and offensive) in nature. In terms of the issue of individualistic versus structuralistic, one might conclude that one should be either focus on individuals or structures, with no compromise possible. The problem here is the difficulty a concerned scholar has in addressing certain communication phenomena, because the literature is too adversarial and seems to require commitment to one stereotype or another.

The Author's Position

The position taken by the author is that traditional communication researchers have been too mechanistic. This criticism, however, is not a call for a shift from a focus on individual behavior, but rather for a shift in focus to a different kind of individual behavior -- interpretive behavior. Essentially the author's position is an interpretivist position.

Unlike the traditional mechanistic views of individuals, one of the strengths of an interpretive approach is that it assumes that there are cognitive

dimensions of movement through time and space which will be powerful predictors of human information seeking. The other strength of such an approach is that these cognitive dimensions are measurable both quantitatively and qualitatively.

Furthermore, even though the structuralists have been criticizing traditional research for its individualistic quality rather than its mechanistic quality, the author feels that the structuralist researchers have been nevertheless raising questions about human communication behavior that warrant consideration.

The author feels, however, that it may not be necessary to abandon an individualistic focus to address structuralist concerns if one adopts a non-mechanistic conceptualization of human communication behavior.⁵ If we go back to the understanding that traditional research has been both too mechanistic and too individualistic at the same time, then both the concerns of the interpretivists and the concerns of the structuralists have been hampered by the fact that they have been approached in a mechanistic manner. It is the purpose of this dissertation to deal with this issue.

5 The notion of the social construction of reality in the interpretivist intellectual heritage suggests a basis for this argument (e.g., Mead, 1934; Berger & Luckmann, 1966).

The General Purpose

The general purpose of this dissertation is to address the connections between individual communication acts and the external structural characteristics described by the critics of the dominant mode of communication research. In particular, the purpose of this dissertation is to execute a study that examines some of the structuralist concerns within the framework of an interpretivist conceptualization of human communication behavior.

The first step was to choose the most fully developed interpretive, individualistic approach and expand it in such a way that it includes a focus on structural variables. Dervin's interpretive approach, called Sense-Making, was chosen because this approach has been programatically applied to a variety of communication contexts. In addition, a great deal of data supporting her interpretive model of human information seeking has been generated with this approach over the last ten years.

The Current Sense-Making Model

Before describing Dervin's Sense-Making Model it is appropriate to begin with her picture of the traditional approach.

According to Dervin (1983b), the traditional approach typically starts with a source and a source's message and then goes looking for impacts on receivers, assuming that

the source's message should lead to the impacts the source wants to see. Message-making and message-using have been looked at as a measurable input-output activity containing information. Information has been assumed to be a thing that is transferrable via messages from person to person. Prediction of receiver use of messages relies heavily on across time-space portraits, e.g., market segmentation using demographic or lifestyle characteristics (Dervin, 1983b, p. 3). Dervin argues that the effects researchers using this mode of research have been looking for have been hard to find, and:

"a portrait emerges of the audience which is alternatively pessimistic and resigned. When pessimistic, it challenges that the audience is passive, lazy, unconcerned, uninvolved. When resigned, it acknowledges that the audience is busy, involved elsewhere, walking different roads." (Dervin, 1983b, p. 4)

In the core assumptions of her Sense-Making Model, Dervin has presented an alternative to the assumptions of traditional research. ⁶ Sense-Making starts with the receiver and lets the receiver define how messages impact him/her in terms of how the receiver makes sense out of his/her world. Message-making and message-using is looked at as a constructing activity so that the same message can create different sense for different receivers. Information

6 For related treatments of this contrast of assumptions, see Dervin et al., 1982a, 1982c; Dervin, 1981, 1983a.

is seen from the receiver's point of view in terms of the sense that the receiver makes to bridge the gaps in his/her world. Prediction does not attempt:

"...to create across time-space portraits, but rather focuses on situational contingencies -- predicting the different kinds of sense people seek in different kinds of situations." (Dervin, 1983b, p. 6)

This last point on prediction is central to the distinction between strictly mechanistic and interpretive conceptualizations because Dervin maintains that her Sense-Making approach assumes that:

"...there are universals of sense-making that will allow successful prediction and explanation." (Dervin, 1983b, p. 7)

The set of assumptions presented above constitutes the core of the model which consists of three elements -- situations-gaps-uses. According to Dervin:

"Situations consist of the time-space contexts at which sense is constructed. Gaps are where the individual sees something missing in his/her sense. New sense is created when the individual sees a gap as bridged. Uses are the ways in which the individual puts the newly created sense to work in guiding his/her behavior." (Dervin, 1983b, p. 8)

The current model suggests then:

"That sense-making is situational [i.e., time-space bound] and will be predicted by situational conditions.

That the gaps seen at a specific moment by an observer will depend on where that observer is in time-space and how he/she sees that time-space. Thus, different observers will see different gaps.

That even supposing two people see the same gap, the ways in which they bridge the gap will be different depending on where they are in time-space, where they have been, and where they are going." (Dervin, 1983b, p. 8)

Although research designs using Sense-Making have never incorporated structural variables, the model is not incompatible with structuralists' concerns. This is illustrated by Dervin (1983a):

"The Sense-Making approach acknowledges the utility of observer assessments of situational conditions and the idea from critical theory that there are structural constraints which limit sense-making and communicating which are out of consciousness to many people. Sense-Making assumes, however, that there is utility in starting with the person and finding systematic ways of having individuals share their observations about all manner of situations, including those they see as structurally constrained. It is further assumed that one reason why research focusing on individual behavior rather than structures has been so unfruitful in the past has been that it searched for across time-space constancies. Based on this, it is assumed that research focusing on situational contingencies is theoretically consistent with a concern for structures and expected to yield results useful in improving and altering structures." (Dervin, 1983a, p. 7, her emphasis)

A typical Sense-Making study (e.g., Dervin et al., 1982c) uses Situation Movement State as a predictor of information seeking. This predictor variable considers the different ways in which people see themselves as moving through time-space at specific moments in time and space or, in other words, the kinds of gaps or questions that individuals have in specific time-space bound situations.

The particular study cited above compared different predictor types, including across time-space predictors (i.e., demography as an individual characteristic) and time-space bound, situational predictors, in terms of their ability to predict information seeking. Situational, time-space bound predictors were found to be consistently better predictors of information seeking than other types of predictors.

The Problem

Summarizing the arguments presented above, the dominant mode of research in the field of communication research has been criticized for being too mechanistic by interpretivists and too individualistic by structuralists. The author added that although interpretivist approaches focus on individual behavior, they are not necessarily incompatible with structuralists' concerns.

The purpose of this dissertation is to execute a study with an individualistic focus which looks at some of the structuralist concerns within the framework of an interpretivist conceptualization of human communication behavior. Sense-Making was chosen as the interpretive, individualistic approach to be used.

A typical Sense-Making study will be used to ground this study. Using a typical Sense-Making study and including some alternative, experimental measures of

perceived external structural constraints, guided by structuralists' concerns, will begin to address the question of the relationship between individual acts and structural characteristics.

Some Typical Structuralistic Variables.

Typical of the kind of structural dimensions constraining the communication behavior of an individual are those dealing with social power relationships. These relationships are characterized in terms of hierarchical "class" or status relations at a political and/or socio-cultural level where those individuals ascribed as being of a "lower" level must "struggle" to realize their ambitions (e.g., Mattelart, 1981; McAnany *et al.*, 1981; Capriles, 1980; Schiller, 1979). Rogers (1982) states that these:

"...scholars have long had a central interest in social class structures as one of their main concepts, as it affects communication...."
(Rogers, 1982, p. 131)

Another typical structural dimension that constrains individual communication behavior, essentially a corollary of the status hierarchy, is the representativeness of a system for a full range of individual aspirations. Structuralists argue that structural conditions facilitate success for only those individuals who want to pursue goals consistent with the extant system values or patterns -- the system is not "open" to individually perceived goals because

of insensitivity or inability to deal with values outside the parameters of the structure (e.g., Halloran, 1981; Beltran, 1976; Grunig, 1971).

It should be noted that the dominant mode has not ignored the structural notions of "status" and "openness"⁷ of communication. Indeed, in one form or another, these notions, particularly various treatments of status, have received a great deal of attention by the analytic school. For example, there has been widespread use by communication researchers of demographic variables such as race and other social structural variables as predictors of information seeking and use behaviors (e.g. Infante and Gordon, 1981; Jablin, 1980; Cummings and Bigelow, 1976). Here,⁸ structural status indicators such as race, education, income, etc. are used with a variety of formulations of individual behavior. There is, however, no conceptual rationale for the use of structural indicators that is coherent with these researchers' view of communication as the transfer of information. The emphasis is clearly on the

7 For example, the work of Jablin, 1980, 1981, 1982, addresses both these notions in a organizational/small group communication context.

8 For discussions of the widespread use of social structural variables, see Dervin and Greenberg, 1972; Childers and Post, 1975; Estema and Kline, 1977; Poindexter and Stromann, 1979. As predictors of source use, see Atwood and Dervin, 1982; Atwood and McLean, 1983.

individual act rather than on the external structures.

The "development" or "modernization" work done by the dominant mode, including the example of Rogers' "diffusion of innovations" presented above, presents an illustration of the use of structural economic and political theories in a model of individual communication behavior. This is a deliberate attempt to relate individual communication behavior to a larger social structure. The structural characteristics, however, are "given" indicators of the fait accompli of individual behavioral change -- individual behavior and social structures are not incorporated into a coherent conceptual framework.

The notion of openness has also received some attention by the dominant mode in the areas of organizational communication and self-disclosure as an explicit dimension of openness in management roles (e.g., Jablin, 1981, 1982; Norton, 1982) and also as a notion of communicative style or communication climate (e.g., Follert, 1980; Harper and Askling, 1980; Krivonos, 1978). Not only is individual human creativity in these studies non-existent, but the conceptual rationale used does not coherently address the

9 Some reviewers of this area of research have particularly cogent analyses of development research (e.g., Golding, 1974; Rogers, 1976; Dervin, 1980a; Halloran, 1981; Jacobson, 1982; Hur, 1982) and the interested reader is referred to these.

inherent structural relationships in the contexts being investigated.

How Do People Make Sense Out of Structures?

There is some Sense-Making research which serves as a starting point for this question. For example, Atwood and Dervin (1982) contrasted a traditional measure of structure (race) with a situational predictor (situation movement state)¹⁰ as predictors of source use. This study was undertaken because in past communication research, the use of demographic predictors (e.g., race) assumed that if common socio-economic status conditions were similar, then the life situations of individuals were similar¹¹ and therefore, these individuals had the same internal states (Atwood and Dervin, 1982, pp. 550-551). Their results provided evidence of an interaction between race differences and situational differences in predicting source use. The authors suggested that race differences were actually tapping structural or system constraints (Atwood and Dervin, 1982, p. 565).

10 This predictor, the most powerful Sense-Making predictor to date, looks at how movement is stopped due to a perceived gap in specific situations. This variable will be discussed further in Chapter II.

11 It should be noted that this assumption is common to both the dominant mode as well as the structuralistic positions.

This finding would suggest that the systematic differences in behavioral patterns that socio-economic status variables have been "pointing to" could better be seen as a kind of relationship of the individual actor with his/her environment as the individual perceives encounters with systematic structural constraints.

Another study within the Sense-Making Model (Nilan 1982) examined evidence of "openness"¹² in the communication style of U.S. and foreign development experts. In this study, a relative status predictor (contact group level) was found to be a significant predictor of information use criterion variables, but the author concluded that more sensitive measures were needed to understand differences in societal structure and cultural variety. No evidence of "openness" was found in the experts' communication styles.

These two studies suggest that the structuralist notions of "status" and "openness" presented above, provide a useful starting place for the investigation of how people make sense of structures. For this study's purposes, however, these notions need some further development in order to be consistent with Sense-Making assumptions.

First, Sense-Making assumptions as presented above,

12 "Openness" was defined as a style of communicating other than the widespread "top to bottom" mechanistic style reminiscent of the dominant mode development or modernization research.

start with the receiver and receiver perceptions of his/her environment. Therefore, the experimental measures of "status" and "openness" must be conditions that are perceived by the individuals who are acting (i.e., "real" to the individual sense-maker).

This allows the communication researcher to have access not only to those behaviors that are readily available to the external observer (e.g., an individual asking a question out loud), but also to those behaviors that are not readily available to the external observer (e.g., a question in the individual's mind that is not asked out loud, perhaps because of the same structural condition that is the focus of the inquiry).

Secondly, Sense-Making assumptions clearly place the locus of individual perception in the context of a specific situation that is bound to a particular point in time and space. Therefore, the experimental measures of "status" and "openness" must be allowed to vary from one situation to another rather than being consistent across situations.

This allows the individual to describe his/her behavior in terms of the perceived structural conditions of status and openness and still allows the individual to be effected by different conditions in different situations. This flexibility, for example, would allow a black male to describe his behavior in one situation because he was black

and would allow him to describe his behavior differently in another situation because he was male. The possibility also exists for him to explain his behavior in terms of conditions that are different than either race or sex.

The Alternative Structural Variables.

Guided by typical structuralist constraints and consistent with Sense-Making assumptions, the two alternative measures of structural constraints used in this study are "Perceived Relative Status" and "Perceived Openness of Communication."

Perceived Relative Status cuts across a variety of socio-economic status characterizations (e.g., high/low income, high/low education, high/low class, etc.) while allowing the flexibility for the individual to define the rationale behind the status relationship that he/she perceives in a particular information seeking situation.

Perceived Openness of Communication relates to the perceived conduciveness of the situation itself to communicating (i.e., both ways) and follows the structuralist notion that communication systems inhibit the access for certain classes of individual interests, again, allowing the individual to define the rationale behind the openness or closedness he/she perceives in a particular situation.

Both of these alternative structural variables were

conceived as measures of externally focused, perceived structural conditions. As such, the reader should be cautioned that these variables should not be taken to be the same as the structuralists' variables; rather, they are subjects' perceptions of the conditions represented by structural variables. The question of equivalence of the observer-defined variables of the structuralists and the actor-defined variables used here needs to be addressed in another study, but in this study reference to "structural" variables should be taken to mean variations in subjects' perceptions of structural conditions.

The General Study Design.

Using these two variables as a class of variables that, in a typical Sense-Making study, address perceived structural constraints, yields the following general design:¹³ The predictor variables for this study will include Situation Movement State, an internally focused cognitive movement variable, and the two alternative structural variables, Perceived Relative Status and Perceived Openness of Communication. These two structural variables address perceived aspects of the structure that is external to the individual's cognitive movement. The

13 The specific study design and more complete variable descriptions will be provided in Chapter II.

criterion variables will be a series of information seeking criterion variables used in a typical Sense-Making study. It should be noted that all variables in this study are perceived, actor-oriented measures, consistent with interpretivist approaches.

This design, by adding peoples' perceptions of structural conditions, should add power to the Sense-Making Model's ability to explain behavior by moving from observer-defined structure to actor defined structure.

Hypotheses

The bridge that this study is attempting to make between structuralist and interpretivist approaches is exploratory in nature. The hypotheses offered address the apparent contradiction presented above between the mechanistic and individualistic criticisms of traditional approaches. Therefore, the hypotheses offered address the predictive strength of the alternative predictors. Certainly there are other questions to address, for example the qualitative nature of the relationships that would be obtained, but in this study, the predictive hypotheses are the primary focus. After examining the results for support for these predictive hypotheses, the qualitative patterns will be examined for suggestions for future research.

Based upon the preceding discussion of the conceptual approach, the purpose of this dissertation, and the problem

presented for this study, the following three hypotheses are posited:

H1: Both alternative, experimental structural predictors will show significant main effects as predictors of information seeking criterion variables.

This hypothesis addresses the utility of the proposed time-space bound, alternative structural predictors within the Sense-Making Model. Because this study uses the Sense-Making approach as a starting point, if the proposed structural predictors help to explain individually perceived orientations to structural constraints, then the main effects for these variables should be significant within the Sense-Making approach. If upheld, this hypothesis indicates the utility of these measures in tapping individually perceived structural conditions.

H2: The most powerful Sense-Making predictor, Situation Movement State will be a stronger predictor than the experimental structural predictors of information seeking criterion variables.

This hypothesis addresses the utility of creative, individual perceptions as the basis for further research inferences about structural conditions. Comparing actor assessments of internal cognitive states (i.e., Situation Movement State) with actor assessments of the conditions surrounding those states (i.e., the experimental structural variables), conceptually, Sense-Making would argue that behavior is more dependent upon internal cognitive states

than upon perceived external conditions. Situation Movement State should therefore, be a stronger predictor of the information seeking criterion variables.

H3: The amount of variance accounted for by Situation Movement State plus the two experimental structural predictor variables will be greater than the amount of variance accounted for by the differences between individuals.

This hypothesis questions the notion that individuals behave consistently across time-space; essentially a view of human beings as static, i.e., controlled or habitually constrained in the same way by structural conditions beyond their perception. Therefore, subject variance could represent consistencies in the subjects' past that leads them to behave in consistent, habitual ways. Sense-Making however, assumes that individual sense-making is, at least partly, free of habitual constraints. Therefore, the author hypothesizes that the variance accounted for by subjects will be less than that accounted for by the other measures. Where subject variance is greater, this may be where structural conditions not tapped by this study are more powerful. These situations may help in discovering other structural variables.

The following chapter will present and describe the methods used in testing these three hypotheses. Results of the study will be presented in Chapter III and a discussion of the results will be presented in Chapter IV.

Chapter II

METHOD

This chapter presents the methods employed to test the hypotheses set forth in Chapter I, examining the relationship between individual information seeking acts and perceived structural constraints to information seeking. Specifically, the purpose of this chapter is to describe the variables, the study design and questionnaire, the testing and fielding of the questionnaire, and the analysis of the data. Each of these will be described below.

The Variables

As set forth in the last chapter, there were three predictor variables used in this study: Situation Movement State, Perceived Relative Status, and Perceived Openness of Communication.

The information seeking criterion variables used in this study were six factors from a varimax factor analysis of the 18 closed-ended items tapping information seeking behavior used in the questionnaire (see Appendix A for the questionnaire). The original 18 closed-ended items were derived in part from the theoretic considerations of human information seeking (see Dervin et al., 1980 and Dervin,

Nilan and Jacobson, 1982a for examples) and in part were inductively synthesized from the entire set of Sense-Making studies done in the past in a variety of contexts (see Dervin, 1983a, 1983b for descriptions of past Sense-Making studies). Each of the six factor analytic criterion variables used in this study are described below after the predictor variables.

The purpose of the first section of this chapter is to describe the measurements of the variables. The three predictor variables will be described first. The six factor analytic criterion variables will be described second.

Predictor Variables:

Situation Movement State. This predictor measure has been the most central to Sense-Making approaches, and several different versions of this theoretic variable have been used, depending on the study's purpose (see Dervin, 1983a; Dervin et al., 1980, 1982c; Atwood, 1980; Atwood and McLean, 1983; Nilan, 1983).

This measure is based upon a theoretic metaphor of cognitive movement through time-space as perceived by the actor, and qualitatively taps the different ways in which individuals see their movement through time-space as being blocked or "stopped."¹⁴ Conceptually, Sense-Making assumes

14 See Carter's (1980) paper on discontinuity theory for a more theoretic discussion of the time-space metaphor.

that it is these cognitive movement stops that give rise to question asking, i.e., information seeking. The various categories of Situation Movement are all seen as different ways of being stopped or blocked in movement through time-space. Being bound by time and space, this is a situational measure, meaning that values or categories of this measure are bound to the individual actor's perceptions of changes in time and/or space in particular situations. For example, in a particular situation where the actor perceives him/herself as stopping to face a decision (or two ways to "move"), there are certain kinds of questions he/she is more likely to ask than if he/she perceived that there was an obstacle to movement.

The version of Situation Movement State selected for this study was intended to represent a reasonable range of categories of the full version (see Dervin, 1983a) without requiring that respondents spend an inordinate amount of time learning the nuances between categories. The cognitive movement stop associated with the three categories used in the study were presented as a metaphor of individual movement down a path. The three categories were:

15

Problematic - the individual is being forced down

15 All categories of this variable were taken as given from past Sense-Making research and all are problems in the sense that they all require information seeking, but "problematic" is a particular kind of movement stop.

a path that is not of his/her own choosing where someone or something is making all the decisions. Emphasis here is on being forced and not being able to make one's own decisions.

Decision - the individual is moving down a path and he/she sees a fork in the path and the individual has to decide which branch of the fork he/she wants to take. Emphasis here is on making one's own decisions.

Being Led - the individual is moving down a path of their own choosing except someone else is leading the way, and this other person is making the decisions because of greater experience or authority. Emphasis here is on voluntarily moving in directions decided upon by another.

Operationally, respondents were given a short conceptual discussion establishing the "movement down a path" metaphor and then definitions similar to those above in the context of some situational conditions that might effect their communication behavior (see Appendix A for the questionnaire). The choice of a situation to fit a particular category of Situation Movement State was left to the individual actor, making this measure an individually perceived dimension. This was seen as essential so that respondents' understanding and use of Situation Movement State intersected with all "situational conditions" in maximally similar ways.

Perceived Relative Status. This variable is the first of the two experimental structural predictor variables proposed in the last chapter. Perceived Relative Status addresses the status differences between individuals

perceived by one or more actors involved in the situation, whether the perceived status difference is based on sex, age, income, education, political power, etc. The relevant dimension here is the status relationship between the actor and someone with whom the actor might communicate. The actor defines the other(s) in a situation in terms of him/herself, in relation to some social structural difference (or similarity) between him/herself and the other(s).

While most measures of status have utilized an observer defined vertical hierarchical metaphor to establish levels of structural differences, with the interpretation of the socio-cultural or political significance of the levels being implicit (or non-existent) in the conceptualization. Here, the definition is left to the individual actor. For example, in many situations, one might argue that age differences between individuals confer higher status on the older person. However, consider the situation where a younger student is taking classes at an adult high school. Many of the older students would probably feel that the younger student has an advantage simply because of his/her age. There may be other differences between the younger and older students as well, but in this case, age itself confers a higher status on the younger members of the class.

As with different categories of Situation Movement

State, an individual's information seeking behavior is likely to be different depending on his/her perceived status relative to the other(s) in the situation.

For this study, two hierarchical categories representing the end points of a content-free, relative status continuum between the actor and other person(s) he/she might want, be forced, or have chance to communicate with were used. Because of the exploratory nature of the variable, and respondent tolerance, this variable was dichotomized into the following two categories:

Low Status - the individual perceives him/herself to be of lower status than the other(s) in a specific situation with the particular status relationship defined by that individual.

High Status - the individual perceives him/herself to be of a higher status than the other(s) in a specific situation with the particular status relationship defined by that individual.

The Sense-Making assumptions of time-space specificity (or situationality) and the actor perception of differences described in the last chapter, were met with this measure in the same way as they were with Situation Movement State. Respondents were given a short conceptual discussion using the metaphor of "meeting other people during their movement down the path" and then definitions similar to those presented above. The choice of the communication situation itself was left to the individual respondent.

Perceived Openness of Communication. This is the

second of the proposed experimental structural predictors presented in the last chapter. Perceived Openness of Communication addresses the perceived potential for communicative interaction (i.e., communicating both ways) between an individual and the other(s) in a particular situation. The focus of this predictor is the individual's perception of aspects of the situation within which the individual might communicate. In spite of the individual's perception of his/her cognitive block that stimulates information seeking behavior, and in spite of the perceived relative status between the individual and the other(s) in the situation, there may be something in the situation itself that effects information seeking behavior. For example, an individual may be in a library and be a novice at the Dewey Decimal System, yet have a question he/she wants answered. While the cognitive movement block may be stimulating questions, and even if the individual feels inferior (or of lower status) to other, more knowledgeable library patrons, the reason that this individual doesn't ask a particular question is because he/she is in a library -- and everyone knows that you have to be quiet in a library.

Similar situational constraints that point to socio-cultural or political structures could be perceived in many situations, whether in a bureaucratic/political or socio-cultural context. An individual's information seeking

behavior is likely to be different depending upon whether he/she sees the situation itself as being more or less conducive to (two-way) communication.

For this study, two categories representing the end points of a content-free, perceived openness of communication continuum were used. As with Perceived Relative Status, the considerations of the exploratory nature of this predictor and the tolerance of respondents suggested two categories:

Open Communication - the individual perceives that there is something about a specific situation or context or environment that makes him/her feel welcome to attempts to communicate (both ways) with the other(s) in the situation. The justification for the "openness" of the situation is defined by that individual.

Closed Communication - the individual perceives that there is something about a specific situation or context or environment that makes him/her feel unwelcome or that he/she will fail in attempts to communicate (both ways) in the situation. The justification for the "closedness" of the situation is defined by that individual.

This predictor variable was presented to respondents as two final "situational conditions," with a short conceptual discussion similar to that given for the other two predictor variables, and definitions similar to those above. Again, the communication situation itself was left to the individual respondent.

Criterion Variables:

The six criterion variables used in this study, as

noted above, were factors of a varimax factor analysis of the 18 items tapping information seeking. These were selected through an examination of past Sense-Making studies in order to choose items which provided for the best, comprehensive overview of the major classes of questions (representing information seeking behavior) generated by the 10 years of open-ended Sense-Making that had been done prior to this study. Because of the specific hypotheses addressed by this study and obvious patterns in the initial data analysis which suggested that a more conceptually clear, parsimonious presentation was possible, a factor analysis of the original 18 information seeking items was decided upon. The factor analysis will be discussed further below and in Appendix B.

Conceptually, the 18 information seeking criterion variables represent the kinds of questions that individuals ask, either out loud or in their heads, in specific situations. The behavior of question asking represents the presence of "gaps" in an individual's perception of his/her reality, where external information might help to improve the individual's perceptions of that situation (see Dervin, 1983a for a more thorough discussion of "gaps" in a Sense-Making context and Carter 1980 for a more general discussion of "gaps"). Questions, in the Sense-Making approach, are conceptually seen as gaps in an individual's perception that

are generalizable to the full range of contexts of human communication behavior (i.e., interpersonal, small group, organizational, mass, etc.).

All of the original information seeking items asked the respondents to rate on a seven-point scale (a one being "not at all a question of mine" and seven being "very much a question of mine") the extent to which each question was one that they had in the particular situation being analyzed, whether they actually asked the question out loud or simply had the question in their heads at that particular time. Questions were defined as being "things that you wanted to find out about, learn about, come to understand, unconfuse, or make sense out of."

All situations that respondents used as a context for evaluating the 18 closed-ended items, as indicated above, were chosen by respondents to fit the specified, content-free predictor categories.

Factor Analysis of Criterion Variables.

A series of analyses of variance with repeated measures was completed on all of the original 18 criterion variables and all sub-group means were plotted. Initial investigation of the patterns of significance, the sub-group means and the plots of the means indicated that there were considerable overlaps between criterion variables. The decision was made to examine the possibility of factor analyzing the criterion

variables to see if a more conceptually clear and therefore, more parsimonious method of presenting the results was feasible.

A series of factor analyses was run using SPSS (Nie et al., 1975) using various numbers of factors and either VARIMAX or QUARTIMAX rotations. There were three basic criteria established to judge the appropriateness or utility of the factor analyses.

The first criterion was that the eigen values of the factors be greater than 1.00. According to Nie et al., (1975), this is a common "cut-off" level that minimizes the possibility of generating factors that are not realistically represented by the correlation patterns in the data.

The second criterion was that the patterns of factor loadings of the factors be conceptually consistent with past Sense-Making results. In other words, the patterns needed to combine information seeking dimensions that were coherent with past Sense-Making studies so that the rationale of using Sense-Making as a means of grounding this study would not be lost. This criterion facilitated the interpretation of the factors used in this study because it was based upon patterns evident in this study as well as in past Sense-Making efforts.

The third criterion was that the patterns of significance and the plots of the means adequately

represented the pattern of findings for the original 18 analyses of variance. It was initially hoped that none of the patterns of significance of the predictor variables would be lost by factor analyzing the criterion variables. This was checked by completing analyses of variance with repeated measures for each factor analysis and examining significances and the plots of the means for the individual factors against the original 18 analyses of variance.

Using these three criteria, a six-factor, VARIMAX solution was judged as optimal. The eigen values of the factors ranged from a high of 4.12 to a low of 1.02 and account for 62.0% of the variance accounted for by all 18 original criterion variables.

The naming of the factors or factor analytic criterion variables was done using a theoretical rationale in conjunction with a combination of the highest factor loading, the communality, and factor purity. In order for a variable to be used in determining the name of a factor, it needed a factor loading greater than .40, a communality greater than .30, and a factor purity greater than 50.0%. In addition, the names selected for each factor were chosen to be consistent with the cognitive movement metaphor described above. The definitions of the factor analytic criterion variables presented below are a result of this process of selection. See Appendix B for a more thorough

discussion of the factor analytic procedures.

The six factor analytic criterion variables used in this study were:

Defining. Two variables met the numerical criteria presented above and were used in the naming of this factor: How are the various elements of this situation related to each other? What are the different ways of looking at this situation? The juxtaposition of these two variables suggests an attempt to define the relationships in a particular situation as well as an attempt to define other possible perspectives on the situation. To be consistent with the cognitive movement metaphor, the present participle "defining" was used to name this factor.

Doing. Two variables met numerical criterial and were used in naming this factor: How can I decide among my options/alternatives? What are my options/alternatives? The juxtaposition here of identifying and deciding among alternatives suggests an action orientation. The term "doing" was used to capture this action orientation.

Connecting. The two variables which met the numerical criteria for naming this factor were: Does anyone agree with me? How do other people see this situation, what are their motives/reasons/plans? The juxtaposition here seems to focus on connecting with others in the situation, so the term "connecting" was chosen to name this factor.

Removing. Two variables met the criteria for naming this factor: How can I make this situation go away? What caused this situation? The juxtaposition of these two variables suggests movement away from a situation and, in this case, perhaps an attempt to understand how one got in a particular situation in order to get out of it. The term "removing" was used to name this factor to capture the movement away from the situation.

Projecting. Again, only two variables met the numerical criteria for use in naming this factor: What will result from this situation? How can I avoid bad consequences? The juxtaposition of these variables suggests an orientation towards the future, so the term "projecting" was used to name this factor.

Motivating. Only one variable met the criteria for use in naming this factor: How can I get motivated? The term "motivating" was used to name this variable.

The Study Design

Because of its comparatively limited scope, the explicit purposes of this study, as set forth in the hypotheses in Chapter I, represent a somewhat different starting point than the usual qualitative, descriptive Sense-Making study. This study is concerned with an assessment of different situational structural predictor variables across a wide variety of information seeking

criterion variables. In addition, this study is concerned with a comparison of the variance accounted for by the predictor variable types in contrast to the variance accounted for by the differences between individuals. Because of the large number of relations suggested by this study's purpose (three values for Situation Movement State, two values each for Perceived Relative Status and Perceived Openness of Communication, and the subjects -- all across the original 18 information seeking criterion variables), some sort of experimental manipulation was seen as ideal. Although the study design may not be considered to be strictly an experimental design, the investigator did see that the manipulation of the situational conditions would save energy and effort on the part of the respondents as well as the investigator. Particularly for the variance accounted for hypotheses, measures on each of the criterion variables for each set of situational predictor variables was seen as the most parsimonious approach -- therefore, some sort of factorial design. Having a particular individual rate all criterion variables for each set of predictor variables was also desired -- therefore a repeated measures design.

The chosen study design was a repeated measures factorial design with equal n in each cell. What this means is that the three categories of Situation Movement State,

the two categories of Perceived Relative Status, and the two categories of Perceived Openness of Communication were completely crossed into a matrix, or a 3 X 2 X 2 factorial design. Each of the six factor analytic criterion variables were tapped once for each of the twelve cells in the matrix. This means that each respondent provided an evaluation of that criterion for each cell in the factorial matrix, or repeated his/her evaluation for each of the possible combinations of each category of each predictor variable. Schematically, Figure 1 shows the relationship between the three predictor variables for each criterion. The cells in the matrix, numbered from 1 to 12, represent all possible combinations of the three predictor variables.

The entire data base then would have n times the number of evaluations for each cell for each category of each criterion. This kind of design, according to Kirk (1968), is called a "randomized block design with repeated measures." More familiar terminology would designate this design as a "factorial design with repeated measures." In order to clarify any ambiguity, Figure 2 shows the design of the data base schematically.

The Questionnaire

Although most data from Sense-Making studies are adaptable for hypothesis testing, questionnaires have been qualitative, open-ended, and expandable to accommodate the

	Problematic		Decision		Being Led	
	Low Status	High Status	Low Status	High Status	Low Status	High Status
Closed Communication	#1	#2	#3	#4	#5	#6
Open Communication	#7	#8	#9	#10	#11	#12

Figure 1. The study design in two dimensions using Situation Movement State, Perceived Relative Status and Perceived Openness of Communication as axial dimensions.

	A1				A2				A3			
	B1		B2		B1		B2		B1		B2	
	C1	C2	C1	C2	C1	C2	C1	C2	C1	C2	C1	C2
S1												
S2												
S3												
⋮												
Sn												

KEY TO FIGURE:

- A = Situation Movement State B = Perceived Relative Status
 - A1 = Problematic B1 = Lower Status
 - A2 = Being Led B2 = Higher Status
 - A3 = Decision
- C = Perceived Openness of Communication S = Subject
 - C1 = Closed Communication
 - C2 = Open Communication

Figure 2. The study data base design. A randomized block factorial with repeated measures design.

16
respondents' situations and have not therefore been designed for an equal n analysis. One exception to this is Dervin's (1982) unpublished study of communication theory students' "self-in-situation analysis," where students used closed-ended scales to assess criterion measures for a given number of their own situations.

In this study, students chose a situation in their lives and described these situations in terms of conceptual variables like the categorical predictor, Situation Movement State. All variables were measured using closed-ended seven-point Likert type scales. The resulting data were adaptable to an equal n analysis and analysis of the data supported results that would be expected conceptually according to other Sense-Making studies.¹⁷ In other words, using closed-ended scales did not effect information seeking and use behavior patterns that had been observed for Situation Movement State for example, using open-ended, expandable instruments. The sensitivity of the Sense-Making approach which was used to ground this study, was not diminished by using a closed-ended instrument.

16 See Dervin 1983a for a more thorough discussion of the open-ended Sense-Making studies completed since 1973. It should be noted that this study's closed-ended approach is possible because of this extensive open-ended groundwork.

17 See Dervin, 1983a for a comprehensive discussion of empirical generalizations across all past Sense-Making studies.

For this study, a data collection method similar to the one described above was designed to facilitate the special requirements of the study's hypotheses (see Appendix A for the questionnaire). As mentioned in Chapter 1, using Sense-Making to ground this study provided a reference point from which to examine the two experimental structural variables. The main difference here is the questionnaire instrument as described below.

The questionnaire approach followed the unobtrusive logic of Dervin's "time-line" method. In this method, a content-free questionnaire structures the self report data from respondents according to their perceptions of their situations. The main difference between the questionnaire used in this study and the above mentioned "self-in-situation analysis" is that the investigator controlled the content-free structures.

The questionnaire consisted of an introductory section which gave a considerable amount of Sense-Making theory using the "path" metaphor for cognitive movement and extensive descriptions of the predictor variables. Descriptions similar to the discussion on predictor variables above were presented in this section. The categories of the three predictor variables were presented as "situational conditions." Respondents were asked to choose a real situation from their past that satisfied three

situational conditions -- one condition for each of the
three predictor dimensions used in this study.¹⁸ This
produced a total of twelve different situations that
represented the study design combinations of predictor
categories.

The extensive "training" of respondents in the
conceptual rationale behind the cognitive movement metaphor
and the predictor variables used in this study may suggest
to some readers that the respondents may have biased the
results. There are two possible ways that respondents could
have biased the results:

- if respondents defined the variables in a way
unknown to the researcher; or
- if respondents were given information that
indicated what the expectations for the study
were.

The purpose behind the extensive training was
specifically to guard against the first possible source
of bias. In addition, validity and reliability checks
were conducted to verify that respondent-researcher
definitions were similar (see Content Analysis Check of
the Predictor Variables below).

18 These situations were described to respondents as
"communication situations in your life -- situations
that were in some way troublesome to you or which
required your attention." Respondents were directed to
focus only on that situation as they considered each
criterion variable.

For the second source of possible bias, respondents were given only the information presented in the questionnaire (see Appendix A). Further, no qualitative hypotheses indicating expected patterns of responses were present in the researcher's mind at this time. Therefore, if respondents did bias the results on the basis of information given to them, the indicators of this should be in the questionnaire introduction. Otherwise, respondents were guessing at desired results and this would have produced noise rather than bias.

The next section of the questionnaire presented the criterion variables and instructions for completing the questionnaire. These two sections comprised the first six pages of the questionnaire (refer to Appendix A).

The final section of the questionnaire consisted of twelve different answer sheets, one for each combination of situational conditions. At the top of the answer sheet respondents were given short definitions of the conditions for that answer sheet and were asked to describe the situation on which they were focusing, and to specify what it was about the situation that satisfied each of the situational conditions. Then, keeping this situation in mind, respondents were to rate each of the information seeking criterion variables on a seven point scale (1 = not at all a question of mine; 7

= very much a question of mine).

The questionnaire was pre-tested the quarter before the study questionnaire was expected to be fielded, in a class with the same course number so that there would be a different sample for the study data. Pre-test results indicated that the questionnaire was functioning as expected. The only revision made was an expansion of the introductory section.

Three different versions of the questionnaire were prepared, to control for order effects, each with a different, random ordering of the situational conditions. Subsequent t-tests indicated that there was no difference between versions.

Fielding

The questionnaire was self-administered by an entire class of introductory communication theory students over a two-week period in May, 1983. The class was given a one-hour lecture introducing the questionnaire and the theory behind Sense-Making, which essentially paralleled the introductory material in the questionnaire itself. It was felt that the redundancy between the lecture and the written material would facilitate the respondents' performance on the questionnaire. A total of 162 students returned questionnaires that had been completely filled out.

Analysis of the Data

After coding the data (see Appendix C for the raw data codebook), there were three different types of analyses that were done with the data from this questionnaire. First was a content analysis check of the definition of the situational conditions made by the respondents to see if respondents' perceptions were the same as intended by the investigator. Second, was the factor analysis of criterion variables as reported above, to see if a reduced number of factor analytic criterion variables could provide an adequate description of the original data with enough richness to proceed with analyses directed at the study's hypotheses. Finally, statistical analyses were completed on the data to examine the relationships between the predictors and thus, to address this study's hypotheses. Each of these analyses will be presented below.

Content Analysis Check of the Predictor Variables.

An early concern of the study, represented in part by the lengthy introduction in the questionnaire, was whether or not the respondents would "mean the same thing" in using the situational conditions to specify their situations as was intended by the study. Obviously, this would have some impact on the validity

of the data to address the hypotheses as well as the reliability of the measures. Consequently, a 10% random sub-sample of the 1944 situations (162 respondents times 12 situations each) in the data base was content analyzed along each predictor variable's conceptual dimension. If the difference between the respondents' perceptions and the investigator's intentions were small, this agreement would provide some construct validity for the predictor variables. This agreement would also give some idea of the reliability of the measurements.

Three conceptual content analytic schemes were designed, one for each predictor variable (see Appendix D for the content analysis schemes). Two communication graduate students each coded the entire sub-sample of situations (n = 194) using the respondents' description of the situational condition corresponding to each content analysis scheme. Interjudge coding reliabilities for the three schemes were: ¹⁹ (using Stempel's [1955] percentage agreement index and Scott's [1955] adjustment respectively) Situation Movement

19 The eight category Perceived Openness of Communication content analytic scheme was collapsed in to the two category scheme representing the situational conditions used in the study (i.e., open communication and closed communication) for the interjudge coding reliability reported here.

State, 96%/92%; Perceived Relative Status, 94%/91%; and Perceived Openness of Communication, 96%/95%.

Interjudge coding reliabilities were computed before resolving disagreements between coders. All disagreements between coders (total n = 17) were resolved by having both coders return to the data and agree on a code. If they could not, the ultimate code was put into the "other" or "uncodeable" category.

For the question of agreement between respondents and the intent of the study, the codes assigned by the coders were compared to the structure of the questionnaire. If the coders' code matched the situational condition set forth in the questionnaire for that situation, that constituted one agreement between the respondents and the investigator; if not (i.e., if the code was different or was coded either "other" or "can't determine"), that constituted one disagreement between the respondents and the investigator. Overall agreements between respondents and the questionnaire measured in this method were: for Situation Movement State across three categories, 94.3% agreement; for Perceived Relative Status across two categories, 95.9%; and for Perceived Openness of Communication across two categories, 97.9%. There was no further analysis on the predictor variables.

The conclusion of this content analysis was that the agreement, or isomorphism between respondents and the intent of the investigator were higher than might be expected and certainly high enough to warrant confidence in further analyses. In statistical analyses the disagreements would constitute error and therefore, reduce the sums of squares of the treatment effects rather than increasing them. The observed error then would effect the testing of the hypotheses in a conservative manner.

The high agreement between the actors (respondents) and observers (graduate students coding actor statements) also indicates that the reliability of the perceived measures was quite good, better than might be expected for new measurements.

Factor Analysis of Criterion Variables.

This factor analysis is described above and in Appendix B. Using SPSS (Nie et al., 1975), a six factor varimax factor analysis was completed on the entire data base. The resulting factors were described as the criterion variables above. Statistical analyses were computed using the factor scores from this analysis rather than the raw data. Several careful comparisons were made between the plots of category means for the original variables that constituted each factor and the

plots of category means for the corresponding factor. It was decided that for the purposes of this study, the factors represented the raw data to a sufficient degree (see Appendix B for results of the factor analysis).

Statistical Analyses.

Three different statistical analyses were completed on the data in order to address the three hypotheses presented in Chapter I. As with the factor analysis of criterion variables, decisions were made in order to address the hypotheses in a clear and parsimonious, yet conservative manner.

First, the closed-ended data for the criterion variables was coded into a computer in a manner appropriate for SPSS subprogram ANVAR which is an analysis of variance test for repeated measures (here, the respondents rated each criterion variable 12 times, once for each combination of predictor variables). Analysis of variance was chosen over regression analysis because of the conceptual nature of the predictor variables and, as will be seen below, the interpretation of the study's results is easier and more coherent if it is discussed in terms of cell means within the 12-cell study design. Regression analysis would not have provided this kind of output even though overall significance results for the individual predictor

variables would be comparable.

The statistical design for this study had one difference from a common analysis of variance with repeated measures. Edwards (1964), Winer (1962), and Kirk (1968) all use a rather liberal error term for testing the significance of F, where the error term is the mean square of the interaction between subjects and the predictor variable in question. For this study, a more conservative error term was used.²⁰ Here the error term was the mean square of the sum of squares for all interaction terms involving subject variance. Comparisons were made between the F-ratios of both error term approaches, and the one chosen for this study was indeed more conservative (i.e., the error term was virtually always larger than the common approach). Table 1 presents the statistical design in a schematic form.

A total of six analyses of variance with repeated measures was completed with SPSS program ANVAR, using this method. Results will be presented in Chapter III.

The second kind of statistical analysis involved a

20 Several statisticians were consulted for the statistical aspects of this study, chief among them Ed Fink of the University of Maryland and Jeff Katzer of Syracuse University, who were the main proponents of this more conservative approach. Also consulted on this approach were Al Edwards, Herb Blalock, Percy Peckham, and Merrill Samuelson, all of the University of Washington.

measure of variance accounted for to estimate the strength of effects in the analysis of variance. Analysis of variance indicates the presence of significance, but not its strength. A measure of variance accounted for by various components is a means to assess the contribution of an individual component to the total explained variance. Not only has the literature called for more use of measures of variance accounted for in social science research using analysis of variance, but the second and third hypotheses presented in Chapter I call for a comparison of the amount of variance accounted for by various variables. There have been suggestions on how best to do this (see Vaughan and Corballis, 1969). Unfortunately, nothing was found in the literature that addressed the specific problems of a measure of variance accounted for using a repeated measures design.

By consulting with a number of statisticians, a coherent approach to this problem using the power of analysis of variance to address a variety of questions was arrived at.²¹ An additive model was assumed with fixed treatment effects and using the logic of Vaughan and Corballis' (1969, p. 208) "estimates of variance components in three-way designs" as a point of

21 See footnote 20 above.

Table 1. Statistical design for analysis of variance with repeated measures.*

SOURCE OF VARIATION	df	F test and associated df
TREATMENT SUM OF SQUARES (Columns) df = 11		
Main effects: SSA	2	MSA/MSRES df = 2 and 1771
SSB	1	MSB/MSRES df = 1 and 1771
SSC	1	MSC/MSRES df = 1 and 1771
Two-factor interactions:		
SSAB	2	MSAB/MSRES df = 2 and 1771
SSAC	2	MSAC/MSRES df = 2 and 1771
SSBC	1	MSBC/MSRES df = 1 and 1771
Three-factor interaction:		
SSABC	2	MSABC/MSRES df = 2 and 1771
SUBJECTS (Rows)	SSS	161 MSS/MSRES df = 161 and 1771
RESIDUAL - TREATMENTS X SUBJECTS SUM OF SQUARES (Col X Row) df = 1771		
Two-factor interactions:		
SSAS	322	(none)
SSBS	161	(none)
SSCS	161	(none)
Three-factor interactions:		
SSABS	322	(none)
SSACS	322	(none)
SSBCS	161	(none)
Four-factor interaction:		
SSABCS	322	(none)
TOTAL SUM OF SQUARES		
SSTOT	1943	(none)

* The key to this table is the same as that presented in Figure 2 above. In addition, SS = sum of squares; MS = mean square; E = error; and df = degrees of freedom.

departure, a method was devised for an expected mean squares method to address the specific problems of variance estimates in this study.

The statisticians suggested a coherent set of formulae for estimating the expected mean squares of the various non-error components in the statistical design (i.e., the treatments, the treatment interactions, and the subjects).

Table 2 presents the formulae for estimating the expected mean square for each component used in the statistical design. It should be noted that the only difference between the formulae presented here and Vaughan & Corbalis' original formulae, "estimates of variance components in three-way designs," (1969, p. 208) is the partitioning of the error term into a mean square for subjects and a residual mean square. The percentages resulting from the application of these formulae are called the "estimated variance explained" because they are not really either R^2 or η^2 . Percentages were calculated from these formulae using the mean square figures output from the SPSS ANVAR computer runs. Results of this type of statistical analysis are presented with other results in Chapter III.

The third kind of statistical analysis involved a

Table 2. Formulae for estimating the expected mean squares.

COMPONENT*	EXPECTED MEAN SQUARE FORMULA**
A (Situation Movement State)	$(J-1)(MSA - MSRES)/nJKL$
B (Perceived Relative Status)	$(K-1)(MSB - MSRES)/nJKL$
C (Perceived Openness of Communication)	$(L-1)(MSC - MSRES)/nJKL$
A X B Interaction	$(J-1)(K-1)(MSAB - MSRES)/nJKL$
A X C Interaction	$(J-1)(L-1)(MSAC - MSRES)/nJKL$
B X C Interaction	$(K-1)(L-1)(MSBC - MSRES)/nJKL$
A X B X C Interaction	$(J-1)(K-1)(L-1)(MSABC - MSRES)/nJKL$
Subjects	$(JKL-1)(MS-S - MSRES)/nJKL$
Residual	observed MS
Total	the sum of all the above

* Abbreviations used for sums of squares components in this table are the same as those used in Table 1.

** In these formulae:

J = the number of levels in treatment A (3)

K = the number of levels in treatment B (2)

L = the number of levels in treatment C (2)

n = the number of respondents (162)

method of describing the results in terms of the study design (Figure 1). In order to discuss the results of the addition of the two experimental structural predictors in a way that added to the understanding of Situation Movement State achieved in past Sense-Making studies, some method of comparing the significance of differences in comparisons between individual cell means was called for. As with the other two statistical procedures used in this study, no accepted method was available in the literature that took the specific problems of a repeated measures design into consideration, so the statisticians familiar with this study were again consulted.

Edwards (1960, p. 137) presented a "t-test for correlated means" using the following formula where \bar{X}_1 and \bar{X}_2 are the two means being compared; and MS-RES is the mean square from the common analysis of variance:

$$t = \frac{\bar{X}_1 - \bar{X}_2}{\sqrt{\frac{MSRES}{n-1}}}$$

For the partitioning of the sums of squares used in this study, this formula needed to be adjusted to take the Subjects sum of squares into consideration.

Therefore, the formula revised by the statistical consultants adds this sum in with the residual mean square within the radical. The formula used for the within cell comparisons used in this study was:

$$t = \frac{\bar{X}_1 - \bar{X}_2}{\sqrt{\frac{MSRES + MSS}{n-1}}}$$

A test of the comparability of these two formulae was made using the same data set, one with repeated measures and the other without. The results were identical.

As with the measure for variance accounted for, the output from the SPSS ANVAR computer runs was used to compute the t-tests. The results of the t-tests between cell means and between marginal means of significant relationships for each criterion are reported below in Chapter III, along with the results of the analyses of variance and the estimates of variance explained.

Chapter III

RESULTS

This chapter will present the statistical results of this study with one table for each of the six factor analytic criterion variables. All summaries of the results, interpretations and conclusions will be presented in Chapter IV.

Each table presents the results of statistical analyses in three separate sections. The first section gives the results of the analysis of variance and the estimated variance explained (or variance accounted for) for each of the sources of variation presented above in Table 1. The second section gives the cell means and the within cell mean comparison t-tests according to the study design presented in Figure 1. The third and final section is comprised of plots of the cell means and plots of relationships found to be significant in the analysis of variance.

The plots are presented in this order because the first plot in the third section of each table will always be a plot of the cell means according to the 12-cell study design. The remainder of the third section will present only the plots of the significant relationships, and the number of plots will thus vary from one analysis to

another. In text however, the plots will be described in a different order to facilitate the readers understanding of the results. In text, the main effects will be described first, then two-way interactions, then three-way interactions -- but only if the particular relationship is found to be significant in the analysis of variance results.²² Finally, variance accounted for will be presented. It was felt that this ascending order of complexity would make interpretation easier for the reader.

To further facilitate the reader's interpretation of the results, findings will be presented in outline form.

Table 3. Table 3 reports the factorial analysis of variance with repeated measures of the three predictor variables used in the study (Situation Movement State, Perceived Relative Status, and Perceived Openness of Communication) as predictors of the information seeking factor analytic criterion variable called Defining. This criterion tapped question asking that sought to define the the situation and to identify the ways that various elements of the situation are related to one another.

Results show a significant F for Situation Movement State ($F = 5.37, p < .01, \text{estimated variance explained} = .43\%$)

22 For those analyses without a significant three-way interaction, a separate section will be added to the results to describe the results in the 12-cell study design. This section will be called: WITHIN CELL MEAN COMPARISONS.

Table 3. Factorial analysis of variance with repeated measures of the information seeking factor analytic criterion: Defining.

ANALYSIS OF VARIANCE					
Source of Variance	SS	df	MS	F	Estimated Variance Explained %
(1) Situation Movement State (A)	3.76	2	1.88	5.37**	0.43
(2) Perceived Relative Status (B)	.26	1	.26	0.74	0.00
(3) Perceived Openness of Communication (C)	1.02	1	1.02	2.91	0.08
(4) A X B	.13	2	.06	0.17	0.00
(5) A X C	1.10	2	.55	1.57	0.05
(6) B X C	.36	1	.36	1.03	0.00
(7) A X B X C	.19	2	.09	0.26	0.00
(8) Subjects	515.04	161	3.20	9.14***	5.41
(9) Residual	616.13	1771	.35		94.03
(10) Total	1137.99	1943			100.00

*** = p < .001 ** = p < .01 * = p < .05

CELL MEANS AND WITHIN CELL MEAN COMPARISONS

Grand mean = .00

	Problematic		Decision		Being Led	
	Low Status	High Status	Low Status	High Status	Low Status	High Status
Closed Communication	-.12a	-.09a	.02a	.03a	.03a	-.00a
Open Communication	.01a	-.02a	.12a	.04a	.02a	-.02a

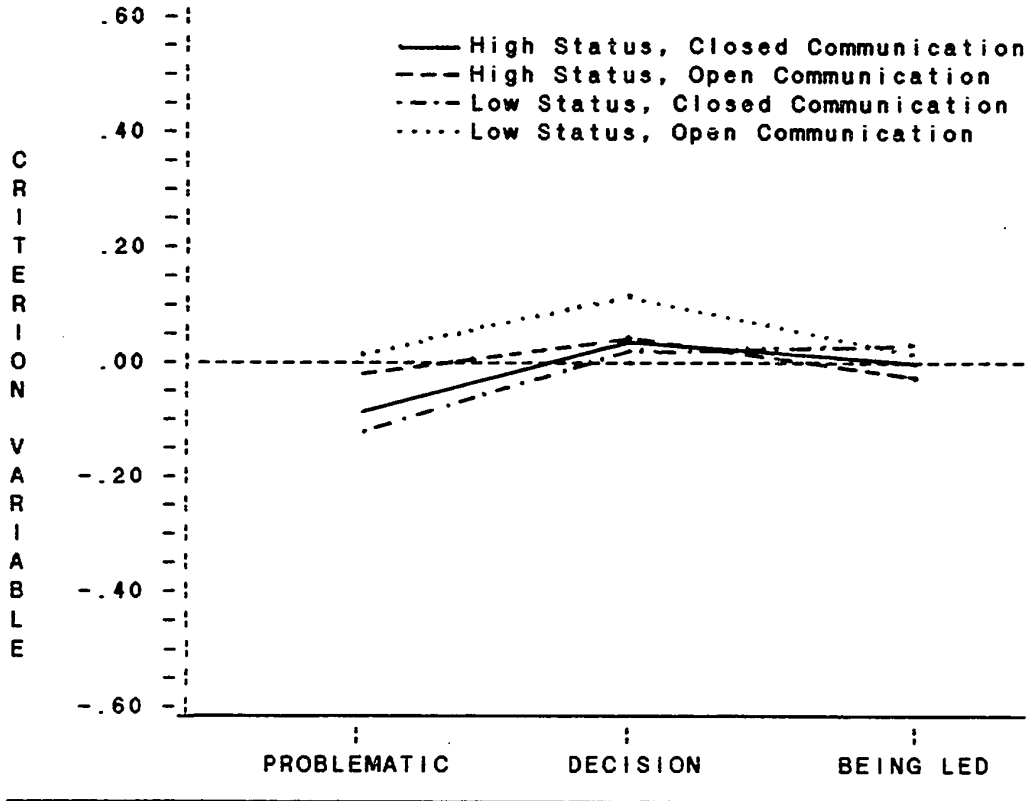
abc Superscripts report the use of t-tests for correlated means for the significance of differences in sub-group means. Unlike superscripts indicate the two means are significantly different at p < .05.

(continued)

Table 3 (continued)

PLOTS OF CELL MEANS AND SIGNIFICANT RELATIONSHIPS

PLOT OF CELL MEANS

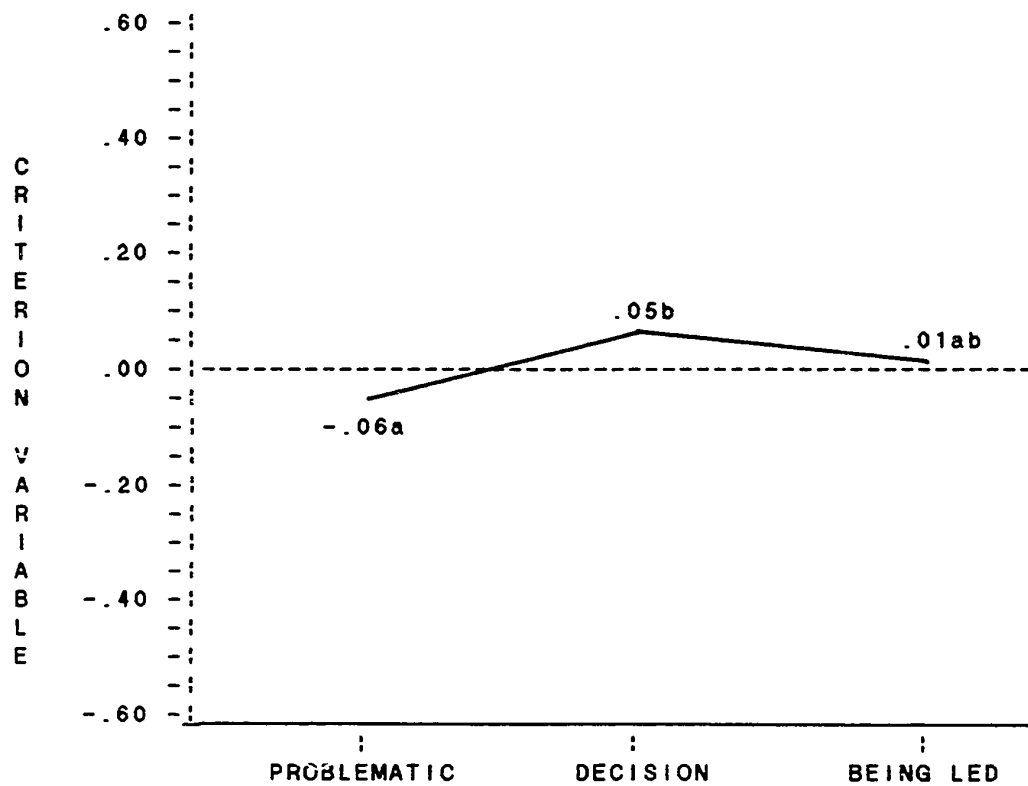


(continued)

Table 3 (continued)

PLOT OF SIGNIFICANT* MAIN EFFECTS:

Situation Movement State

* $p < .05$ or better.

abc Superscripts report the use of t-tests for correlated means for the significance of differences in sub-group means. Unlike superscripts indicate the two means are significantly different at $p < .05$.

and for Subjects ($F = 9.14$, $p < .001$, estimated variance explained = 5.41%).

The major findings of this analysis show the following:

MAIN EFFECTS:

* A significant main effect for this analysis was for Situation Movement State as shown in the second plot in Table 3. Results showed that respondents in Decision states (mean = .05) were significantly more likely to report Defining questions than respondents in Problematic states (mean = -.06).

* As noted above, there was a significant main effect for Subjects.

INTERACTIONS:

* There were no significant interactions in this analysis.

WITHIN CELL MEAN COMPARISONS:

* An examination of the cell means in the second section of Table 3 shows that there are no significant (at $p < .05$) differences between the sub-group means. The reader should remember that the t-test used in this study is the most conservative possible which tends to depress significance at this level even though the overall F was significant.

ESTIMATED VARIANCE EXPLAINED:

* In this analysis, the estimated variance explained by Subjects is much greater (5.41%) than the variance explained by the situational predictor variables (0.56%).

Table 4. This table reports the factorial analysis of variance with repeated measures of the three predictor variables as predictors of the factor analytic information seeking criterion called Doing. This criterion tapped question asking related to identifying available options and the means for deciding among them.

Results show a complicated pattern with a significant F

Table 4. Factorial analysis of variance with repeated measures of the information seeking factor analytic criterion: Doing.

ANALYSIS OF VARIANCE					
<u>Source of Variance</u>	<u>SS</u>	<u>df</u>	<u>MS</u>	<u>F</u>	<u>Estimated Variance Explained %</u>
(1) Situation Movement State (A)	109.38	2	154.69	124.30***	10.97
(2) Perceived Relative Status (B)	1.68	1	1.68	3.82	0.12
(3) Perceived Openness of Communication (C)	6.55	1	6.55	14.89***	0.61
(4) A X B	2.68	2	1.34	3.05*	0.10
(5) A X C	.49	2	.25	0.57	0.00
(6) B X C	.03	1	.03	0.06	0.00
(7) A X B X C	2.71	2	1.36	3.09*	0.18
(8) Subjects	342.63	161	2.13	4.84***	1.89
(9) Residual	775.91	1771	.44		86.14
(10) Total	1242.06	1943			100.00

*** = p < .001 ** = p < .01 * = p < .05

CELL MEANS AND WITHIN CELL MEAN COMPARISONS

Grand mean = .00

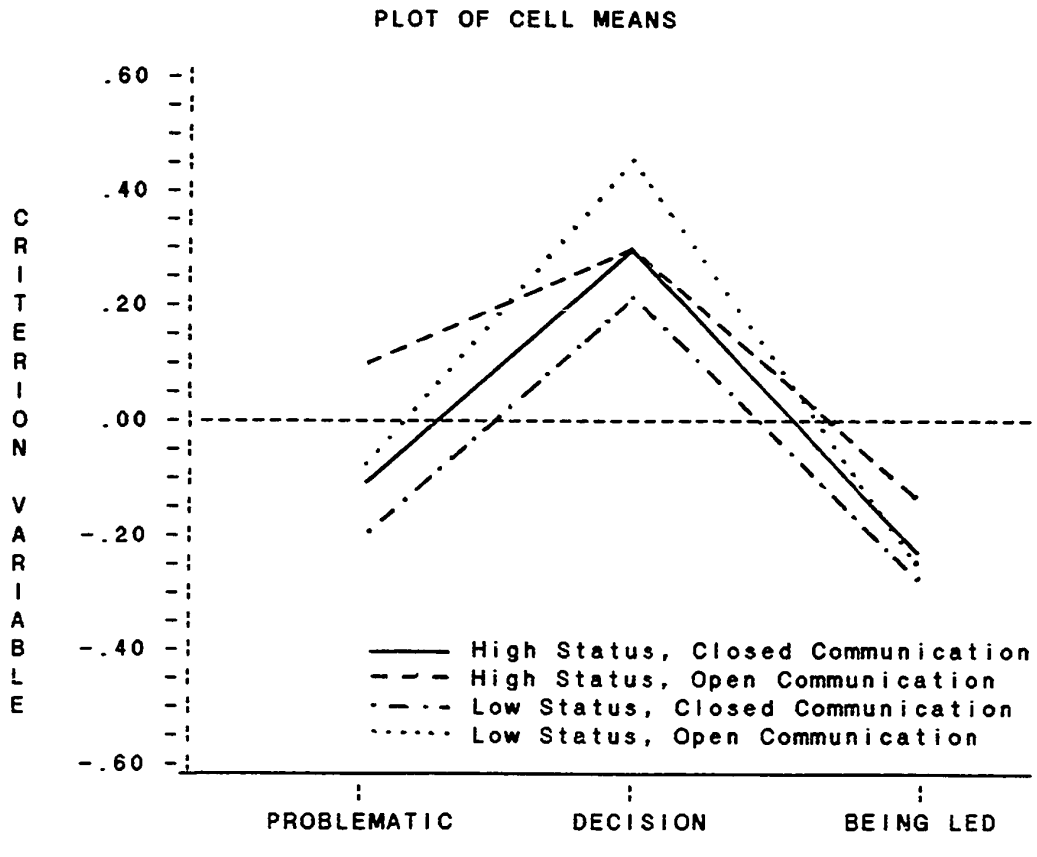
	Problematic		Decision		Being Led	
	Low Status	High Status	Low Status	High Status	Low Status	High Status
Closed Communication	-.20ab	-.11ab	.23cd	.30cd	-.30a	-.26a
Open Communication	-.09ab	.09bc	.46d	.30cd	-.27a	-.14ab

a-d Superscripts report the use of t-tests for correlated means for the significance of differences in sub-group means. Unlike superscripts indicate the two means are significantly different at p < .05.

(continued)

Table 4 (continued)

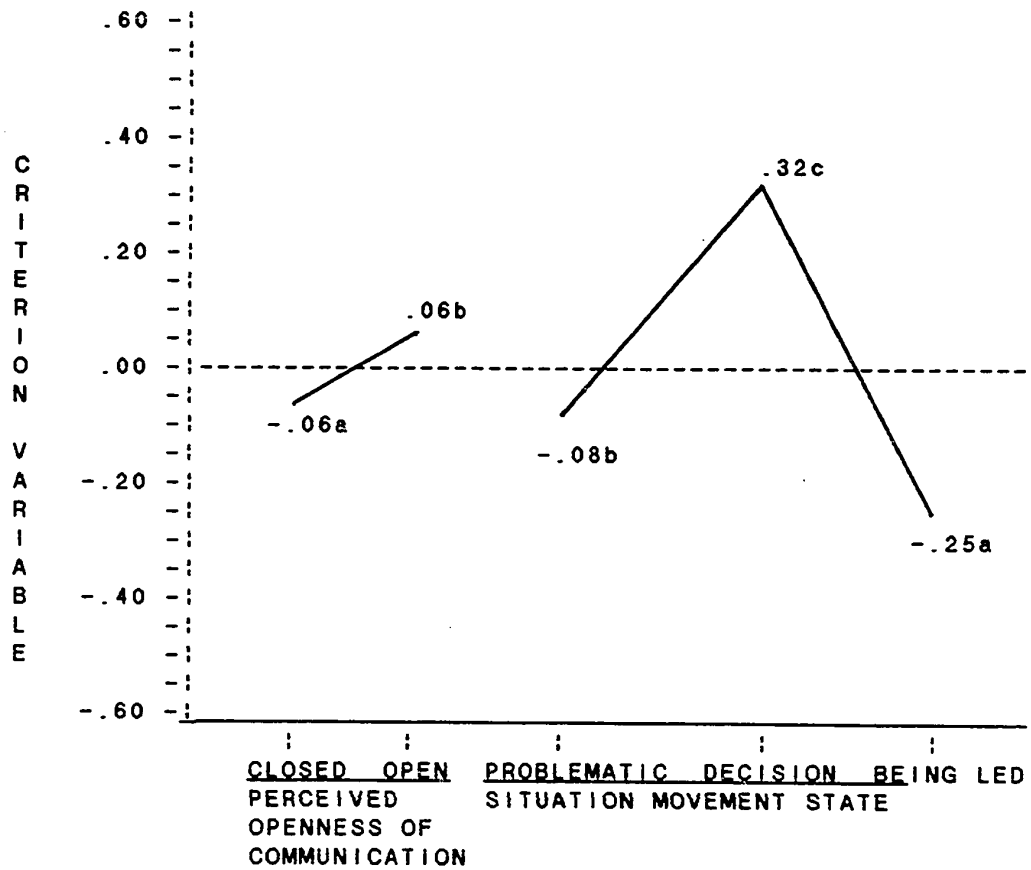
PLOTS OF CELL MEANS AND SIGNIFICANT RELATIONSHIPS



(continued)

Table 4 (continued)

PLOT OF SIGNIFICANT* MAIN EFFECTS:
 Situation Movement State and
 Perceived Openness of Communication



* $p < .05$ or better.

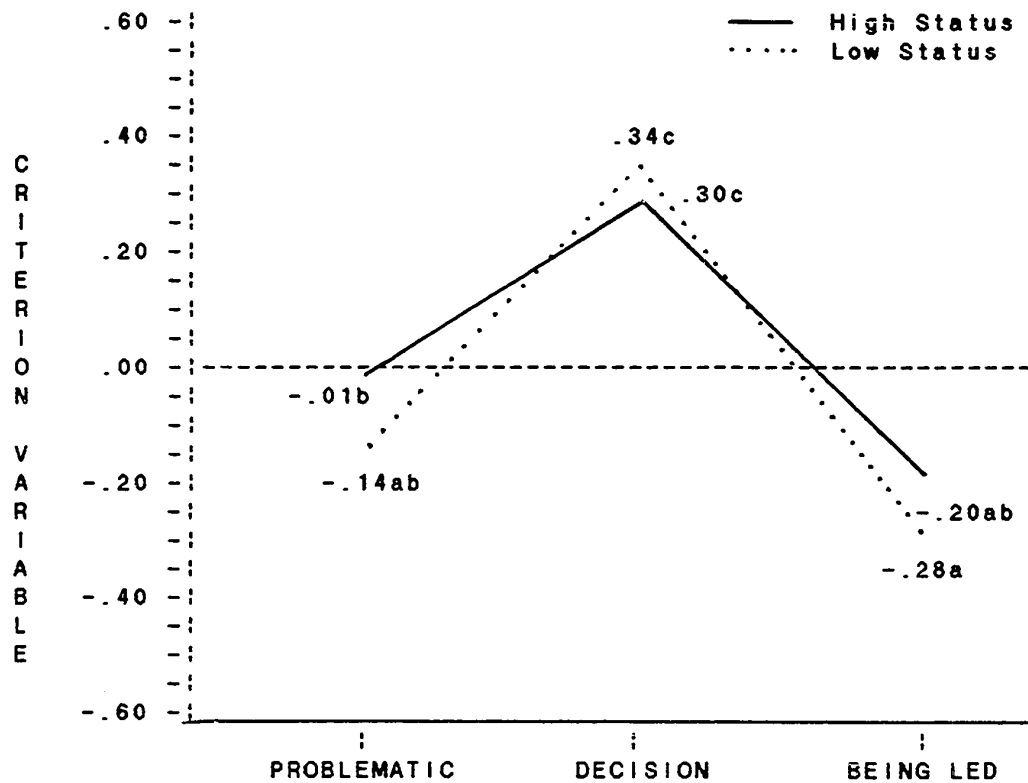
abc Superscripts report the use of t-tests for correlated means for the significance of differences in sub-group means. Unlike superscripts indicate the two means are significantly different at $p < .05$.

(continued)

Table 4 (continued)

PLOT OF SIGNIFICANT* TWO WAY INTERACTION:

Situation Movement State by
Perceived Relative Status



* $p < .05$ or better.

abc Superscripts report the use of t -tests for correlated means for the significance of differences in sub-group means. Unlike superscripts indicate the two means are significantly different at $p < .05$.

for Situation Movement State ($F = 124.30$, $p < .001$, estimated variance explained = 10.97%); for Perceived Openness of Communication ($F = 14.89$, $p < .001$, estimated variance explained = .61%); for the interaction between Situation Movement State and Perceived Relative status ($F = 3.05$, $p < .05$, estimated variance explained = .10%); for the three-way interaction between all three predictor variables ($F = 3.09$, $p < .05$, estimated variance explained = .18%); and for Subjects ($F = 4.84$, $p < .001$, estimated variance explained = 1.89%).

The major findings that can be drawn from this analysis are:

MAIN EFFECTS:

* The strongest main effect was for Situation Movement State, shown in the second plot of Table 4. Results showed that respondents in all three movement states were significantly different from each other. Respondents in Decision states were most likely to ask Doing questions (mean = .32); those in Problematic states were the next most likely (mean = .08); and those in Being Led states were the least likely (mean = -.25).

* Also shown in the second plot of Table 4, a main effect was found for Perceived Openness of Communication. Respondents in Open Communication situations were significantly more likely to report Doing questions than respondents in Closed Communication situations (a mean of .06 versus -.06).

INTERACTIONS:

* A significant two-way interaction was found between Situation Movement State and Perceived Relative Status. The third plot in Table 4 shows, in concordance with the Situation Movement State main effect reported above, that respondents in Decision states are significantly more likely to report Doing questions than respondents in other movement situations, regardless of status (means of .30 for

High Status and .34 for Low Status versus means ranging from $-.01$ to $-.28$). The significant difference noted in the main effect between Problematic and Being Led is only the case between Problematic, High Status situations (mean = $-.01$) and Being Led, Low Status situations (mean = $-.28$). For the interaction, in Problematic and Being Led movement states, respondents in High Status situations were more likely to report Doing questions than they were in Low Status situations. Thus, the High Status means for these two states were $-.01$ for Problematic and $-.20$ for Being Led compared to their Low Status means of $-.14$ and $-.28$ respectively. For Decision states, this pattern was reversed, with more reporting of Doing questions in Low Status situations (mean = $.30$) than in High Status situations (mean = $.34$).

* The significant three-way interaction in Table 4's first plot (see also "Cell Means and Within Cell Mean Comparisons") shows that for Closed Communication situations, the basic pattern reported above is unchanged, regardless of Status, i.e., respondents in Decision states are significantly more likely to report Doing questions (means of $.23$ and $.30$) than respondents in either Problematic or Being Led states with no significant differences between the latter two states (means ranging from $-.30$ to $-.11$). However, for Open Communication situations, the exceptions to the main effects findings represented by both significant interactions become clearer. For Low Status situations, respondents in Decision states were significantly more likely to report Doing questions (mean of $.46$) than either Problematic (mean = $-.09$) or Being Led states (mean = $-.27$), again, with no significant difference between the latter two states. For High Status situations, the pattern changes so that respondents in Being Led states are significantly less likely to report Doing questions (mean of $-.26$) than either Decision (mean = $.30$) or Problematic movement states (mean = $.09$). Note that the pattern reversal between High and Low Status for Decision states versus Problematic and Being Led states described in the two-way interaction above is evident here.

ESTIMATED VARIANCE EXPLAINED:

* For this analysis, the estimated variance explained by the three situational predictor variables (total = 11.93% with Situation Movement State accounting for 10.97%) was much greater than the variance explained by the differences between subjects (1.89%).

Table 5. This table reports the results of the factorial analysis of variance with repeated measures of the three situational predictors used in this study as predictors of the factor analytic criterion variable called Connecting. This criterion variable tapped question asking that tries to assess how others in the situation see the situation, what the others' motives are, and whether or not the others agree with the respondent's perceptions.

The results show a significant F for Situation Movement State ($F = 11.20$, $p < .001$, estimated variance explained = 1.02%); for the three-way interaction between all three predictor variables ($F = 3.36$, $p < .05$, estimated variance explained = .23%); and for Subjects ($F = 3.84$, $p < .001$, estimated variance explained = 1.56%).

In this analysis, the findings show the following:

MAIN EFFECTS:

* A main effect was found for Situation Movement State (see the second plot in Table 5) where, in general, respondents in Problematic states were significantly more likely to report Connecting questions than Being Led states with means of .09 and -.09 respectively. Respondents in Decision states were in between with a mean of -.00.

* As noted above, there was a significant main effect for Subjects.

INTERACTIONS:

* A significant three-way interaction was found between the three situational predictor variables. Results show that respondents in Problematic states in High Status, Closed Communication situations are significantly more likely to report Connecting questions (mean = .14) than respondents in either Decision (mean = -.14) or Being Led states (mean = -.14) under the same Status and Openness of

Table 5. Factorial analysis of variance with repeated measures of the information seeking factor analytic criterion: Connecting.

ANALYSIS OF VARIANCE					
Source of Variance	SS	df	MS	F	Estimated Variance Explained %
(1) Situation Movement State (A)	10.30	2	5.15	11.20***	1.02
(2) Perceived Relative Status (B)	.84	1	.84	1.82	0.04
(3) Perceived Openness of Communication (C)	.03	1	.03	0.07	0.00
(4) A X B	.05	2	.25	0.55	0.00
(5) A X C	1.83	2	.91	1.99	0.11
(6) B X C	.63	1	.63	1.36	0.02
(7) A X B X C	3.09	2	1.55	3.36*	0.23
(8) Subjects	284.13	161	1.77	3.84***	1.56
(9) Residual	813.85	1771	.46		97.02

(10) Total	1115.20	1943			100.00

*** = p < .001		** = p < .01		* = p < .05	

CELL MEANS AND WITHIN CELL MEAN COMPARISONS

Grand mean = .00

(cell n = 162)	Problematic		Decision		Being Led	
	Low Status	High Status	Low Status	High Status	Low Status	High Status
Closed Communication	.10cd	.14d	.02abcd	-.11abc	.01abcd	-.14ab
Open Communication	.11cd	.02abcd	.06bcd	.01abcd	-.17a	-.05abcd

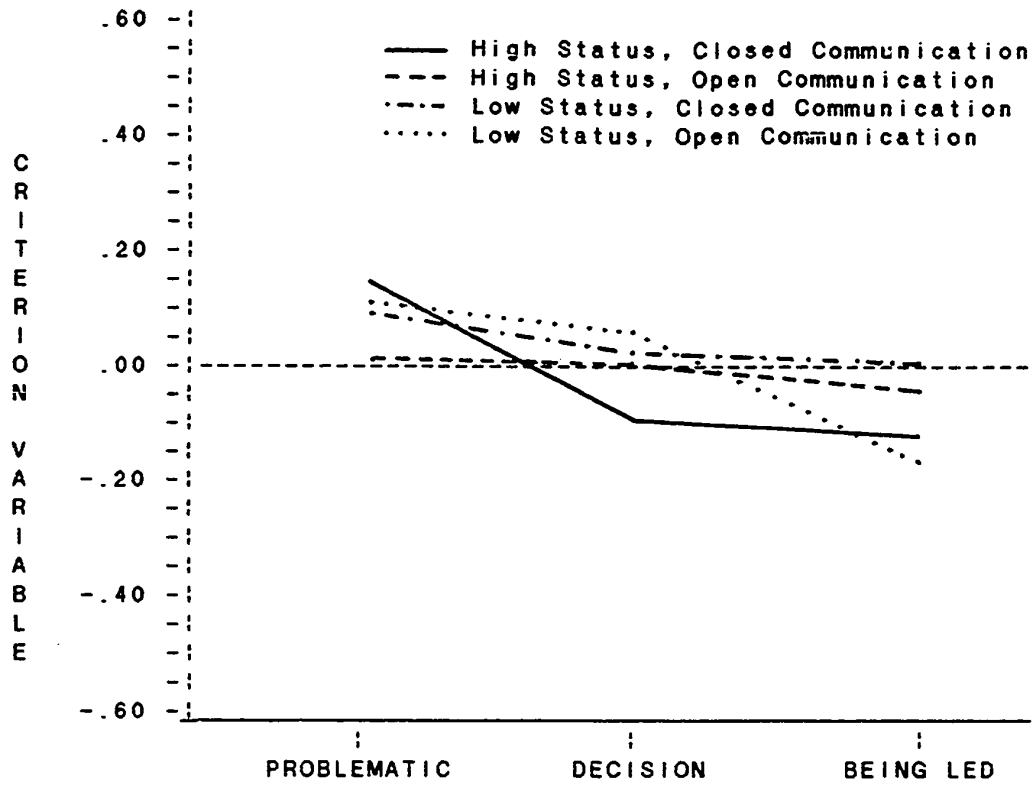
a-d Superscripts report the use of t-tests for correlated means for the significance of differences in sub-group means. Unlike superscripts indicate the two means are significantly different at p < .05.

(continued)

Table 5 (continued)

PLOTS OF CELL MEANS AND SIGNIFICANT RELATIONSHIPS

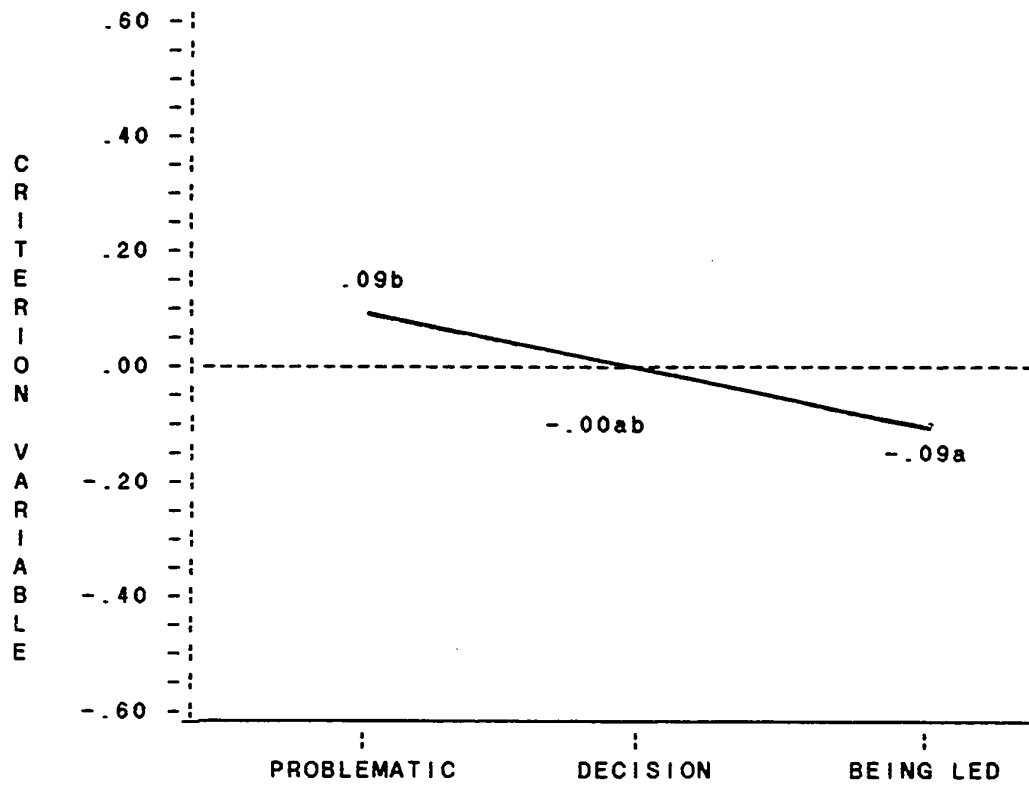
PLOT OF CELL MEANS



(continued)

Table 5 (continued)

PLOT OF SIGNIFICANT* MAIN EFFECTS:
 Situation Movement State



* $p < .05$ or better.

abc Superscripts report the use of t-tests for correlated means for the significance of differences in sub-group means. Unlike superscripts indicate the two means are significantly different at $p < .05$.

Communication conditions. Respondents in Problematic, High Status, and Closed Communication conditions are also significantly more likely to report Connecting questions than respondents in Being Led, Low Status, Open Communication situations (mean = $-.17$). Respondents in Problematic states under Low Status conditions were significantly more likely to report Connecting questions (mean of $.11$ for Open Communication and a mean of $.10$ for Closed Communication) than Being Led states where High Status, Closed Communication (mean = $-.14$) or Low Status, Open Communications conditions are perceived (mean = $-.17$). Finally, respondents in Decision states with Low Status and Open Communication are significantly more likely to report Connecting questions than respondents in Being Led states with the same Status and Openness of Communication conditions (means of $.06$ versus $-.17$ respectively).

ESTIMATED VARIANCE EXPLAINED:

* The estimated variance explained by Subjects (1.56%) is slightly higher than the estimated variance accounted for by the three situational predictor variables (total of 1.42%).

Table 6. This table shows the results of the factorial analysis of variance with repeated measures of the three predictor variables as predictors of the factor analytic criterion variable grouping questions that seek to discover means for avoiding the specific situation or retrospectively tries to determine the cause of the situation, called here Removing.

Results show a significant F for Situation Movement State ($F = 244.21$, $p < .001$, estimated variance explained = 18.94%); Perceived Openness of Communication ($F = 109.04$, $p < .001$, estimated variance explained = 4.26%); the interaction between these two predictors ($F = 7.64$, $p < .001$, estimated variance explained = .51%); and, of course,

Table 6. Factorial analysis of variance with repeated measures of the information seeking factor analytic criterion: Removing.

ANALYSIS OF VARIANCE					
Source of Variance	SS	df	MS	F	Estimated Variance Explained %
(1) Situation Movement State (A)	273.52	2	136.76	244.21***	18.94
(2) Perceived Relative Status (B)	1.71	1	1.71	3.05	0.08
(3) Perceived Openness of Communication (C)	61.06	1	61.06	109.04***	4.20
(4) A X B	.51	2	.25	0.45	0.00
(5) A X C	8.56	2	4.28	7.64***	0.51
(6) B X C	1.91	1	1.91	3.41	0.10
(7) A X B X C	.29	2	.14	0.25	0.00
(8) Subjects	184.57	161	1.15	2.05***	0.45
(9) Residual	991.16	1771	.56		75.72
(10) Total	1523.29	1943			100.00

*** = p < .001 ** = p < .01 * = p < .05

CELL MEANS AND WITHIN CELL MEAN COMPARISONS

Grand mean = .00
(cell n = 162)

	Problematic		Decision		Being Led	
	Low	High	Low	High	Low	High
	Status	Status	Status	Status	Status	Status
Closed Communication	.64d	.57d	.17bcd	-.03abc	-.09abc	-.19ab
Open Communication	.43cd	.43cd	-.39ab	-.40ab	-.58a	-.56a

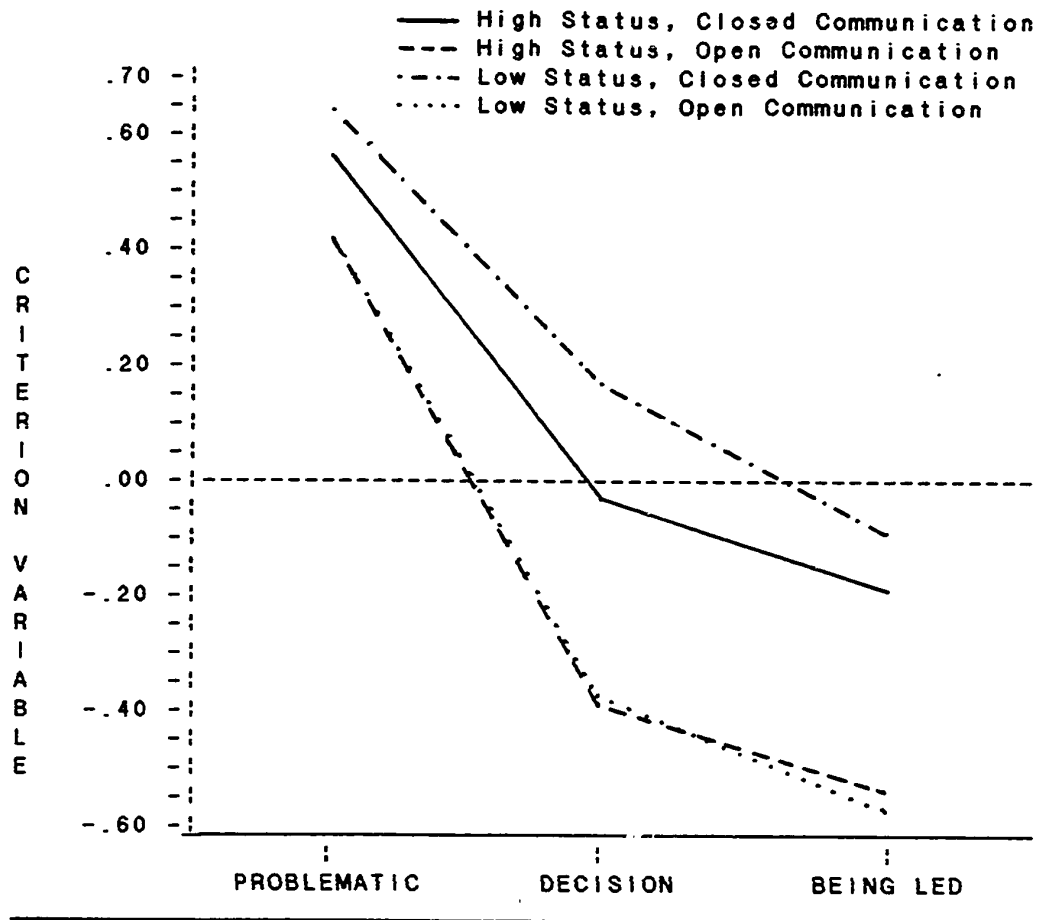
a-d Superscripts report the use of t-tests for correlated means for the significance of differences in sub-group means. Unlike superscripts indicate the two means are significantly different at p < .05.

(continued)

Table 6 (continued)

PLOTS OF CELL MEANS AND SIGNIFICANT RELATIONSHIPS

PLOT OF CELL MEANS

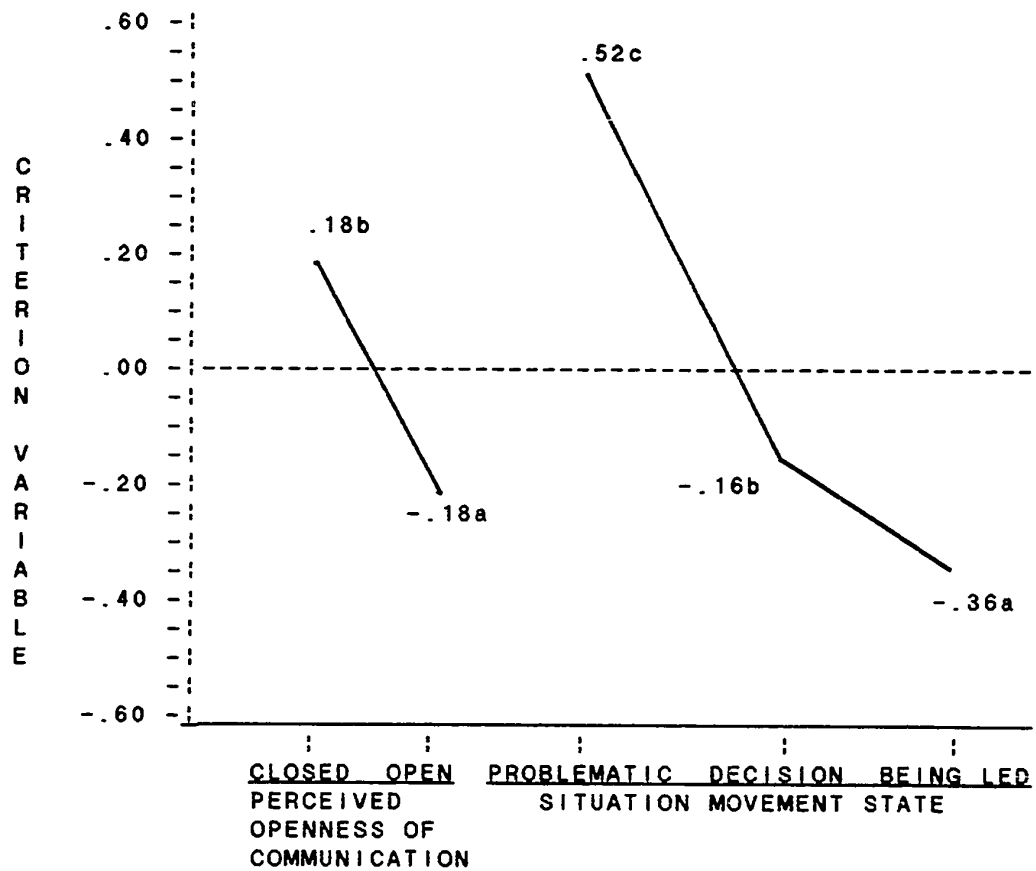


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Table 6 (continued)

PLOT OF SIGNIFICANT* MAIN EFFECTS:

Situation Movement State and
Perceived Openness of Communication

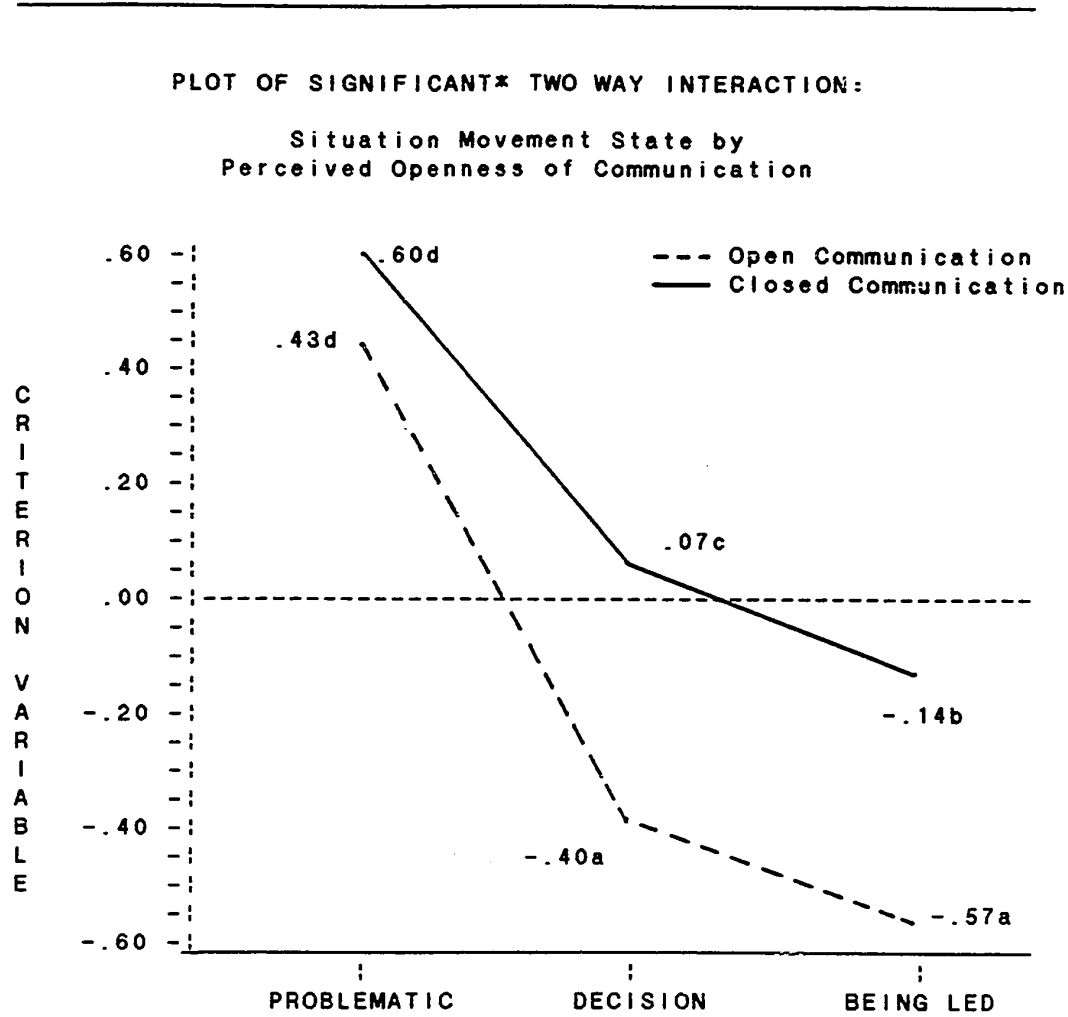


* $p < .05$ or better.

abc Superscripts report the use of t-tests for correlated means for the significance of differences in sub-group means. Unlike superscripts indicate the two means are significantly different at $p < .05$.

(continued)

Table 6 (continued)



* p < .05 or better.

a-d Superscripts report the use of t-tests for correlated means for the significance of differences in sub-group means. Unlike superscripts indicate the two means are significantly different at p < .05.

Subjects ($F = 2.05$, $p < .001$, estimated variance explained = .45%).

The major findings for this analysis show the following:

MAIN EFFECTS:

* The strongest main effect was for Situation Movement State, shown in the second plot in Table 6. Results showed that respondents in all three movement states were significantly different from each other. Respondents in Problematic states were most likely to ask Removing questions (mean = .52); those in Decision states were next most likely (mean = -.16); and those in Being Led states the least likely (mean = -.36).

* A strong main effect was also found for Perceived Openness of Communication. Results showed that respondents who perceive a situation to be Closed are significantly more likely to ask Removing questions (mean = .18) than situations perceived to be Open (mean = -.18).

* As noted above, there was a significant main effect for Subjects.

INTERACTIONS:

* A significant two-way interaction was found between Situation Movement State and Perceived Openness of Communication. An examination of the third plot in Table 6 shows that although the same general pattern between the three movement states as described above is evident for both Open and Closed Communication, the significant difference between Decision and Being Led movement states only holds true for Closed Communication situations (means of .07 and -.14 respectively). For Open Communication situations, Decision (mean = -.40) and Being Led states (mean = -.57) are not significantly different from each other and are both significantly lower than even Being Led under Closed Communication conditions (mean = -.14).

WITHIN CELL MEAN COMPARISONS:

* Looking at the second section and the first plot in Table 6, in general, Removing type questions are significantly more likely to be asked in situations perceived to be Problematic than either Decision or Being Led situations. Specifically, this type of

question is significantly more likely to be asked in situations perceived to be Problematic, Closed Communication, and either High Status (mean = .57) or Low Status (mean = .64) than any situation perceived to be a Being Led situation (means range from a high of -.09 to a low of -.58), as well as in all situations perceived to be Decision situations except Low Status, Closed Communication situations (mean = .17). Removing questions are significantly more likely to be asked in situations perceived to be Problematic, Open Communication and either High or Low Status (both means = .43) than any Being Led situation as well as in both Open Communication, Decision situations regardless of whether the status is perceived as being High or Low (means = -.40 and -.39 respectively). Finally, this type of question is significantly more likely to be asked if the respondent perceives the situation to be Decision, Low Status, and Closed Communication (mean = .17) than if he/she perceives the situation to be a Being Led, Open Communication situation regardless of whether the situation is High or Low Status (means = -.56 and -.58 respectively).

ESTIMATED VARIANCE EXPLAINED:

* In this analysis, all of the significant relationships for the situational predictor variables explained more estimated variance than Subjects (a total of 23.75% versus 0.45%).

Table 7. This table reports the results of the factorial analysis of variance with repeated measures of the three predictor variables used in this study as predictors of the Projecting criterion variable. This criterion tapped the asking of questions that seek to determine the future consequences of a situation in progress.

The results show that there is a significant F for Situation Movement State (F = 4.70, p < .001, estimated variance explained = 1.09%); Perceived Relative Status (F = 8.62, p < .01, estimated variance explained = .38%); the

Table 7. Factorial analysis of variance with repeated measures of the information seeking factor analytic criterion: Projecting.

ANALYSIS OF VARIANCE

Source of Variance	SS	df	MS	F	Estimated Variance Explained %
(1) Situation Movement State (A)	9.41	2	4.70	12.05***	1.09
(2) Perceived Relative Status (B)	3.36	1	3.36	8.62**	0.38
(3) Perceived Openness of Communication (C)	.98	1	.98	2.51	0.07
(4) A X B	1.02	2	.51	1.31	0.02
(5) A X C	5.80	2	2.90	7.44***	0.64
(6) B X C	.06	1	.06	0.15	0.00
(7) A X B X C	.80	2	.40	1.03	0.00
(8) Subjects	226.03	161	1.40	3.59***	1.41
(9) Residual	685.76	1771	.39		96.39
(10) Total	933.22	1943			100.00

*** = p < .001 ** = p < .01 * = p < .05

CELL MEANS AND WITHIN CELL MEAN COMPARISONS

Grand mean = .00

(cell n = 162)	Problematic		Decision		Being Led	
	Low Status	High Status	Low Status	High Status	Low Status	High Status
Closed Communication	.07bc	-.02ab	.22c	.12bc	-.08ab	-.17a
Open Communication	-.03ab	-.07ab	.11bc	-.08ab	-.04ab	-.02ab

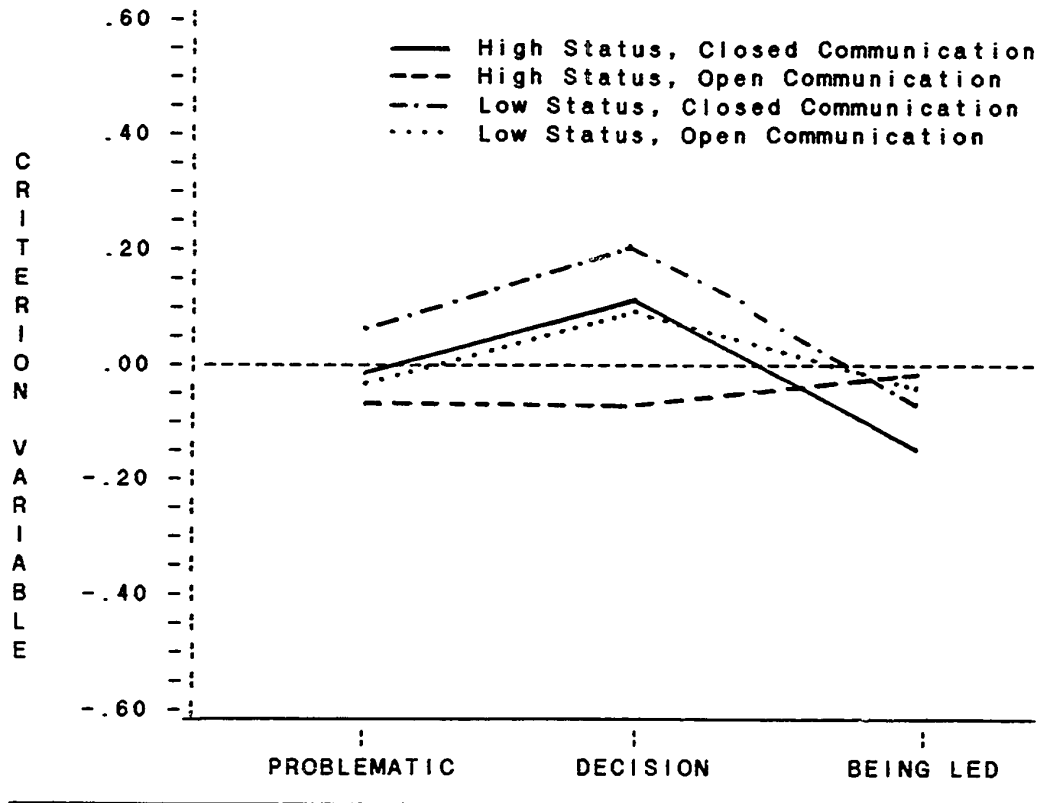
abc Superscripts report the use of t-tests for correlated means for the significance of differences in sub-group means. Unlike superscripts indicate the two means are significantly different at p < .05.

(continued)

Table 7 (continued)

PLOTS OF CELL MEANS AND SIGNIFICANT RELATIONSHIPS

PLOT OF CELL MEANS

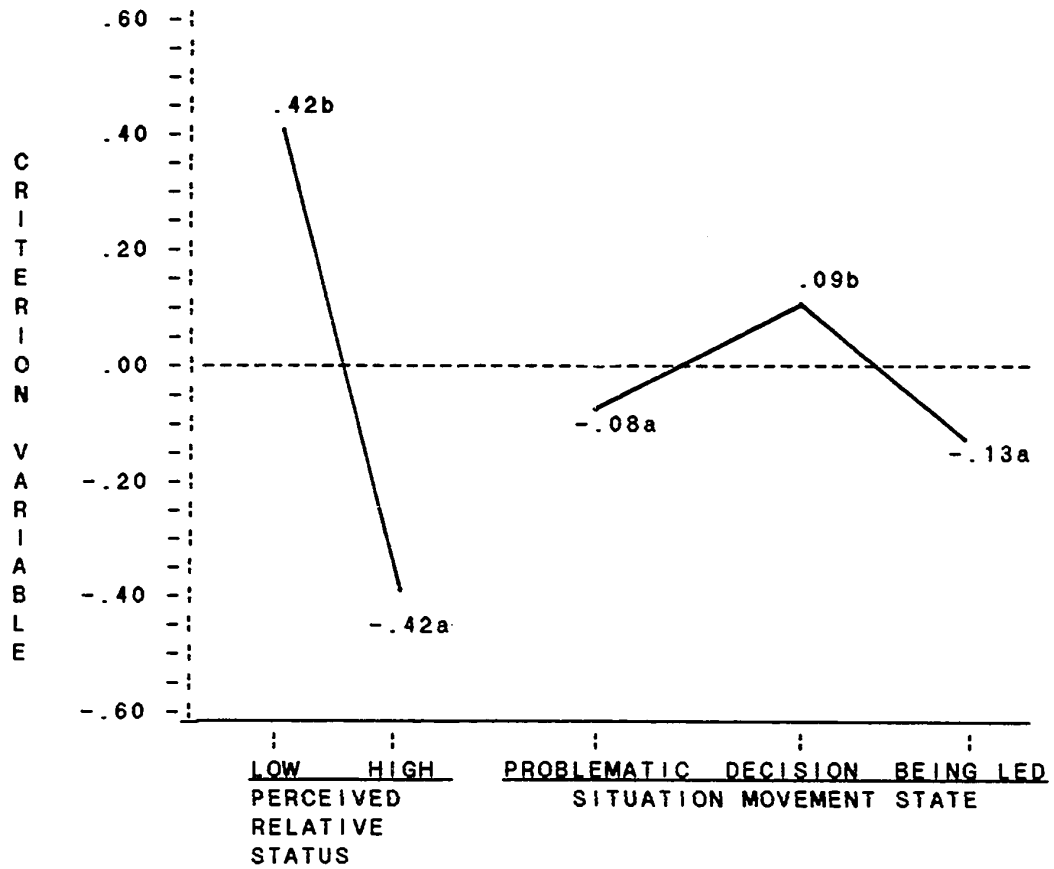


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Table 7 (continued)

PLOT OF SIGNIFICANT* MAIN EFFECTS:

Situation Movement State and
Perceived Relative Status

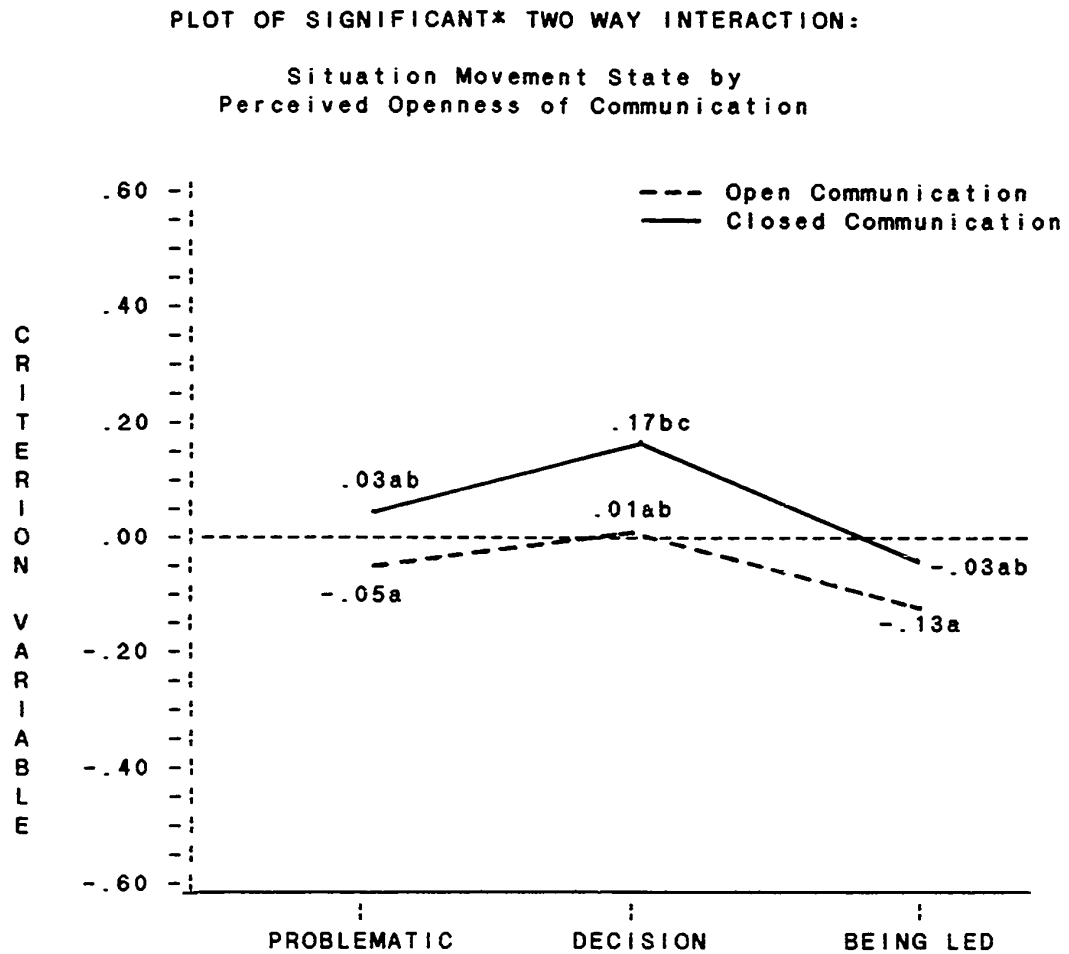


* p < .05 or better.

abc Superscripts report the use of t-tests for correlated means for the significance of differences in sub-group means. Unlike superscripts indicate the two means are significantly different at p < .05.

(continued)

Table 7 (continued)



* $p < .05$ or better.

abc Superscripts report the use of t-tests for correlated means for the significance of differences in sub-group means. Unlike superscripts indicate the two means are significantly different at $p < .05$.

interaction between Situation Movement State and Perceived Openness of Communication ($F = 7.44$, $p < .001$, estimated variance explained = .64%); and Subjects ($F = 3.59$, $p < .001$, estimated variance explained = 1.41%).

The major findings for this analysis show the following:

MAIN EFFECTS:

- * The second plot in Table 7 shows a significant main effect found for Situation Movement State. Results showed that respondents in Decision states were significantly more likely to report Projecting questions (mean = .09) than respondents in either Problematic (mean = -.08) or Being Led states (mean = -.13).
- * A main effect was also found for Perceived Relative Status, also in Table 7's second plot. Results showed that respondents in Low Status situations were significantly more likely to report Projecting questions (mean = .42) than respondents in High Status situations (mean = -.42).
- * As noted above, there was a significant main effect for Subjects.

INTERACTIONS:

- * A significant two-way interaction was found between Situation Movement State and Perceived Openness of Communication, shown in the third plot in Table 7. Results showed that for Problematic and Decision movement states, respondents in Closed Communication situations were more likely to report Projecting questions (means of .03 and .17 respectively) than respondents in Open Communication situations (means of -.05 and .01 respectively). For Being Led states, this pattern is reversed with Open Communication situations being higher than Closed (means of -.03 and -.13 respectively). It should be noted that the only significant differences between these marginal means was that Decision states in Closed Communication situations (mean = .17) was significantly higher than Being Led, Open Communication (mean = -.13) and Problematic, Closed Communication situations (mean = -.05).

WITHIN CELL MEAN COMPARISONS:

* Looking at the second section and the first plot in Table 7, in general, Projecting questions (i.e., questions that project the consequences of the situation into the future) are more likely to be asked in situations perceived to be Decision situations. Specifically, this type of question is significantly more likely to be asked if the situation is perceived to be Decision, Low Status, and Closed Communication (mean = .22) than if the situation is perceived to be Decision, High Status, Open Communication (mean = -.08); if Being Led regardless of the status or openness of communication (means range from a low of -.17 to a high of -.02); or if the situation is Problematic, other than Low Status, Closed Communication (means range from -.07 to -.02). If the situation is perceived to be either Problematic, Low Status, Closed Communication (mean = .07); Decision, Low Status, Open Communication (mean = .11); or Decision, High Status, Closed Communication (mean = .12), then this type of question is significantly more likely to be asked than in situations perceived to be Being Led, High Status, and Closed Communication (mean = -.17).

ESTIMATED VARIANCE EXPLAINED:

* The estimated variance explained by the three situational predictor variables is greater than the estimated variance accounted for between Subjects (a total of 2.20% versus 1.41%).

Table 8. This table reports the results of the factorial analysis of variance with repeated measures of the three situational predictor variables as predictors of the Motivating factor analytic criterion variable. This criterion tapped question asking relating to seeking to ascertain the means for stimulating or propelling the respondent "through" a situation.

The results reported in the first section of this table show a significant F for Situation Movement State ($F = 18.89$, $p < .001$, estimated variance explained = 1.72%);

Table 8. Factorial analysis of variance with repeated measures of the information seeking factor analytic criterion: Motivating.

ANALYSIS OF VARIANCE					
Source of Variance	SS	df	MS	F	Estimated Variance Explained %
(1) Situation Movement State (A)	13.22	2	6.61	18.89***	1.72
(2) Perceived Relative Status (B)	12.86	1	12.86	36.74***	1.72
(3) Perceived Openness of Communication (C)	.73	1	.73	2.09	0.05
(4) A X B	1.16	2	.58	1.66	0.05
(5) A X C	.74	2	.37	1.06	0.00
(6) B X C	.81	1	.81	2.31	0.06
(7) A X B X C	.05	2	.03	0.09	0.00
(8) Subjects	315.74	161	1.96	5.60***	2.44
(9) Residual	615.43	1771	.35		93.96
(10) Total	960.74	1943			100.00

*** = p < .001 ** = p < .01 * = p < .05

CELL MEANS AND WITHIN CELL MEAN COMPARISONS

Grand mean = .00

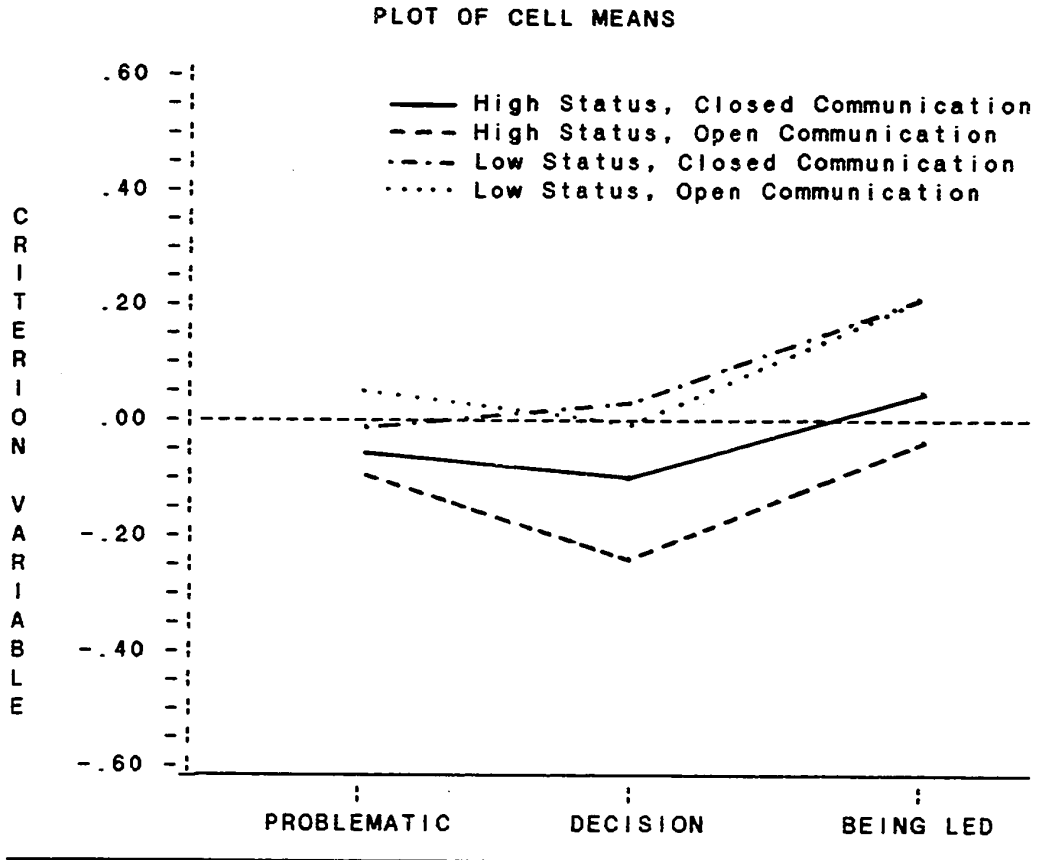
(cell n = 162)	Problematic		Decision		Being Led	
	Low Status	High Status	Low Status	High Status	Low Status	High Status
Closed Communication	-.01b	-.06ab	.03bc	-.10ab	.22c	.04bc
Open Communication	.04bc	-.10ab	-.01b	-.25a	.22c	-.02b

abc Superscripts report the use of t-tests for correlated means for the significance of differences in sub-group means. Unlike superscripts indicate the two means are significantly different at p < .05.

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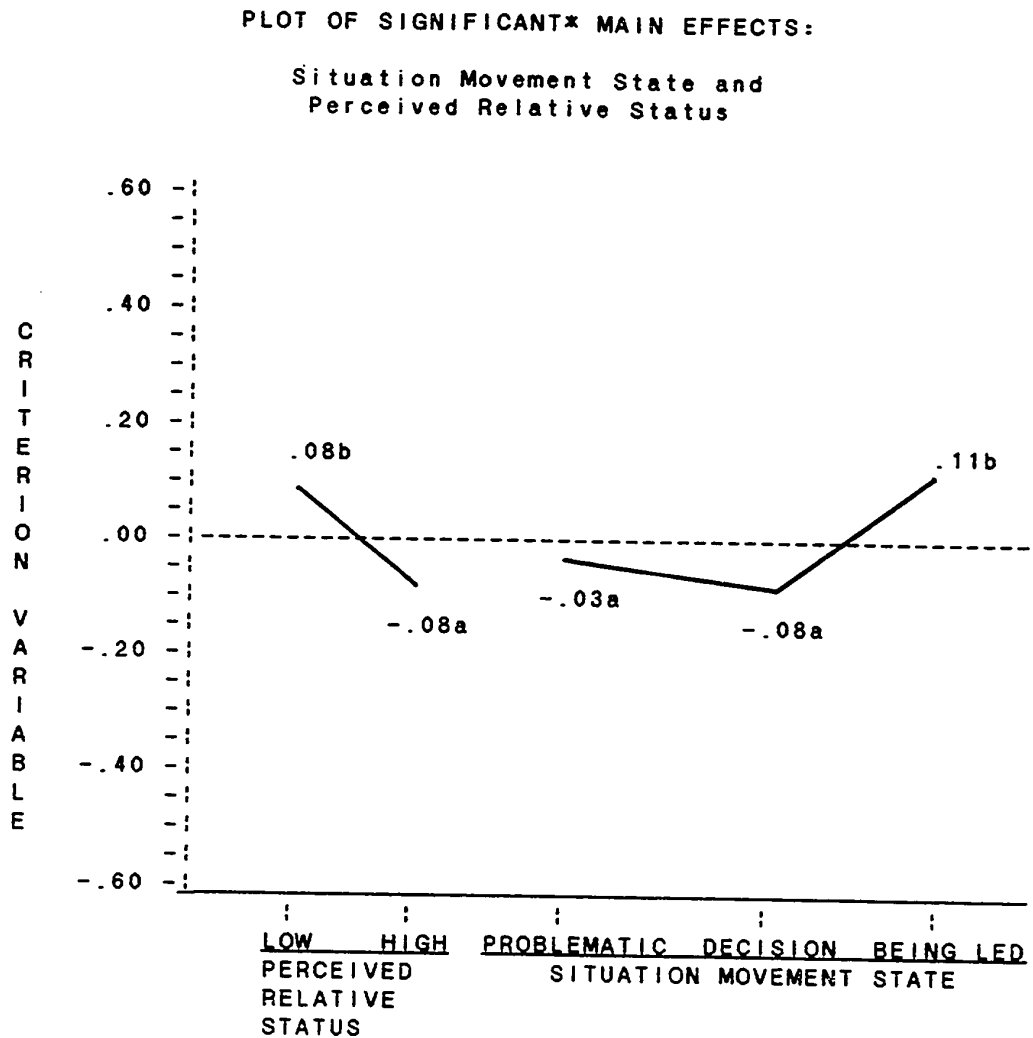
Table 8 (continued)

PLOTS OF CELL MEANS AND SIGNIFICANT RELATIONSHIPS



(continued)

Table 8 (continued)



Perceived Relative Status ($F = 36.74$, $p < .001$, estimated variance explained = 1.72%); and Subjects ($F = 5.60$, $p < .001$, estimated variance explained = 2.44%).

The findings show the following:

MAIN EFFECTS:

- * The second plot in Table 8 shows a strong main effect found for Situation Movement State. Results showed that respondents in Being Led movement states were significantly more likely to report Motivating questions (mean = .11) than respondents in either Problematic or Decision states (means of $-.03$ and $-.08$ respectively).
- * A strong main effect was also found for Perceived Relative Status, also shown in Table 7's second plot. Results showed that respondents in Low Status situations were significantly more likely to ask Motivating questions than respondents in High Status situations (means of $.08$ and $-.08$ respectively).
- * As noted above, there was also a significant main effect for Subjects.

INTERACTIONS:

- * None of the interactions were significant in this analysis.

WITHIN CELL MEAN COMPARISONS:

- * Looking at the second section and the first plot of Table 8, results indicate that questions attempting to motivate the respondent through a situation were significantly more likely to be asked if the respondent perceived the situation to be a Being Led, Low Status situation where the situation was also perceived to be either a Closed or Open Communication situation (means were both $.22$) than Being Led, High Status, Open Communication situations (mean = $-.02$); any situation perceived as a Decision situation except for Low Status, Closed Communication (mean = $.03$); and all Problematic situations except for Low Status, Open Communication situations (mean = $.04$). This kind of question was significantly less likely to be asked if respondents perceived the situation to be Decision, High Status, Open Communication than all situational condition combinations except Decision, High Status, Closed Communication (mean = $-.10$); and Problematic, High Status whether Open or Closed Communication

(means = $-.10$ and $-.06$ respectively).

ESTIMATED VARIANCE EXPLAINED:

* For this analysis, the situational predictor variables again explained more estimated variance than the Subjects (total of 3.60% versus 2.44%).

Chapter IV will present summaries of the results in terms of the study's hypotheses. Chapter IV will also present a summary of qualitative findings as well as some interpretations and conclusions of the study.

Chapter IV

SUMMARY, CONCLUSIONS AND IMPLICATIONS

This chapter will present summaries of the results, implications and conclusions of this study, first in terms of the hypotheses set forth in Chapter I, next in terms of the qualitative results. Finally, the strengths and limitations of the study will be addressed, and suggestions for future research will be offered.

Summary of Results and Implications

This section will present overviews and summary tables for the results presented in Chapter III in the order of the hypotheses set forth in Chapter I.

Summary and Implications for Hypothesis #1.

The first hypothesis presented in Chapter I stated: "Both alternative, experimental structural predictors will show significant main effects as predictors of information seeking criterion variables." This hypothesis addressed the utility of the experimental structural predictor variables that were trying to tap individually perceived orientations to structural constraints as an augmentation to the Sense-Making approach to human information seeking. This meant

that both Perceived Relative Status and Perceived Openness of Communication would be useful in understanding information seeking behavior above and beyond Situation Movement State, the utility of which has already been established by past Sense-Making studies.

Table 9 reports all of the significant relationships reported in Tables 3 through 8 in Chapter III.

Under the "Main Effects" heading, the column labeled "B" in Table 9 reports the significant relationships for Perceived Relative Status, the first structural predictor for all factor analytic criterion variables used in this study. Perceived Relative Status showed significant main effects for the Projecting and Motivating factor analytic information seeking criterion variables ($p < .01$ and $p < .001$ respectively).

The column labeled "C" under "Main Effects" in Table 9 reports the significant relationships for Perceived Openness of Communication, the second alternative, experimental structural predictor for all factor analytic criterion variables. This predictor showed significant main effects for the Doing and Removing factor analytic information seeking criterion variables (both were significant at $p < .001$).

Under the "Interactions" heading, Table 9 also reports all significant interactions across all six factor analytic

Table 2. Summary of significant relationships for all factorial analyses of variance across all six factor analytic criterion variables.

CRITERION VARIABLES	MAIN EFFECTS*				INTERACTIONS*			
	SS	A	B	C	AXB	AXC	BXC	AXBXC
Defining	<.001	<.01	-----	-----	-----	-----	-----	-----
Doing	<.001	<.001	-----	<.001	<.05	-----	-----	<.05
Connecting	<.001	<.001	-----	-----	-----	-----	-----	<.05
Removing	<.001	<.001	-----	<.001	-----	<.001	-----	-----
Projecting	<.001	<.001	<.01	-----	-----	<.001	-----	-----
Motivating	<.001	<.001	<.001	-----	-----	-----	-----	-----

***KEY TO TABLE:**

A = Situation Movement State
 B = Perceived Relative Status
 C = Perceived Openness of Communication
 SS = Subjects

information seeking criterion variables. While not necessarily relevant to this study's hypotheses, they should be mentioned. The interaction of Situation Movement State and Perceived Relative Status (AXB) was significant for the Doing factor analytic criterion variable ($p < .05$) even though the main effect for Perceived Relative Status was not significant. The interaction of Situation Movement State and Perceived Openness of Communication was significant for both the Removing and Projecting factor analytic criterion

variables, both significant at $p < .001$. Finally, the three-way interaction between all three predictor variables was significant at $p < .05$ for the Doing and Connecting factor analytic criterion variables. The subjects factor (the "SS" column) was significant, as expected, for all factor analytic information seeking criterion variables.

The essential question this hypothesis addressed was whether or not the experimental perceived structural predictor variables would be useful in understanding information seeking above and beyond Sense-Making's contribution.

The results reported above suggest that there is moderate support for Hypothesis 1 in terms of specific information seeking dimensions which are unique for each experimental predictor. For example, knowledge of an individual's perception of the Perceived Openness of Communication in situations where the individual is seeking to avoid the situation would help to understand that individual's information seeking behavior.

The first hypothesis calls for significant main effects for the two experimental structural predictor variables. Each of these predictor variables showed significant main effects on two of the six criterion variables with no overlaps between the predictor variables. However, the significant main effects for each of these experimental

predictors in conjunction with the significant interactions between these predictors and the Situation Movement State predictor suggest that the addition of these two structural dimensions can indeed help researchers understand information seeking behavior in spite of the relatively small number of significant relationships for each predictor variable.

The new and experimental nature of the two perceived structural predictor variables also needs to be addressed here. Because no studies were found which used this kind of actor assessment of structure, it is possible that these variables were rather weak in their measurement -- that they were tapping perceptions of structures that were broader than intended. If this is the case, then these measurements produced noise (as opposed to bias) and the effects of these variables were attenuated in the results. Therefore, if better measures could be developed, the utility of these variables could possibly be enhanced.

One study was found (Dervin, Nilan & Jacobson, 1982a) which compared observer assessments of structure (i.e., demography) with actor assessments of internal cognitive states as predictors of information seeking and use. In this study, the actor assessments were more powerful predictors than observer assessments, but the specific measurement implications for the experimental variables used

in this dissertation require further research.

Summary and Implications for Hypothesis #2.

The second hypothesis presented in Chapter 1 states that: "The most powerful Sense-Making predictor, Situation Movement State will be a stronger predictor than the experimental structural variables of information seeking criterion variables." Recall that this hypothesis addressed the conceptual centrality of perceived internal cognitive states; although an understanding of perceived structural conditions help us understand information seeking behaviors, an understanding of the individually perceived cognitive state was hypothesized to be more powerful in predicting information seeking behaviors.

A comparison of the "A" column under "Main Effects" in Table 9 with the "B" and "C" columns indicates that Situation Movement State (column "A") was significant for all factor analytic information seeking criterion variables ($p < .01$ for the Defining criterion and $p < .001$ for all the rest). In terms of the numbers of significant relationships, Situation Movement State has four more significant relationships than either of the two experimental structural predictors. However, significance alone does not completely address Hypothesis 2. An understanding of the percentage of variance explained (or estimated variance accounted for) in a given analysis

contributes to an understanding of the "strength" of a predictor variable.

Table 10 reports the estimated variance explained across all factor analytic criterion variables for all analyses of variance completed in this study. Table 10 is set up similarly to Table 9 except that: 1) a column has been added to show the total non-Subjects estimated variance explained; and 2) rows have been added for total estimated variance explained and mean estimated variance explained across all six factor analytic information seeking criterion variables.

Looking at the columns for Situation Movement State, Perceived Relative Status, and Perceived Openness of Communication ("A," "B," and "C" respectively) under the "Main Effects" heading provides an unambiguous comparison of the relative strength of the three predictors. In all cases except for the Motivating factor analytic criterion variable where Situation Movement State and Perceived Relative Status both explained an estimated 1.72% of the variance, Situation Movement State explained more estimated variance than either or both of the two experimental structural predictor variables.

The mean estimated variance explained by Situation Movement State was 5.70% across all factor analytic criterion variables. The mean estimated variance explained

Table 10. Summary of estimated variance explained for all factorial analyses of variance across all six factor analytic criterion variables.

CRITERION VARIABLES	ESTIMATED PERCENTAGE OF VARIANCE EXPLAINED									
	TOTAL		MAIN EFFECTS*			INTERACTIONS*				
	NON SS	SS	A	B	C	AXB	AXC	BXC	AXBXC	
Defining	.56	5.41	.43	.00	.08	.00	.05	.00	.00	
Doing	11.98	1.89	10.97	.12	.61	.10	.00	.00	.18	
Connecting	1.42	1.56	1.02	.04	.00	.00	.11	.02	.23	
Removing	23.75	.45	18.94	.00	4.20	.00	.51	.10	.00	
Projecting	2.20	1.41	1.09	.38	.07	.02	.64	.00	.00	
Motivating	3.60	2.44	1.72	1.72	.05	.05	.00	.06	.00	
TOTALS	43.51	13.16	34.17	2.26	5.01	.17	1.31	.18	.41	
MEANS	7.25	2.19	5.70	.38	.84	.03	.22	.03	.07	

*KEY TO TABLE:

A = Situation Movement State
 B = Perceived Relative Status
 C = Perceived Openness of Communication
 SS = Subjects

by Perceived Relative Status was .38% and for Perceived Openness of Communication, the mean was .84%. The estimated variance explained by interactions between the three predictor variables was less in comparison, ranging from a low of .00% to a high of .64% with an average of .09% per

interaction.

As hypothesized, Situation Movement State was a more powerful predictor than the two experimental structural predictor variables. Evidence for this, presented in Table 9, includes significant relationships for Situation Movement State for all six factor analytic criterion variables (one analysis was significant at $p < .01$ and the other five at $p < .001$). Additionally, with only one exception (see Table 10), Situation Movement State explained more estimated variance accounted for than the experimental predictor variables.

This finding confirms the hypothesized notion (Hypothesis 1 along with Hypothesis 2) that perceived structural dimensions of an information seeking situation can help us understand certain information seeking behaviors but that overall, the internally oriented cognitive movement states are still central to information seeking behavior.

Taken together, the findings for the first two hypotheses suggest that the foundation of findings laid by the Sense-Making approach's efforts in the past can be profitably augmented by adding individually perceived structural conditions as represented by the two experimental structural predictor variables used in this study.

Summary and Implications for Hypothesis #3.

The third hypothesis presented in Chapter 1 reads:

"The amount of variance accounted for [or explained] by Situation Movement State plus the two experimental structural predictor variables will be greater than the amount of variance accounted for by the differences between individuals." This hypothesis questioned the notion that individuals behave consistently across time-space. The author suggested that subject variance could be seen as representing consistencies in individuals' pasts that lead them to behave in consistent, habitual ways. Sense-Making assumes however, that individual sense-making is, at least partly, free of habitual constraints. In other words, individuals' information seeking is not constant across time-space, but varies from situation to situation. Perceived structural conditions may effect information seeking, but not unilaterally across situations. Because the structural variables used in this study were perceived measures, they were included with the Sense-Making variable as a set of internally perceived cognitive predictors. Therefore it was hypothesized that the variance accounted for by subjects would be less than for the other situational, time-space specific measures.

The columns in Table 10 under the "Total Non-SS" (estimated total for all variance explained except for subject variance) and "SS" (estimated subject variance) headings address this hypothesis.

Except for the Defining and Connecting factor analytic information seeking criterion variables, the estimated variance explained by the main effects, plus the interaction effects of the three predictor variables, was greater than the estimated variance explained by subjects (0.65% versus 5.41% and 1.42% versus 1.56% respectively). For the other four factor analytic criterion variables, the estimated variance explained by the three predictor variables ranged from 2.20% to 23.75% compared to subject variance which ranged from .45% to 2.44%. The mean estimated variance explained by the three predictor variables across all six factor analytic information seeking criterion variables was 7.25% compared to the mean for subjects, which was 2.19%.

The findings presented in Table 10 give support for this hypotheses because, on the average, the predictor variables explained an estimated 2.6 times the variance accounted for than did the difference between subjects (mean of 5.70% versus 2.19% for subjects). In terms of individual criterion variables, there were two cases where subject variance exceeded the variance explained by the predictor variables. The first was the Defining factor analytic criterion variable, where the estimated subject variance explained exceeds that of the predictor variables. This was true, even though Situation Movement State was a significant predictor of this criterion variable. The second case was

the Connecting criterion variable, where the estimated variance explained by subjects was only slightly higher than the predictor variables (by 0.14%).

In Chapter 1, the author suggested that in those situations where subject variance is greater, other structural conditions not tapped by this study may be operating. For example, respondents asked Defining questions regardless of the status or openness conditions (see Table 3). It could be, for this particular sample of respondents, that higher educated people ask more Defining type questions because they have been trained to do so. A variable relating to education or other socio-economic conditions might be suggested to tap this kind of structural condition. This interpretation is only one of many possible interpretations (e.g., response behaviors), but it does suggest that the argument that there are other structural conditions operating in this case may be valid.

Summary and Rationales

Before drawing conclusions about this study, it is necessary to examine the qualitative nature of the results. As noted in Chapter 1, no qualitative hypotheses were offered. The research question focused on the predictive power of the predictor variables, regardless of the qualities of the criterion measures. However, an understanding of the qualitative results will be helpful to

future researchers as well as useful in interpreting the statistical results presented above. Two questions will therefore be asked of the results in an attempt to place them in context. Specifically: What do the findings mean? Do they make sense?

In order to facilitate this process, Table 11 presents a summary of qualitative and statistical results across the six factor analytic criterion variables. The first column of Table 11 lists the six criterion variables and their respective table numbers so that interested readers can easily refer back to the plots, etc. The remaining four columns graphically summarize the qualitative results of each significant relationship found, first for Situation Movement State, then for Perceived Relative Status, then for Perceived Openness of Communication, and finally for the interactions.

As with the results presentation in Chapter III, the only qualitative results discussed here are those representing relationships found to be significant in the analysis of variance. Although qualitatively, the sub group means may provide some insight into future research, their discussion here is beyond the scope of this study and would be tedious for the reader.

These qualitative results will be discussed below in terms of the different categories of the three predictor

Table 11. Summary of qualitative findings and significant relationships for all situational predictor variables by each criterion variable.

FACTOR ANALYTIC CRITERIONS: QUESTIONS	MORE OF THIS KIND OF QUESTION WAS ASKED UNDER THESE PERCEIVED CONDITIONS			
	SMS	PRS	POC	INTERACTIONS
DEFINING (Table 3)	D>P**	---	---	---
DOING (Table 4)	D>P>B***	---	O>C***	(2-way SMS, PRS)* If P => H>L If B => H>L but If D => L>H (3-way)* If O => as above If C => H>L
CONNECTING (Table 5)	P>B***	---	---	(3-way)* PHC>DHC, BHC, BLO PLO>BLO, BHC DLO>BLO PLC>BLO
REMOVING (Table 6)	P>D>B***	---	C>O***	(2-way SMS, POC)*** If C => P>D>B If O => P>D, B
PROJECTING (Table 7)	D>P, B***	L>H**	---	(2-way SMS, POC)*** DC>BC, PO
MOTIVATING (Table 8)	B>P, D***	L>H***	---	---

* = p < .05 ** = p < .01 *** = p < .001

Key to Table:

Situation Movement State (SMS)	Perceived Openness of
P = Problematic	Communication (POC)
D = Decision	O = Open Communication
B = Being Led	C = Closed Communication
Perceived Relative Status (PRS)	=> = "then"
L = Low Status	, = "and"
H = High Status	> = "more than"

measures (i.e., reading down columns in Table 11).

Qualitative Findings for Situation Movement State.

Each category of Situation Movement State showed a unique pattern of prediction across the criterion measures. When the definitions of the categories are recalled (see Chapter II), the patterns for each criterion variable seem very logical. These patterns seem logical because the dynamics of the perceived cognitive movement is uniquely different. With all other factors being equal, individuals in Decision states are oriented towards action relating to their decision. Individuals in Problematic states are oriented towards resolving the problematic nature of their situation, while individuals in Being Led states are comparatively passive in orientation.

For example, when respondents perceived their cognitive movement state as Decision, they were more likely to ask Defining type questions than respondents perceiving themselves to be in a Problematic state. Respondents in Decision states were also more likely to ask Doing and Projecting questions than respondents perceiving themselves in either Problematic or Being Led states. On the other hand, respondents in Decision states were less likely to ask Removing type questions than respondents in Problematic states although more likely than respondents in Being Led states. Respondents in Problematic or Decision states were

less likely to ask Motivating type questions than respondents in Being Led states.

It seems quite logical for individuals who perceive themselves to be in Decision states to ask Defining, Doing, and Projecting questions in order to construct a rationale for their decision. In a sense, individuals in Decision states see themselves as having these options while individuals in Problematic and Being Led states do not, because for them, the situation itself is defined by others.

These results also seem logical if one looks at the difference in control between the three cognitive movement states. For Removing type questions, individuals in Problematic situations are trying to escape from the situation and ask this type of question more than individuals in Decision situations, while individuals in Decision states ask this question perhaps to get a job done. Individuals in Being Led situations are logically oriented towards attempts to take more control over their situation and thus, ask Motivating type questions.

Those respondents who perceived their situation as a Problematic situation were more likely to ask Doing, Connecting, and Removing type questions than respondents perceiving themselves to be in a Being Led situation. Taken together, this pattern of question types closely fits the contrast in definitions between Being Led and Problematic

movement states. Individuals in a Problematic state are in a situation that they don't want to be in, and are on their own, while individuals in Being Led states are content in their situation and have someone else who is in control. In light of this contrast, it seems logical that in Problematic situations, more information seeking energy is oriented to Doing, Connecting, and at Removing type questions.

As noted above, respondents in Problematic states were also more likely to ask Removing type questions than respondents perceiving themselves to be in Decision states, perhaps in an attempt to get out of their problematic situation.

Qualitative Findings for Perceived Relative Status.

As the first of the two experimental perceived structural predictor variables, the pattern of findings for this variable help to substantiate the conclusion that this variable is useful in beginning to understand the role that actor assessments of external structural conditions play in information seeking. The pattern for the two categories of Perceived Relative Status seem logical in terms of the emphasis on power in structuralist approaches.

For example, respondents who perceived themselves to be of Lower Status than the other(s) in a situation, reported asking significantly more Projecting and Motivating type questions than individuals under perceived High Status

conditions. Both traditional and structuralist approaches have described the aspirations of lower status individuals, although structuralists have emphasized power relationships. It seems logical, therefore, particularly for these two information seeking factors, for individuals perceiving lower status conditions to ask these types of questions. The important point for the purposes of this study is that the status predictor used here was a perceived measure. Recall that structuralists have argued that structural constraints to information seeking are largely invisible to the individual so that they would not expect this kind of a pattern in the results based upon individually perceived conditions. Yet the results obtained support the perceived role of power in certain information seeking situations.

Qualitative Findings for Perceived Openness of Communication.

The pattern of findings for the second of the two experimental structural predictor variables, helps to substantiate the conclusion that this variable is also useful in beginning to understand the role that actor assessments of external structural conditions play in information seeking. The pattern for the two categories of Perceived Openness of Communication seems logical in terms of the insensitivity of structures in dealing with values outside the parameters of the structure. Such a dimension

is common in structuralist approaches, and this variable attempted to tap their concern from the actor's perspective.

When respondents perceived the situation (which is itself characterized by structures) to be Open to communication both ways, they were significantly more likely to report Doing type questions than if the situation was perceived as being Closed to communication. In addition, when respondents perceived the situation to be Closed communicatively, they reported more Removing type questions.

When the structure is perceived to be conducive to individual aspirations (i.e., Open to communication), individuals are oriented towards action (i.e., asking Doing type questions). When the structure is not perceived to be conducive to individual aspirations (i.e., Closed), individuals are oriented towards getting out of the situation (i.e., asking Removing type questions).

Conclusions

On the basis of the predictive and qualitative summaries presented above, the author feels that this study's attempts to find a connection between structuralist concerns and an interpretive, non-mechanistic approach was successful within the limitations presented below.

Both of the experimental perceived structural predictors variables exhibited predictive power for different criterion variables. Although these two variables

exhibited significant main effects on only two criterion variables each, the qualitative summary shows that these results are consistent with structuralist formulations. The author concludes, therefore, that these two experimental predictors represent an indication that structuralists' concerns can be addressed using a coherent interpretive framework. This conclusion needs to be tempered by an understanding that, in this study, the structuralists' concerns were represented by actors' assessments of structure rather than the structuralists' observer assessments.

The notion that perceived cognitive movement state would be a better predictor of information seeking behaviors than either of these two experimental predictors also received support in this study. This relationship was hypothesized because of the theoretic assumption that internally oriented perceived conditions are more powerful in predicting information seeking behavior than are externally oriented perceived structural conditions. This theoretic assumption seems warranted.

The argument that an individual's behavior is constrained more or less consistently across situations (i.e., constant across time-space) due to habitual behavior and/or structural conditions was effectively addressed by the section of the results dealing with estimated variance

explained. Specifically, the time-space specific predictors used in this study proved to explain more of the estimated variance accounted for than did the differences between subjects. In other words, information seeking behavior varies according to the individual's perception of his/her own relationship to the situation he/she perceives. The author concludes that by expanding the kinds of perceived structural variables, the amount of variance explained by internally perceived conditions will explain even more of the variance.

Strengths and Weaknesses

Strengths. Taken together, the support for the study's three hypotheses represents the main strengths of this study:

First, our understanding of individually perceived dimensions of information seeking situations is facilitated by an understanding of the perceived structural characteristics of that situation in the context of Sense-Making's well-laid conceptual foundation. In other words, the notion of the across time-space measures of behavior suggested by the traditional approach's use of demographic predictors of behavior as well as the socio-economic constraints posited by structural approaches are placed in a conceptually coherent context, i.e., that of Sense-Making. This means that the methodology of Sense-Making can be

enhanced by expanding its conceptualization to include structural dimensions of human information seeking behavior suggested by the two experimental predictors used in this study.

Second, Sense-Making's argument that time-space specific measures are more important than across time-space measures was validated by the assessment of the amount of variance explained by the Sense-Making predictors (including the experimental structural variables) versus the subjects. This test was made possible by the parsimony of this study's equal n, repeated measures design which, in the past, had not been used, making this kind of test unfeasible. The results of this study show that information seeking behavior varies according to the individual's perception of his/her own relationship to the situation s/he perceives and that this orientation changes with changes in space and time.

It should be reiterated here that the purpose of this study was not to disprove any of the work done by either traditional or structural researchers in the area of information seeking, but rather to gather the contributions of these two approaches into a more coherent framework. The internal validity and therefore coverage of an approach to inquiry into information seeking behaviors, such as Sense-Making, is enhanced by incorporating the empirical generalizations suggested by other approaches.

Specifically, the attempt was to reconcile the conceptualization of Sense-Making with the success (although limited) of demographic predictors of information seeking behavior from traditional approaches, as well as the logical constraints posited by structural approaches. By adding actor assessments of structural conditions, this attempt seems to have been reasonably successful.

Limitations. The limitations of this study are related to its exploratory nature and some of the statistical manipulations used in the analysis:

First, in order to be manageable, the variables chosen for this study represent only two of a potentially large number of perceived structural conditions that might be relevant to information seeking behaviors. Some variables that are obvious omissions are the "relationship" dimensions suggested by relational theorists (e.g., Ruesch & Bateson, 1951; Watzlawick, Beavin & Jackson, 1967; Millar & Rogers, 1976) or the "control" dimensions suggested by self-presentation theorists (e.g., Schutz, 1977; Goffman, 1971). There are certainly additional structural variables to be found which are ripe for exploitation by Sense-Making (e.g., Habermas, 1979).

Second, the potential weakness of the measurement of the experimental perceived structural predictor variables, as discussed above, may have attenuated their power to

predict to the information seeking criterion variables. This problem needs to be addressed in future research.

The third major limitation of this study is the data collection method itself. Although addressing the hypotheses mandated an approach similar to the one used here, the conditions under which data was collected represent the most intrusive approach used to date by Sense-Making studies. While respondents were given extensive training in the questionnaire instrument, the cohesiveness of Sense-Making's usual "time-line" method (see Dervin, 1983a for elaboration on this method) was absent. Respondents were not able to use a specific event around which to organize their feedback, but were required to retrieve several events from past experiences, thereby reducing the coherence of the usual Sense-Making data collection methods.

Fourth, the statistical manipulations used for the measure of association (i.e., the estimation of the variance accounted for) and the t-tests for correlated means are extremely conservative. For the purposes of this dissertation, the author felt that although these statistical manipulations were parsimonious and not biased, they were nevertheless conservative enough so that some of the potential richness of the qualitative interpretation may have been lost. Less conservative tests may have

facilitated the emergence of more systematic patterns of results.

Suggestions for Future Research

The limitations of this study point to specific recommendations for future research:

First, and most obvious, is the necessity of refining and extending the structural dimensions perceived by individuals in their information seeking behavior. This study used only two of a potentially large number of structural conditions that might be perceived to effect information seeking behavior and the measurement of these two variables is in question. As mentioned above, there are certain "relationship" and "control" conditions that would seem particularly relevant, as well as other conditions posited by structural researchers whose emphasis is on constraints to information seeking.

The second suggestion is related to the first, and addresses the claim by structural researchers that the most important structural constraints to information seeking behavior are not directly perceived by individuals (see Chapter 1). Conceptually, Sense-Making would argue that if these constraints are not perceived, then they will not be as powerful as perceived dimensions in their ability to predict information seeking behavior. This question needs to be addressed again after the development of further

structural measures and the refinement of the two used here.

The third suggestion for future research addresses the limitation of the method of data collection. The author would suggest that the ultimate assessment of the utility of the two experimental structural predictor variables be withheld until they are tested in a conceptually more coherent data collection method such as the Sense-Making "time-line" method. This would allow the collection of data relevant to the role of the experimental structural predictors to be collected in a more natural and coherent manner. The author further hypothesizes that the power of the experimental predictors would be enhanced by this seemingly simple consideration.

The fourth suggestion for future research is that the individually perceived structural dimensions of information seeking behavior should be tested in a variety of contexts, because it would be hypothesized that information seeking behavior would vary depending on the context in which it occurred. For example, perceived relative status as a constraint to information seeking would be hypothesized to be different in bureaucratic situations than in common social situations. The inclusion of a wide range of contexts might help to isolate the specific structural dimensions that are relevant for different kinds of information systems. This broadening of contexts of

information seeking to contexts other than the interpersonal context would also point to areas where structural dimensions are more relevant to the information seeking behaviors. For example, the author would hypothesize that structural constraints play a stronger role in computerized information retrieval than in interpersonal contexts.

The fifth and final suggestion is more for the larger context of research conducted within the Sense-Making approach. The attempt at qualitative interpretation undertaken in this chapter suggests that the initial paradigm and quantitative kinds of hypothesis testing published by Sense-making researchers to date needs to be augmented by specific qualitative hypotheses. The interpretations offered in this study offer several possibilities for this kind of hypothesis.

The addition of actor assessments of structural dimensions to interpretive approaches is a new and exciting addition that presents the possibility of increasing the coverage of interpretive approaches to include a wider variety of human information seeking phenomena and contexts.

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APPENDIX A:

THE QUESTIONNAIRE

SELF-IN-COMMUNICATION-SITUATION ANALYSIS

NAME: _____

SECTION: _____ TA: _____

This is a check-in assignment testing a new approach to human communication using situations from your own life. Your participation will be a valuable contribution to the study as well as being an interesting experience. This is an ungraded assignment, but not doing it (per instructions) leads to a grade reduction. You need to know that your answers will be checked for either a response bias (eg, filling in a series of 7's) or randomness (eg, filling in numbers randomly). If evidence is found of either of these, you will not be given any credit.

Here is what is involved. Following the conditions set forth on the top of each answer sheet, you are to think of twelve different communication situations in your life -- situations that in some way were troublesome to you or which required your attention -- one for each sheet. Each of these situations must be different. They can come from the recent past or the more distant past, BUT THEY MUST BE REAL! The situations you choose are up to you. These situations do not need to be earth-shaking events, but can come from any aspect of your life. After describing the situation and the aspects of your situation that meet the necessary conditions, you will be asked a series of questions regarding your communication behavior in your situation. Specific instructions are outlined below. Your answers will be kept confidential and only Professor Dervin and Mike Nilan (the researcher) will see them.

Your cooperation and attention to detail is essential -- in order for your responses to be useful to this study, you must think carefully about each situation and complete all parts of the questionnaire.

FILL IN ONE ANALYSIS PAGE FOR EACH SITUATION. THERE ARE ANSWER SHEETS ATTACHED TO THE END OF THESE INSTRUCTIONS. ALL OF THESE SHEETS, INCLUDING THE GENERAL QUESTIONS, COMPLETELY FILLED OUT AND STAPLED TOGETHER SHOULD BE TURNED IN AS SOON AS POSSIBLE, BUT THE FINAL DEADLINE IS MARCH 10, 1983.

GENERAL CONSIDERATIONS

There are a few points that must be kept in mind as you are thinking about which communication situations to choose for analysis and as you fill in your analyses:

1. Beyond picking a situation that fits the conditions for that specific answer sheet, there are no right and wrong, or good and bad answers to the questions that you are asked on the analysis sheets -- the way that you see things is what is important to the study. Please think carefully however, before answering a specific questionnaire item because we want to clearly understand your views.
2. Your communication situations can be any troublesome situation or a situation that needed your attention in which you had to deal with one or more other people. Again, this does not mean that these situations must be major disasters!
3. Using the situation conditions at the top of each sheet, you are to choose situations that match each particular set of conditions. In describing your situations and the situational conditions, BE BRIEF!
4. Please PRINT clearly so that your answers can be read easily. Pay special attention to numbers. For example, please be sure to differentiate a one (1) from a seven (7).
5. Focus only on the situation that you have outlined on the top of each sheet as you answer the items on the analysis sheets. Try to put yourself back in that situation as you consider the items on the analysis sheet. Do not try to connect one situation to another.

THE SITUATIONAL CONDITIONS:

There are three different situational conditions that must be satisfied for each communication situation that you will be analyzing. Each situation has a unique combination of these situational conditions. All of these situational conditions come from an approach that attempts to look at our communication behavior as close as possible to the way we might see ourselves. We can look at our lives as being in constant motion (except perhaps when we are asleep), particularly if we see this motion as being physical motion as well as mental motion. For example, even when we are sitting still, in our minds, we might be thinking about what we are going to have for our next meal or what we will say to a friend later on. This thinking (whether about situations that happened yesterday, are happening now, or will happen tomorrow) can be seen as a kind of motion. This is the idea that you are asked to use to look at your communication behavior for this study. Using this idea of mental movement, there are three sets of situational

conditions that might effect our communication in a particular situation:

We are moving in our minds constantly. Think of this movement in terms of a road -- we are constantly moving down this road. Although we could talk about the different situations we encounter on this road in many ways, for this study, we are going to use three ways of looking at this movement.

- 1) You are moving down this road or path and you see a fork in the road ahead. In this situation, you have a decision to make, -- you have to decide which branch you want to take. This situational condition is called DECISION.
- 2) You are moving down this path (or road), except someone else is leading the way (or driving). In this situation, someone else is making the decisions, someone who has more experience or authority. This situational condition is called BEING LED.
- 3) You are being forced down an undesirable road or path that you did not choose. In this situation, you have no say in the decisions, someone else or circumstances are making all the decisions. You just have to go along with them for the time being. This situational condition is called PROBLEMATIC.

For each situation, one of these three situational conditions will be the first kind that you have to take into consideration. The second kind of situational conditions, presented below, deals with the people you meet while traveling down your mental road or road of life.

In the course of travel down this road, there are other people with whom we would communicate, either because we want to, or because the situation we are in makes communication inevitable. We see these other people in terms of ourselves, in relationship to ourselves. Although we could talk about the relationships with different people we encounter on this road in many ways, for this study, we are going to use two kinds of relationships.

- 1) You see yourself as being of higher status in relation to the other person (or people). In this situation, regardless of who is making

the decisions, you see yourself as being of higher status than the other person for some reason or other. This relationship between you and other(s) in a particular situation is called HI STATUS.

- 2) You see yourself as being of lower status in relation to the other person (or people). In this situation, regardless of who is making the decisions, you see yourself as being of lower status than the other person. This relationship in a particular situation is called LO STATUS.

The last kind of situational condition that you will need to take into consideration in choosing each situation deals with the situations or environment in which you communicate with these other people.

In the situations when we communicate with someone else, we have a feeling that there is more or less potential for communicating with the other(s) who are important in the situation. We see the situation in terms of what our chances are for communicating. Of the several ways to look at this possibility for communicating, we are going to use the following two ways.

- 1) You are in a particular situation and there is something about the situation/context/environment that makes us feel that we are welcome to try to communicate with other(s). In other words, regardless of who is making the decisions or whether we are of higher or lower status than the other(s) in this situation, the situation seems to be open to attempts at communication with the other person -- both talking and listening, asking and answering. This kind of communication potential is called OPEN CMU.
- 2) You are in a particular situation and there is something about the situation/environment that makes us feel that we are not welcome to try to communicate or else that we will fail in our attempts to communicate with the other(s). In other words, regardless of who is making the decisions or whether we are of higher or lower status than the other(s) in this situation, it seems to be closed to attempts at communication. This lack of communication

potential is called CLOSED CMU.

These three kinds of "situational conditions" are probably the most difficult aspect to this exercise. It is important for you to think carefully about each one before you try to fill out an answer sheet. The items that you will be asked do not represent all the items that we could ask, and we realize this. What we are trying to do is look at specific ones in this study. While this may not be an especially easy exercise because our lives are not really simple, it will be interesting because, we are interested in situations that happened in YOUR life.

YOUR COMMUNICATION BEHAVIOR IN EACH SITUATION

This is a communication study. The items that you will be asked to respond to for each of your situations are aspects of communication that you have been exposed to already: QUESTIONS and HELPS.

As we travel down this road of life, we constantly find ourselves in situations in our minds where we would like to find out, learn about, come to understand, unconfuse, or make sense out of something on or near our road or in our lives. In sense-making, we call these QUESTIONS. For this study you must remember that we are talking about mental movement as well as physical movement. What this means is that you need not have asked these QUESTIONS out loud, nor need they have been answered. In this study, you will be given a list of QUESTIONS that have been developed through years of research. The specific names and details have been removed so that these QUESTIONS can apply to a wide variety of people in a wide variety of situations.

In our minds, we have ideas about the ways that we might use the information or answers that we get to our questions, regardless of whether we actually ask our questions or not, or get answers or not. In sense-making, HELPS is what we call these ways that we would use answers to our questions. As with the list of QUESTIONS, the specific details have been removed from the HELPS so that they can apply to the wide variety of uses that people have.

This study is concerned with your communication behavior in terms of these QUESTIONS and HELPS as you went through your situation. In order to try to understand your behavior, you are asked to pretend that you are back in that situation as you think about these QUESTIONS and HELPS.

- g. How do other people see this situation, what are their motives/reasons/plans?
- h. Does anyone agree with me?
- i. What do I think or feel?
- j. How can I decide among my options/alternatives?
- k. What are the different ways of looking at this situation?
- l. What caused this situation?
- m. Who and/or what is involved in this situation?
- n. Where can I get encouragement, help and/or support?
- o. What are my options/alternatives?
- p. Should I change my own view of this situation?
- q. How are the various elements of this situation related to each other?
- r. How can I get motivated?

4. BOX #4. Below is a list of the variety of ways in which people tell us they are helped by answers to their questions. For each of the ways listed, indicate how much you wanted to be helped in this situation in this way AT SOME POINT IN YOUR SITUATION. CHOOSE ONE NUMBER ON THE SCALE FOR EACH WAY YOU WANTED TO BE HELPED.

DIDN'T WANT	VERY MUCH WANTED
THIS KIND OF	THIS KIND OF
HELP AT ALL	HELP
<u> / 1 / 2 / 3 / 4 / 5 / 6 / 7 /</u>	

- a. Being able to relax.
- b. Getting ideas, pictures, or understandings.
- c. Being able to plan ahead, decide what to do, prepare.
- d. Getting started, being able to keep going, being motivated.
- e. Getting confirmation, reassurance, support.
- f. Getting out of a bad situation.
- g. Accomplishing what you wanted, reaching your goal.
- h. Being able to take your mind off things.
- i. Getting connected to other people, feeling less alone.
- j. Getting control of things.
- k. Having things go easier, calmer.
- l. Being able to go on to other things, leaving this behind.
- m. Avoiding a bad situation, not getting into one.

5. BOX #5. In this box, you are asked to evaluate some overall dimensions of your situation. First, you are asked to evaluate your ability to deal with this situation, in terms of how you felt at that time. CHOOSE ONE NUMBER ON THE SCALE FOR THIS SITUATION.

COULD NOT DEAL WITH IT AT ALL / 1 / 2 / 3 / 4 / 5 / 6 / 7 / COULD DEAL WITH IT WELL

Next, you are asked to indicate how much past experience you have had with this same kind of situation. Is it a situation that you have never experienced before, or is it a situation that you have been in many times before, or is it somewhere in between? CHOOSE ONE NUMBER ON THE SCALE FOR THIS SITUATION.

NEVER EXPERIENCED BEFORE / 1 / 2 / 3 / 4 / 5 / 6 / 7 / EXPERIENCED MANY TIMES BEFORE

The last overall evaluation has to do with how much power you felt had to change the situation. Did you feel that you didn't have any power at all, or did you feel that you had as much power as you wanted, or somewhere in between. CHOOSE ONE NUMBER FOR THIS SITUATION.

I HAD NO POWER AT ALL / 1 / 2 / 3 / 4 / 5 / 6 / 7 / HAD AS MUCH POWER AS I WANTED

GENERAL QUESTIONS ABOUT YOU (TO BE MARKED HERE)

6. Are you employed outside the home?

_____ No _____ Yes

6a. What kind of job do you have and what kind of place do you work at?

_____ Kind of job

_____ Kind of place

6b. What category would your yearly income fall into?

- _____ A. \$4,999 or less
- _____ B. \$5,000 to \$9,999
- _____ C. \$10,000 to \$14,999
- _____ D. \$15,000 to \$19,999
- _____ E. \$20,000 to \$24,999
- _____ F. \$25,000 to \$29,999
- _____ G. \$30,000 or more

7. What kind of job does/did the head of your household (eg, father, mother, etc.) have the last time you lived at home (now, if you still live at home)? What kind of place did he/she work at?

_____ Kind of job

_____ Kind of place

- 7a. What category would their yearly income fall into?

- _____ A. \$4,999 or less
- _____ B. \$5,000 to \$9,999
- _____ C. \$10,000 to \$14,999
- _____ D. \$15,000 to \$19,999
- _____ E. \$20,000 to \$24,999
- _____ F. \$25,000 to \$29,999
- _____ G. \$30,000 or more

8. What is your sex?

Male _____

Female _____

SITUATION ONE: FOR THIS PAGE YOU ARE TO SELECT A SITUATION WHICH YOU SEE MEETING THE FOLLOWING SITUATIONAL CONDITIONS:

DECISION: A situation in which you can see yourself as being faced with two or more alternatives for continuing on your path.

HI STATUS: A situation in which you see yourself as being of higher status than the other(s) in the situation.

OPEN CMU: A situation in which you see as being open to communication opportunities.

BOX #1: DESCRIPTION OF YOUR SITUATION: _____

BOX #2: THIS SITUATION IS A DECISION SITUATION BECAUSE: _____

THIS SITUATION IS A HI STATUS SITUATION BECAUSE: _____

THIS SITUATION IS AN OPEN COMMUNICATION SITUATION BECAUSE: _____

BOX #3: KINDS OF QUESTIONS I HAD IN THIS SITUATION

- | | | | |
|----------|----------|----------|----------|
| a. _____ | f. _____ | k. _____ | o. _____ |
| b. _____ | g. _____ | l. _____ | p. _____ |
| c. _____ | h. _____ | m. _____ | q. _____ |
| d. _____ | i. _____ | n. _____ | r. _____ |
| e. _____ | j. _____ | | |

BOX #4: KINDS OF HELPS I WANTED IN THIS SITUATION

- | | | | |
|----------|----------|----------|----------|
| a. _____ | d. _____ | g. _____ | j. _____ |
| b. _____ | e. _____ | h. _____ | k. _____ |
| c. _____ | f. _____ | i. _____ | l. _____ |
| | | | m. _____ |

BOX #5: OVERALL SITUATION EVALUATIONS CIRCLE ONE NUMBER

COULD NOT DEAL WITH IT AT ALL / 1 / 2 / 3 / 4 / 5 / 6 / 7 / IT WELL
COULD DEAL WITH IT WELL

NEVER EXPERIENCED BEFORE / 1 / 2 / 3 / 4 / 5 / 6 / 7 / EXPERIENCED MANY TIMES BEFORE

I HAD NO POWER AT ALL / 1 / 2 / 3 / 4 / 5 / 6 / 7 / HAD AS MUCH POWER AS I WANTED

SITUATION TWO: FOR THIS PAGE YOU ARE TO SELECT A SITUATION WHICH YOU SEE MEETING THE FOLLOWING SITUATIONAL CONDITIONS:

- BEING LED:** A situation in which you can see yourself as being led down a path of your choosing by someone with more experience/authority.
- HI STATUS:** A situation in which you see yourself as being of higher status than the other(s) in the situation.
- OPEN CMU:** A situation in which you see as being open to communication opportunities.

BOX #1: DESCRIPTION OF YOUR SITUATION: _____

BOX #2: THIS SITUATION IS A BEING LED SITUATION BECAUSE: _____

THIS SITUATION IS A HI STATUS SITUATION BECAUSE: _____

THIS SITUATION IS AN OPEN COMMUNICATION SITUATION BECAUSE: _____

BOX #3: KINDS OF QUESTIONS I HAD IN THIS SITUATION

- | | | | |
|----------|----------|----------|----------|
| a. _____ | f. _____ | k. _____ | o. _____ |
| b. _____ | g. _____ | l. _____ | p. _____ |
| c. _____ | h. _____ | m. _____ | q. _____ |
| d. _____ | i. _____ | n. _____ | r. _____ |
| e. _____ | j. _____ | | |

BOX #4: KINDS OF HELPS I WANTED IN THIS SITUATION

- | | | | |
|----------|----------|----------|----------|
| a. _____ | d. _____ | g. _____ | j. _____ |
| b. _____ | e. _____ | h. _____ | k. _____ |
| c. _____ | f. _____ | i. _____ | l. _____ |
| | | | m. _____ |

BOX #5: OVERALL SITUATION EVALUATIONS CIRCLE ONE NUMBER

COULD NOT DEAL WITH IT AT ALL / 1 / 2 / 3 / 4 / 5 / 6 / 7 / IT WELL
 COULD DEAL WITH IT WELL

NEVER EXPERIENCED BEFORE / 1 / 2 / 3 / 4 / 5 / 6 / 7 / BEFORE
 EXPERIENCED MANY TIMES BEFORE

I HAD NO POWER AT ALL / 1 / 2 / 3 / 4 / 5 / 6 / 7 / I WANTED
 HAD AS MUCH POWER AS I WANTED

SITUATION THREE: FOR THIS PAGE YOU ARE TO SELECT A SITUATION WHICH YOU SEE MEETING THE FOLLOWING SITUATIONAL CONDITIONS:

PROBLEMATIC: A situation in which you can see yourself as being forced down an undesirable path not of your own choosing.

HI STATUS: A situation in which you see yourself as being of higher status than the other(s) in the situation.

OPEN CMU: A situation in which you see as being open to communication opportunities.

BOX #1: DESCRIPTION OF YOUR SITUATION: _____

BOX #2: THIS SITUATION IS A PROBLEMATIC SITUATION BECAUSE: _____

THIS SITUATION IS A HI STATUS SITUATION BECAUSE: _____

THIS SITUATION IS AN OPEN COMMUNICATION SITUATION BECAUSE: _____

BOX #3: KINDS OF QUESTIONS I HAD IN THIS SITUATION

- | | | | |
|----------|----------|----------|----------|
| a. _____ | f. _____ | k. _____ | o. _____ |
| b. _____ | g. _____ | l. _____ | p. _____ |
| c. _____ | h. _____ | m. _____ | q. _____ |
| d. _____ | i. _____ | n. _____ | r. _____ |
| e. _____ | j. _____ | | |

BOX #4: KINDS OF HELPS I WANTED IN THIS SITUATION

- | | | | |
|----------|----------|----------|----------|
| a. _____ | d. _____ | g. _____ | j. _____ |
| b. _____ | e. _____ | h. _____ | k. _____ |
| c. _____ | f. _____ | i. _____ | l. _____ |
| | | | m. _____ |

BOX #5: OVERALL SITUATION EVALUATIONS CIRCLE ONE NUMBER

COULD NOT DEAL WITH IT AT ALL / 1 / 2 / 3 / 4 / 5 / 6 / 7 / IT WELL
 COULD DEAL WITH IT WELL

NEVER EXPERIENCED BEFORE / 1 / 2 / 3 / 4 / 5 / 6 / 7 / EXPERIENCED MANY TIMES BEFORE

I HAD NO POWER AT ALL / 1 / 2 / 3 / 4 / 5 / 6 / 7 / I HAD AS MUCH POWER AS I WANTED

SITUATION FOUR: FOR THIS PAGE YOU ARE TO SELECT A SITUATION WHICH YOU SEE MEETING THE FOLLOWING SITUATIONAL CONDITIONS:

- DECISION:** A situation in which you can see yourself as being faced with two or more alternatives for continuing on your path.
- HI STATUS:** A situation in which you see yourself as being of higher status than the other(s) in the situation.
- CLOSED CMU:** A situation in which you see as being closed to communication opportunities.

BOX #1: DESCRIPTION OF YOUR SITUATION: _____

BOX #2: THIS SITUATION IS A DECISION SITUATION BECAUSE: _____

THIS SITUATION IS A HI STATUS SITUATION BECAUSE: _____

THIS SITUATION IS A CLOSED COMMUNICATION SITUATION BECAUSE: _____

BOX #3: KINDS OF QUESTIONS I HAD IN THIS SITUATION

- | | | | |
|----------|----------|----------|----------|
| a. _____ | f. _____ | k. _____ | o. _____ |
| b. _____ | g. _____ | l. _____ | p. _____ |
| c. _____ | h. _____ | m. _____ | q. _____ |
| d. _____ | i. _____ | n. _____ | r. _____ |
| e. _____ | j. _____ | | |

BOX #4: KINDS OF HELPS I WANTED IN THIS SITUATION

- | | | | |
|----------|----------|----------|----------|
| a. _____ | d. _____ | g. _____ | j. _____ |
| b. _____ | e. _____ | h. _____ | k. _____ |
| c. _____ | f. _____ | i. _____ | l. _____ |
| | | | m. _____ |

BOX #5: OVERALL SITUATION EVALUATIONS CIRCLE ONE NUMBER

COULD NOT DEAL WITH IT AT ALL	/ 1 / 2 / 3 / 4 / 5 / 6 / 7 /	COULD DEAL WITH IT WELL
-------------------------------------	-------------------------------	-------------------------------

NEVER EXPERIENCED BEFORE	/ 1 / 2 / 3 / 4 / 5 / 6 / 7 /	EXPERIENCED MANY TIMES BEFORE
--------------------------------	-------------------------------	-------------------------------------

I HAD NO POWER AT ALL	/ 1 / 2 / 3 / 4 / 5 / 6 / 7 /	HAD AS MUCH POWER AS I WANTED
-----------------------------	-------------------------------	-------------------------------------

SITUATION FIVE: FOR THIS PAGE YOU ARE TO SELECT A SITUATION WHICH YOU SEE MEETING THE FOLLOWING SITUATIONAL CONDITIONS:

- BEING LED:** A situation in which you can see yourself as being led down a path of your choosing by someone with more experience/authority.
- HI STATUS:** A situation in which you see yourself as being of higher status than the other(s) in the situation.
- CLOSED CMU:** A situation in which you see as being closed to communication opportunities.

BOX #1: DESCRIPTION OF YOUR SITUATION: _____

BOX #2: THIS SITUATION IS A BEING LED SITUATION BECAUSE: _____

THIS SITUATION IS A HI STATUS SITUATION BECAUSE: _____

THIS SITUATION IS A CLOSED COMMUNICATION SITUATION BECAUSE: _____

BOX #3: KINDS OF QUESTIONS I HAD IN THIS SITUATION

- | | | | |
|----------|----------|----------|----------|
| a. _____ | f. _____ | k. _____ | o. _____ |
| b. _____ | g. _____ | l. _____ | p. _____ |
| c. _____ | h. _____ | m. _____ | q. _____ |
| d. _____ | i. _____ | n. _____ | r. _____ |
| e. _____ | j. _____ | | |

BOX #4: KINDS OF HELPS I WANTED IN THIS SITUATION

- | | | | |
|----------|----------|----------|----------|
| a. _____ | d. _____ | g. _____ | j. _____ |
| b. _____ | e. _____ | h. _____ | k. _____ |
| c. _____ | f. _____ | i. _____ | l. _____ |
| | | | m. _____ |

BOX #5: OVERALL SITUATION EVALUATIONS CIRCLE ONE NUMBER

COULD NOT DEAL WITH IT AT ALL / 1 / 2 / 3 / 4 / 5 / 6 / 7 / IT WELL

COULD DEAL WITH IT WELL

NEVER EXPERIENCED BEFORE / 1 / 2 / 3 / 4 / 5 / 6 / 7 / EXPERIENCED MANY TIMES BEFORE

I HAD NO POWER AT ALL / 1 / 2 / 3 / 4 / 5 / 6 / 7 / HAD AS MUCH POWER AS I WANTED

SITUATION SIX: FOR THIS PAGE YOU ARE TO SELECT A SITUATION WHICH YOU AS MEETING THE FOLLOWING SITUATIONAL CONDITIONS:

PROBLEMATIC: A situation in which you can see yourself as being forced down an undesirable path not of your own choosing.

HI STATUS: A situation in which you see yourself as being of higher status than the other(s) in the situation.

CLOSED CMU: A situation in which you see as being closed to communication opportunities.

BOX #1: DESCRIPTION OF YOUR SITUATION: _____

BOX #2: THIS SITUATION IS A PROBLEMATIC SITUATION BECAUSE: _____

THIS SITUATION IS A HI STATUS SITUATION BECAUSE: _____

THIS SITUATION IS AN CLOSED COMMUNICATION SITUATION BECAUSE: _____

BOX #3: KINDS OF QUESTIONS I HAD IN THIS SITUATION

- | | | | |
|----------|----------|----------|----------|
| a. _____ | f. _____ | k. _____ | o. _____ |
| b. _____ | g. _____ | l. _____ | p. _____ |
| c. _____ | h. _____ | m. _____ | q. _____ |
| d. _____ | i. _____ | n. _____ | r. _____ |
| e. _____ | j. _____ | | |

BOX #4: KINDS OF HELPS I WANTED IN THIS SITUATION

- | | | | |
|----------|----------|----------|----------|
| a. _____ | d. _____ | g. _____ | j. _____ |
| b. _____ | e. _____ | h. _____ | k. _____ |
| c. _____ | f. _____ | i. _____ | l. _____ |
| | | | m. _____ |

BOX #5: OVERALL SITUATION EVALUATIONS CIRCLE ONE NUMBER

COULD NOT DEAL WITH IT AT ALL /	1 /	2 /	3 /	4 /	5 /	6 /	7 /	COULD DEAL WITH IT WELL
---------------------------------------	-----	-----	-----	-----	-----	-----	-----	-------------------------------

NEVER EXPERIENCED BEFORE /	1 /	2 /	3 /	4 /	5 /	6 /	7 /	EXPERIENCED MANY TIMES BEFORE
----------------------------------	-----	-----	-----	-----	-----	-----	-----	-------------------------------------

I HAD NO POWER AT ALL /	1 /	2 /	3 /	4 /	5 /	6 /	7 /	HAD AS MUCH POWER AS I WANTED
-------------------------------	-----	-----	-----	-----	-----	-----	-----	-------------------------------------

SITUATION SEVEN: FOR THIS PAGE YOU ARE TO SELECT A SITUATION IN WHICH YOU SEE AS MEETING THE FOLLOWING SITUATIONAL CONDITIONS:

- DECISION:** A situation in which you can see yourself as being faced with two or more alternatives for continuing on your path.
- LO STATUS:** A situation in which you see yourself as being of lower status than the other(s) in the situation.
- OPEN CMU:** A situation in which you see as being open to communication opportunities.

BOX #1: DESCRIPTION OF YOUR SITUATION: _____

BOX #2: THIS SITUATION IS A DECISION SITUATION BECAUSE: _____

THIS SITUATION IS A LO STATUS SITUATION BECAUSE: _____

THIS SITUATION IS AN OPEN COMMUNICATION SITUATION BECAUSE: _____

BOX #3: KINDS OF QUESTIONS I HAD IN THIS SITUATION

- | | | | |
|----------|----------|----------|----------|
| a. _____ | f. _____ | k. _____ | o. _____ |
| b. _____ | g. _____ | l. _____ | p. _____ |
| c. _____ | h. _____ | m. _____ | q. _____ |
| d. _____ | i. _____ | n. _____ | r. _____ |
| e. _____ | j. _____ | | |

BOX #4: KINDS OF HELPS I WANTED IN THIS SITUATION

- | | | | |
|----------|----------|----------|----------|
| a. _____ | d. _____ | g. _____ | j. _____ |
| b. _____ | e. _____ | h. _____ | k. _____ |
| c. _____ | f. _____ | i. _____ | l. _____ |
| | | | m. _____ |

BOX #5: OVERALL SITUATION EVALUATIONS CIRCLE ONE NUMBER

COULD NOT DEAL WITH IT AT ALL / 1 / 2 / 3 / 4 / 5 / 6 / 7 / IT WELL COULD DEAL WITH IT WELL

NEVER EXPERIENCED BEFORE / 1 / 2 / 3 / 4 / 5 / 6 / 7 / EXPERIENCED MANY TIMES BEFORE

I HAD NO POWER AT ALL / 1 / 2 / 3 / 4 / 5 / 6 / 7 / HAD AS MUCH POWER AS I WANTED

SITUATION EIGHT: FOR THIS PAGE YOU ARE TO SELECT A SITUATION WHICH YOU SEE MEETING THE FOLLOWING SITUATIONAL CONDITIONS:

- BEING LED:** A situation in which you can see yourself as being led down a path of your choosing by someone with more experience/authority.
- LO STATUS:** A situation in which you see yourself as being of lower status than the other(s) in the situation.
- OPEN CMU:** A situation in which you see as being open to communication opportunities.

BOX #1: DESCRIPTION OF YOUR SITUATION: _____

BOX #2: THIS SITUATION IS A BEING LED SITUATION BECAUSE: _____

THIS SITUATION IS A LO STATUS SITUATION BECAUSE: _____

THIS SITUATION IS AN OPEN COMMUNICATION SITUATION BECAUSE: _____

BOX #3: KINDS OF QUESTIONS I HAD IN THIS SITUATION

- | | | | |
|----------|----------|----------|----------|
| a. _____ | f. _____ | k. _____ | o. _____ |
| b. _____ | g. _____ | l. _____ | p. _____ |
| c. _____ | h. _____ | m. _____ | q. _____ |
| d. _____ | i. _____ | n. _____ | r. _____ |
| e. _____ | j. _____ | | |

BOX #4: KINDS OF HELPS I WANTED IN THIS SITUATION

- | | | | |
|----------|----------|----------|----------|
| a. _____ | d. _____ | g. _____ | j. _____ |
| b. _____ | e. _____ | h. _____ | k. _____ |
| c. _____ | f. _____ | i. _____ | l. _____ |
| | | | m. _____ |

BOX #5: OVERALL SITUATION EVALUATIONS CIRCLE ONE NUMBER

COULD NOT DEAL WITH IT AT ALL / 1 / 2 / 3 / 4 / 5 / 6 / 7 / IT WELL

COULD DEAL WITH IT WELL

NEVER EXPERIENCED BEFORE / 1 / 2 / 3 / 4 / 5 / 6 / 7 / BEFORE

EXPERIENCED MANY TIMES BEFORE

I HAD NO POWER AT ALL / 1 / 2 / 3 / 4 / 5 / 6 / 7 / I HAD AS MUCH POWER AS I WANTED

HAD AS MUCH POWER AS I WANTED

SITUATION NINE: FOR THIS PAGE YOU ARE TO SELECT A SITUATION WHICH YOU SEE MEETING THE FOLLOWING SITUATIONAL CONDITIONS:

PROBLEMATIC: A situation in which you can see yourself as being forced down an undesirable path not of your own choosing.

LO STATUS: A situation in which you see yourself as being of lower status than the other(s) in the situation.

OPEN CMU: A situation in which you see as being open to communication opportunities.

BOX #1: DESCRIPTION OF YOUR SITUATION: _____

BOX #2: THIS SITUATION IS A PROBLEMATIC SITUATION BECAUSE: _____

THIS SITUATION IS A LO STATUS SITUATION BECAUSE: _____

THIS SITUATION IS AN OPEN COMMUNICATION SITUATION BECAUSE: _____

BOX #3: KINDS OF QUESTIONS I HAD IN THIS SITUATION

- | | | | |
|----------|----------|----------|----------|
| a. _____ | f. _____ | k. _____ | o. _____ |
| b. _____ | g. _____ | l. _____ | p. _____ |
| c. _____ | h. _____ | m. _____ | q. _____ |
| d. _____ | i. _____ | n. _____ | r. _____ |
| e. _____ | j. _____ | | |

BOX #4: KINDS OF HELPS I WANTED IN THIS SITUATION

- | | | | |
|----------|----------|----------|----------|
| a. _____ | d. _____ | g. _____ | j. _____ |
| b. _____ | e. _____ | h. _____ | k. _____ |
| c. _____ | f. _____ | i. _____ | l. _____ |
| | | | m. _____ |

BOX #5: OVERALL SITUATION EVALUATIONS CIRCLE ONE NUMBER

COULD NOT DEAL WITH IT AT ALL / 1 / 2 / 3 / 4 / 5 / 6 / 7 / IT WELL COULD DEAL WITH IT WELL

NEVER EXPERIENCED BEFORE / 1 / 2 / 3 / 4 / 5 / 6 / 7 / EXPERIENCED MANY TIMES BEFORE

I HAD NO POWER AT ALL / 1 / 2 / 3 / 4 / 5 / 6 / 7 / HAD AS MUCH POWER AS I WANTED

SITUATION TEN: FOR THIS PAGE YOU ARE TO SELECT A SITUATION WHICH YOU SEE MEETING THE FOLLOWING SITUATIONAL CONDITIONS:

DECISION: A situation in which you can see yourself as being faced with two or more alternatives for continuing on your path.

LO STATUS: A situation in which you see yourself as being of lower status than the other(s) in the situation.

CLOSED CMU: A situation in which you see as being closed to communication opportunities.

BOX #1: DESCRIPTION OF YOUR SITUATION: _____

BOX #2: THIS SITUATION IS A DECISION SITUATION BECAUSE: _____

THIS SITUATION IS A LO STATUS SITUATION BECAUSE: _____

THIS SITUATION IS A CLOSED COMMUNICATION SITUATION BECAUSE: _____

BOX #3: KINDS OF QUESTIONS I HAD IN THIS SITUATION

- | | | | |
|----------|----------|----------|----------|
| a. _____ | f. _____ | k. _____ | o. _____ |
| b. _____ | g. _____ | l. _____ | p. _____ |
| c. _____ | h. _____ | m. _____ | q. _____ |
| d. _____ | i. _____ | n. _____ | r. _____ |
| e. _____ | j. _____ | | |

BOX #4: KINDS OF HELPS I WANTED IN THIS SITUATION

- | | | | |
|----------|----------|----------|----------|
| a. _____ | d. _____ | g. _____ | j. _____ |
| b. _____ | e. _____ | h. _____ | k. _____ |
| c. _____ | f. _____ | i. _____ | l. _____ |
| | | | m. _____ |

BOX #5: OVERALL SITUATION EVALUATIONS CIRCLE ONE NUMBER

COULD NOT DEAL WITH IT AT ALL / 1 / 2 / 3 / 4 / 5 / 6 / 7 / IT WELL
 COULD DEAL WITH IT WELL

NEVER EXPERIENCED BEFORE / 1 / 2 / 3 / 4 / 5 / 6 / 7 / BEFORE
 EXPERIENCED MANY TIMES BEFORE

I HAD NO POWER AT ALL / 1 / 2 / 3 / 4 / 5 / 6 / 7 / I WANTED
 HAD AS MUCH POWER AS I WANTED

SITUATION ELEVEN: FOR THIS PAGE YOU ARE TO SELECT A SITUATION IN WHICH YOU SEE AS MEETING THE FOLLOWING SITUATIONAL CONDITIONS:

- BEING LED:** A situation in which you can see yourself as being led down a path of your choosing by someone with more experience/authority.
- LO STATUS:** A situation in which you see yourself as being of lower status than the other(s) in the situation.
- CLOSED CMU:** A situation in which you see as being closed to communication opportunities.

BOX #1: DESCRIPTION OF YOUR SITUATION: _____

BOX #2: THIS SITUATION IS A BEING LED SITUATION BECAUSE: _____

THIS SITUATION IS A LO STATUS SITUATION BECAUSE: _____

THIS SITUATION IS A CLOSED COMMUNICATION SITUATION BECAUSE: _____

BOX #3: KINDS OF QUESTIONS I HAD IN THIS SITUATION

- | | | | |
|----------|----------|----------|----------|
| a. _____ | f. _____ | k. _____ | o. _____ |
| b. _____ | g. _____ | l. _____ | p. _____ |
| c. _____ | h. _____ | m. _____ | q. _____ |
| d. _____ | i. _____ | n. _____ | r. _____ |
| e. _____ | j. _____ | | |

BOX #4: KINDS OF HELPS I WANTED IN THIS SITUATION

- | | | | |
|----------|----------|----------|----------|
| a. _____ | d. _____ | g. _____ | j. _____ |
| b. _____ | e. _____ | h. _____ | k. _____ |
| c. _____ | f. _____ | i. _____ | l. _____ |
| | | | m. _____ |

BOX #5: OVERALL SITUATION EVALUATIONS CIRCLE ONE NUMBER

COULD NOT DEAL WITH IT AT ALL / 1 / 2 / 3 / 4 / 5 / 6 / 7 / IT WELL

COULD DEAL WITH IT WELL

NEVER EXPERIENCED BEFORE / 1 / 2 / 3 / 4 / 5 / 6 / 7 / BEFORE

EXPERIENCED MANY TIMES BEFORE

I HAD NO POWER AT ALL / 1 / 2 / 3 / 4 / 5 / 6 / 7 / I HAD AS MUCH POWER AS I WANTED

HAD AS MUCH POWER AS I WANTED

SITUATION TWELVE: FOR THIS PAGE YOU ARE TO SELECT A SITUATION WHICH YOU SEE MEETING THE FOLLOWING SITUATIONAL CONDITIONS:

PROBLEMATIC: A situation in which you can see yourself as being forced down an undesirable path not of your own choosing.

LO STATUS: A situation in which you see yourself as being of lower status than the other(s) in the situation.

CLOSED CMU: A situation in which you see as being closed to communication opportunities.

BOX #1: DESCRIPTION OF YOUR SITUATION: _____

BOX #2: THIS SITUATION IS A PROBLEMATIC SITUATION BECAUSE: _____

THIS SITUATION IS A LO STATUS SITUATION BECAUSE: _____

THIS SITUATION IS A CLOSED COMMUNICATION SITUATION BECAUSE: _____

BOX #3: KINDS OF QUESTIONS I HAD IN THIS SITUATION

- | | | | |
|----------|----------|----------|----------|
| a. _____ | f. _____ | k. _____ | o. _____ |
| b. _____ | g. _____ | l. _____ | p. _____ |
| c. _____ | h. _____ | m. _____ | q. _____ |
| d. _____ | i. _____ | n. _____ | r. _____ |
| e. _____ | j. _____ | | |

BOX #4: KINDS OF HELPS I WANTED IN THIS SITUATION

- | | | | |
|----------|----------|----------|----------|
| a. _____ | d. _____ | g. _____ | j. _____ |
| b. _____ | e. _____ | h. _____ | k. _____ |
| c. _____ | f. _____ | i. _____ | l. _____ |
| | | | m. _____ |

BOX #5: OVERALL SITUATION EVALUATIONS CIRCLE ONE NUMBER

COULD NOT DEAL WITH IT AT ALL / 1 / 2 / 3 / 4 / 5 / 6 / 7 / IT WELL

COULD DEAL WITH IT WELL

NEVER EXPERIENCED BEFORE / 1 / 2 / 3 / 4 / 5 / 6 / 7 / EXPERIENCED MANY TIMES BEFORE

I HAD NO POWER AT ALL / 1 / 2 / 3 / 4 / 5 / 6 / 7 / HAD AS MUCH POWER AS I WANTED

APPENDIX B:

**FACTOR ANALYSIS OF
CRITERION VARIABLES**

FACTOR ANALYSIS OF CRITERION VARIABLES

This appendix describes the rationale and procedures used in factor analyzing the criterion variables used in this study.

As described in Chapter II, the information seeking criterion variables used in the questionnaire were derived from Sense-Making's theoretic considerations of information seeking behavior as well as from empirical generalizations across past Sense-Making information seeking studies. The criterion variables were presented to the respondents in the form of questions that he/she might have in a particular situation. Aside from the evidence offered by past Sense-Making studies, no argument is made for the exhaustiveness of the original 18 information seeking criterion variables. Instead, these criterion variables were seen to be sufficient to examine the hypotheses presented in Chapter I. The list of criterions evaluated by respondents in this study were:

How can I make this situation go away?

How can I avoid bad consequences?

How can I do something I want to do?

What will result from this situation?

Are other people in similar situations?

Is this a good situation or a bad one?

How do other people see this situation, what are their motives/reasons/plans?

Does anyone agree with me?

What do I think or feel?

How can I decide among my options/alternatives?

What are the different ways of looking at this situation?

What caused this situation?

Who and/or what is involved in this situation?

Where can I get encouragement, help and/or support?

What are my options/alternatives?

Should I change my own view of this situation?

How are the various elements of this situation related to each other?

How can I get motivated?

After the data had been coded and the conditions represented by values of the predictor variables had been validated (see Chapter 11), a series of analyses of variance with repeated measures were completed on all of the original 18 criterion variables and all sub-group means were plotted. Initial investigation of the patterns of significance, the sub-group means and the plots of the means indicated that there were considerable similarities in the patterns of results between criterion variables. The decision was made to examine the possibility of factor analyzing the criterion variables to see if a more parsimonious method of presenting

the results was feasible.

A series of factor analyses were run using SPSS (Nie et al., 1975) using various numbers of factors and either VARIMAX or QUARTIMAX rotations. There were three basic criteria established to judge the appropriateness or utility of the factor analyses.

The first criterion was that the eigen values of the factors be greater than 1.00. According to Nie et al. (1975), this is a common "cut-off" level that minimizes the possibility of generating factors that are not realistically represented by the correlation patterns in the data.

The second criterion was that the patterns of factor loadings of the be conceptually consistent with past Sense-Making results. In other words, the patterns needed to combine information seeking dimensions that were coherent with past Sense-Making studies so that the rationale of using Sense-Making as a means of grounding this study would not be lost. This criterion facilitated the interpretation of the factors used in this study because it was based upon patterns evident in this study as well as in past Sense-Making efforts.

The third criterion was that the patterns of significance and the plots of the means adequately represented the pattern of findings for the original 18 analyses of variance. It was initially hoped that none of the patterns of significance of the predictor variables

would be lost by factor analyzing the criterion variables. This was checked by completing analyses of variance with repeated measures for each factor analysis and examining significances and the plots of the means for the individual factors against the original 18 analyses of variance.

Using these three criteria, a six-factor, VARIMAX solution was judged as optimal. The eigen values of the factors ranged from a high of 4.12 to a low of 1.02 and account for 62.0% of the variance accounted for by all 18 original criterion variables.

Table 12 reports the results of this six-factor VARIMAX factor analysis with the original 18 criterions listed down the left-hand side of the table. The first six columns of numbers in this table are the factor loadings for the six factors representing respectively the Defining, Doing, Connecting, Removing, Projecting, and Motivating factor analytic criterion variables as used in this study. The seventh column of numbers under the "h"² heading are the communalities for each variable. The final column in the table, "FP," is the factor purity, computed by dividing the square of the factor loading of the highest factor by that variable's communality.

The naming of the factors or factor analytic criterion variables was done using a theoretic rationale in conjunction with a combination of the highest factor loading, the communality, and factor purity. In order for a

Table 12. Varimax factor analysis of the 18 close-ended items tapping respondents' information seeking in a particular situation.

INFORMATION SEEKING ITEM	FACTOR LOADINGS						2 h	FP %
	F1	F2	F3	F4	F5	F6		
How can I make this situation go away?	-.03	.06	.09	.87*	.08	.08	.78	97.0
How can I avoid bad consequences?	.05	.19	.09	.29	.47*	.02	.35	63.1
How can I do something I want to do?	.01	.30	.16	.16	.11	.14	.17	52.9
What will result from this situation?	.20	.21	.12	-.01	.57*	.02	.42	77.4
Are other people in similar situations?	.19	-.06	.30	.14	.18	.18	.22	40.9
Is this a good situation or a bad one?	.40	.05	.11	.05	.05	.19	.22	72.7
How do other people see this situation, what are their motives/reasons/plans?	.28	.03	.54*	.03	.18	-.02	.40	72.9
Does anyone agree with me?	.15	.22	.71*	.09	.04	.02	.59	85.4
What do I think or feel?	.38	.29	.19	-.03	.06	-.03	.27	53.5
How can I decide among my options/alternatives?	.20	.70*	.03	-.10	.18	.03	.57	86.0
What are the different ways of looking at this situation?	.46*	.33	.13	.03	.08	.11	.36	58.8

(continued)

Table 12 (continued)

INFORMATION SEEKING ITEM	FACTOR LOADINGS						2 h	FP %
	F1	F2	F3	F4	F5	F6		
What caused this situation?	.34	.00	.10	.45*	.13	-.01	.35	57.9
Who and/or what is involved in this situation?	.48	.09	.10	.05	.15	-.08	.28	82.3
Where can I get encouragement, help and/or support?	.10	.13	.31	.11	.32	.16	.26	39.4
What are my options/alternatives?	.21	.60*	.06	.11	.16	-.02	.45	80.0
Should I change my own view of this situation?	.35	.26	.25	.16	-.04	.11	.29	42.2
How are the various elements of this situation related to each other?	.53*	.12	.11	.04	.08	.18	.34	82.6
How can I get motivated?	.14	.06	.04	.04	.04	.67*	.47	95.5

* This question was selected for naming the factor because it had a factor loading greater than .40, its communality was greater than .30, and its factor purity (FP) was greater than 50.0%.

variable to be used in determining the name of a factor (marked by an asterisk "*" in Table 12), it needed a factor loading greater than .40, a communality greater than .30, and a factor purity greater than 50.0%. In addition, the names selected for each factor were chosen to be consistent with the cognitive movement metaphor used to describe the

predictor variables in the questionnaire. The definitions of the factor analytic criterion variables presented above in Chapter II are a result of this process of selection. The results of this factor analysis will be discussed below by factor.

Factor 1: Defining. The following variables had their highest factor loadings for the first factor in this analysis: "Is this a good situation or a bad one?" "What do I think or feel?" "What are the different ways of looking at this situation?" "Who and/or what is involved in this situation?" "Should I change my own view of this situation?" and finally, "How are the various elements of this situation related to each other?" While the overall sense one gets from reading this list of variables is consistent with the name chosen for this factor, Defining, only the third and sixth variables met the criteria established for the naming of factors. To be consistent with the cognitive movement metaphor, the present participle "defining" was used to name this factor.

Factor 2: Doing. Variables which had their highest factor loading on this factor were "How can I do something I want to do?" "How can I decide among my options/alternatives?" and "What are my options/alternatives?" Only the last two variables were used in establishing the name of this factor. The juxtaposition of identifying and deciding among alternatives suggests an action orientation. The term

"doing" was used to capture this action orientation.

Factor 3: Connecting. "Are other people in similar situations?" "How do other people see this situation, what are their motives/reasons/plans?" and "Does anyone agree with me?" were the variables whose highest factor loadings were on factor 3 although only the last two were used in naming this factor. The focus of these two variables seems to be oriented to other people so the term "connecting" was used to name this factor.

Factor 4: Removing. Both of the variables whose highest loading were on factor 4 were used in naming this factor. They were "How can I make this situation go away?" and "What caused this situation?" The juxtaposition of these two variables suggests movement away from the situation and, in this case, perhaps an attempt to understand how one got in a particular situation in order to get out of it. The term "removing" was used to name this factor to capture the movement away from the situation.

Factor 5: Projecting. The variables with their highest factor loading on this factor were "How can I avoid bad consequences?" "What will result from this situation?" and "Where can I get encouragement, help and or support?" Only the first two variables met the criteria established for naming this factor. The term "projecting" was chosen to name this factor because of an orientation towards the future.

Factor 6: Motivating. This factor had only one variable that had its highest loading on this factor and it also met the criteria for naming. This variable was "How can I get motivated?" The term "motivating" was used to name this factor.

APPENDIX C:

RAW DATA CODEBOOK

COMMUNICATION SITUATION UNIT OF ANALYSIS: NILAN DISSERTATION
MAR 29 83

VAR	COL	VARIABLE	CODE
001	01-03	PROJECT #	101
002	04-06	RESPONDENT #	001-995
003	07	QUAIRE VERSION	A=1 B=2 C=3
004	08	R EMPLOYMENT STATUS	0=unemployed 1=employed
005	09/10	BLANK	
006	11	R INCOME	1-7 9=NA
007	12/13	BLANK	
008	14	HEAD OF HOUSEHOLD INCOME	1-7 9=NA
009	15	SEX	0=female 1=male
010	16/17	SITUATION #	01-12
011	18	SITUATION MOVEMENT STATE	1=problematic 2=being led 3=decision
012	19	PERCEIVED RELATIVE STATUS	0=lo status 1=hi status
013	20	PERCEIVED OPENNESS OF COMMUNICATION	0=closed cmu 1=open cmu

VAR	COL	VARIABLE	CODE
		KINDS OF QUESTIONS HAD IN THIS SITUATION	
014	21	a. How can I make this situation go away?	1-7
015	22	b. How can I avoid bad consequences?	1-7
016	23	c. How can I do something I want to do?	1-7
017	24	d. What will result from this situation?	1-7
018	25	e. Are other people in similar situations?	1-7
019	26	f. Is this a good situation or a bad one?	1-7
020	27	g. How do other people see this situation, what are their motives/reasons/plans?	1-7
021	28	h. Does anyone agree with me?	1-7
022	29	i. What do I think or feel?	1-7
023	30	j. How can I decide among my options/alternatives?	1-7
024	31	k. What are the different ways of looking at this situation?	1-7
025	32	l. What caused this situation?	1-7
026	33	m. Who and/or what is involved in this situation?	1-7
027	34	n. Where can I get encouragement, help and/or support?	1-7
028	35	o. What are my options/alternatives?	1-7
029	36	p. Should I change my own view of this situation?	1-7
030	37	q. How are the various elements of this situation related to each other?	1-7
031	38	r. How can I get motivated?	1-7

VAR	COL	VARIABLE	CODE
		KINDS OF HELPS WANTED IN THIS SITUATION	
032	39	a. Being able to relax.	1-7
033	40	b. Getting ideas, pictures, or understandings.	1-7
034	41	c. Being able to plan ahead, decide what to do, prepare.	1-7
035	42	d. Getting started, being able to keep going, being motivated.	1-7
036	43	e. Getting confirmation, reassurance, support.	1-7
037	44	f. Getting out of a bad situation.	1-7
038	45	g. Accomplishing what you wanted, reaching your goal.	1-7
039	46	h. Being able to take you mind off things.	1-7
040	47	i. Getting connected to other people, feeling less alone.	1-7
041	48	j. Getting control of things.	1-7
042	49	k. Having things go easier, calmer.	1-7
043	50	l. Being able to go on to other things, leaving this behind.	1-7
044	51	m. Avoiding a bad situation, not getting into one.	1-7
045	52	ABILITY TO DEAL WITH THIS SITUATION	1-7
046-	53	PAST EXPERIENCE WITH SAME KIND OF SIT	1-7
047	54	POWER TO CHANGE SITUATION	1-7

APPENDIX D:

**PREDICTOR VARIABLE
CONTENT ANALYSIS SCHEMES**

Content Analytic Scheme #1 - SITUATION MOVEMENT STATE

- 1 = Problematic
- 2 = Being led
- 3 = Decision
- 9 = Other/Can't determine

Content Analysis Scheme #2 - PERCEIVED RELATIVE STATUS

- 0 = Lower status than other(s)
- 1 = Equal status with other(s)
- 2 = Higher status than other(s)
- 9 = Other/Can't determine

Content Analysis Scheme #3 - PERCEIVED OPENNESS OF COMMUNICATION*

- 0 = Respondent closed to communication
- 1 = Other(s) closed to communication
- 2 = Both respondent and other(s) closed to communication
- 3 = Closed, not clear
- 4 = Respondent open to communication
- 5 = Other(s) open to communication
- 6 = Both respondent and other(s) open to communication
- 7 = Open, not clear

- 9 = Other/Can't determine

* NOTE: This scheme was collapsed into a three category scheme for the purposes described in Chapter 2 where codes 0 through 3 represented "closed" and codes 4 through 7 represented "open."

VITA

Michael S. Nilan
4 Huntington Street
New Brunswick, New Jersey 08903
(201) 932-7913

Born: Denver, Colorado
December 3, 1950

Parents: John Edward Nilan
Phyllis Aileen Hansen

B.A. University of Washington
Seattle, Washington
Asian Languages & Literature -
Chinese Mandarin
1976

M.A. University of Washington
Seattle, Washington
International Communication Research
1980

Ph.D. University of Washington
Seattle, Washington
Communication Research
1985