THE EFFECTS OF SITUATIONAL DEFINITION AND TIME ON THE DYADIC INTERACTIONAL PROCESS

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ABSTRACT

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By

Nadyne Gail Edison

This study initially posed a definitional approach to social interaction which emerges from the symbolic interactionist perspective. Situational definition was indicated to be a central concern for the maintenance of interactional continuity in interpersonal communication systems. Interpersonal communication has been defined as consisting of a meaning system and a social activity system. The process of interactional continuity was conceived of as the maintenance, flow, and relationship of these two systems. The knowledge or definition that interactants have about a situation was said to determine the interactional continuity. The fundamental variables specified in this theoretical system were divided into background factors (X_1); exogenous level of situational definition (X_2); definitional activity (X_3), interactional continuity, an unobserved variable (X_4); and two indicators of continuity: tension (laughter, X_5) and attention (objective self-awareness, X_6). A rudimentary test of this theoretical system was proposed. It was hypothesized that the less the situational definition, the greater the degree of some defining activity (seeking normative definition, providing normative definition, and seeking

other's identity). Because providing self-identity was seen to be associated with objective self-awareness, it was hypothesized that the less the situational definition, the less the providing self-identity. Since tension (laughter) and attention (objective self-awareness) are associated with problems brought about by initially poorly defined situations, it was hypothesized that the less the situational definition, the greater the objective self-awareness and the greater the laughter. It was suggested that the six dependent variables would fluctuate over time, and that time would interact with the level of situational definition.

An experiment was then reported in which the level of situational definition was manipulated by either providing the subject with sufficient knowledge of the roles of the interactants and the structure of the interaction or by providing minimal knowledge about the components of the situation. Twenty male subjects participated in the experiment. All interacted with a confederate for five minutes. All interactions were unobtrusively videotaped. Analysis of these tapes by six trained coders comprise the data base. Ratio estimates were made every 15 seconds for all the dependent variables by the three coding teams.

Results suggest the study is internally valid, and that situational definition is a determinant of interactional continuity. The hypotheses concerning the effect of situational definition on the defining activity variables and attention were strongly confirmed while the hypothesis concerning laughter was not. Statistically significant effects of time were found for all variables except laughter. A time by situational

interaction was significantly present for objective self-awareness and providing normative definition.

The final chapter of this study consists of a critique and reconsideration of the method and the theory used in the study, as well as a proposal for areas of future investigation.

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CHAPTER 1

THE DYADIC INTERACTION PROCESS

1.1 Introduction

1.11 Overview. The purpose of this thesis is to begin the study of communication using a strategy which can provide us with information of a fundamental kind about interaction. At the core of a symbolic interactionist social psychology lies the notion that human actors create, interpret, modify, and communicate meanings so as to continuously define a situation and act upon it according to this fluid definition. Several consequences follow from this premise, each of which has implications for both theory and method for the study of interaction. These consequences will be elaborated, and then an empirical investigation will be reported to provide information as to the validity of this approach.

One approach often used to understand the nature of any system is to examine the deviant, pathological, or dysfunctional case. Hence, if the focus is on the mechanisms that maintain interpersonal communication, an examination of the process that disrupts or breaks down this system may be especially informative. With this in mind, this thesis (a) suggests variables that are seen as fundamental in the maintenance of interpersonal communication systems; (b) indicates how time must enter any interpersonal communication theory concerned

with the issue of continuity of interaction; and (c) derives a rudimentary test for some hypotheses from within this theoretical paradigm. The central concern will be with definition of the situation as the fundamental process of interaction; it is fundamental in that a theory of interaction must build upon this concept or else incorporate the concept through theoretical exceptions and modifications as Ball (1972) indicates. Another concern will be with how an interactional structure affects the level of objective self-awareness. In the subsections below a framework which implicates an empirical methodology will be developed.

1.12 The Process Model. Dyadic interactions have been studied and examined by many researchers in communication. Previous research has sought to explain the interaction process with equity theory or social exchange theory, interpersonal attraction theory, attribution theory, and non-verbal theories, to cite a few. All have sought to explain what variables affect the communication behaviors of the interactants.

By and large, most researchers have ignored the crucial variable in any process model, the variable of time. The study of communication is the study of a process, a continuous decoding and encoding of messages, yet when empirically testing the effects of these messages this process is typically examined at only one or two points in time. In order to explain dyadic interactions, data at multiple points in time are needed.

Cross-sectional data descriptive of interaction have been deficient in explaining changes in interactional structures. It should be clear that no battery of scores gathered at one point in time can be very informative of definitional processes, since any process is a function of time. While this conclusion has long been supported within the symbolic interactionist framework, the importance of this point cannot be understated for scientific theorizing in general (Blalock, 1969; Carlsson, 1972; Coleman, 1968; Galtung, 1970; Heise, 1975). The central concern of this study is to examine disequilibrium states in interactions, and this necessitates the examination of interactional processes as they change over time. The utility of cross-sectional data to provide knowledge of a causal system is restricted to the case in which each element under investigation is in equilibrium in the process being considered. Hence, both from a theoretical point of view as well as a statistical-inferential point of view, data descriptive of interactions must be gathered at many intervals.

The study proposed here is an empirical investigation of the dyadic communication process. It is proposed that the fundamental process that is crucial to a theory of interaction is the process of definition of the situation. The effects of definition of the situation are seen to be general and the variable gives us theoretical leverage to understand the process by which dyadic communication is maintained, disturbed, broken down, or reestablished. Studying the effects of the definition of the situation will also give us a better understanding of the importance of spontaneous attention by interactants

to the interaction for the maintenance of interactional continuity. Objective self-awareness is an indicant of a lack of spontaneous attention (Goffman, 1957). Continuity in interaction requires attention to be focused on the events of the environment and to be spontaneous. Thus the examination of objective self-awareness is crucial to an investigation of interactional continuity. Before reviewing the literature on definition of the situation and objective self-awareness, let us examine continuity in interaction.

1.13 Continuity, Discontinuity, and Equilibrium. When looking at the interactional process a key concern is with the continuity of an exchange of messages. Researchers have looked at processes such as embarrassment (Fink and Walker, 1975; Gross and Stone, 1964; Modigliani, 1968, 1971), humor (Burns, 1953; Coser, 1960), role distance (Goffman, 1961), and alienation from interaction (Goffman, 1957) as indicators of discontinuity in interaction and as results of this discontinuity. These processes, also indicated within the less focused research by Ball-Rokeach (1973), Emerson (1970), Garfinkel (1967), and Turner (1972), demonstrate disruption in interactional equilibrium but do not explain continuity and discontinuity in terms of general interactional theory. There appears to be an unanswered question: what is happening to cause these discontinuities, and how are interactions restructured once these events occur? In order to understand the causes and effects of discontinuity in interaction, the interpersonal communication process must be examined.

Interpersonal communication may be conceived of as the symbolic process persons engaged in to alter or maintain their relation to other persons. This meaning system for interpersonal communication implicitly allows for the cognitive representation of time, so that the person communicating may utilize the past (memory) and potential futures (expectations) to develop and govern a course of conduct with another. Interpersonal communication thus consists of a sequence of overt, discrete events taking place over time, and the cognitive representation of these events within an imagined time continuum. This dual function of time allows persons to be interactionally competent, in that problematic relational aspects of communication may be remembered and anticipated, and information may be provided or sought to account for these troubled events (cf. Hewitt and Stokes, 1975; Prus, 1975; Scott and Lyman, 1968).

Interpersonal communication may also be conceived of as a social activity system. In this conception, theoretical variables descriptive of joint functional activity are related over time so that interpersonal communication dysfunctions are minimized. By implication, boundary conditions for social system stability and the trend of optimal interpersonal relations over time are theoretically definable; what is needed now is a parsimonious model which incorporates this information. Clearly, this is a difficult task, since defining interpersonal communication pathologies predicates a theoretical structure. Nevertheless, the fruitfulness of the perspective is still subject to scrutiny based on standards of theory construction such as explanatory power, parsimony and generality.

The task at this point is to define the set of variables that indicates the course of the communication relation over time, and which suggests how both the meaning system and social activity system are able to absorb exogenous disturbances and be maintained. Their maintenance clearly comes about through the activity of persons (i.e., no deus ex machina is implied), and the outcome of the process of maintenance will be called interactional continuity.

We will now examine situational definition and its role in interactional continuity.

1.2 Situational Definition

1.21 Situational Definition as a Process. Defining the situation is a process. This implies that time, the neglected dimension in interaction, must be taken into account (Ball, 1972:64; Cottrell, 1970:69; Denzin, 1970:454; Waller, 1970:162). The evidence for the processual nature of definition of the situation has been provided both experimentally (Ball-Rokeach, 1973), and non-experimentally (e.g., Emerson, 1970; Garfinkel, 1967). From the symbolic interactionist perspective, the features which provide understanding of it are those that indicate continuity and discontinuity over time.

A process model is likely to be most informative when the phenomena under investigation can be described by a model which exhibits stationarity. Many models of interaction demonstrate a stable set of relationships among communicative behaviors over time (e.g., Hawes and Foley, 1973). One can imagine that, at any given

point in time, an interaction can be said to have a certain definition of the situation from the perspective of any interactant or of an observer. Similarly, we may characterize the interaction as having a level of situational definition. If we imagine a situation that is well defined by the interactants, we expect continual definitional behavior that varies over time. Excessive attempts at situational definition arise when unexpected or discrepant events occur, attention ceases to be spontaneous, in short, when the definition is realized as problematic (Goffman, 1957, 1959; Gross and Stone, 1964; Hewitt and Stokes, 1975; Messinger et al., 1962:99; Scott and Lyman, 1968:60). In cases of both high and low levels of definition of the situation, we may expect to find lawful relations between the changing factors that serve to define the situation. If this fails, it may indicate poor selection of definitional factors or their measurement, inappropriate functional form of relationship, or a process that is essentially non-deterministic across persons and/or situations. Since it is assumed that definitional processes are universal and ubiquitous within interactions, it is hypothesized that relations between and among definitional factors can be found by appropriate investigation.

1.22 Historicity. Humans are born into a preexisting society and are socialized to it. This means that new situations are always understood in terms of old ones (cf. McLuhan and Fiore, 1967). Language provides us with symbols which we use to describe a particular situation. This implies that language focuses upon the trans-situational constancy of objects in the situation (Mead, 1934:88).

Our vocabulary exists in a given cultural-historical complex, and our use of it to interpret acts is thus limited (Mills, 1940). These points indicate that the definition of the situation necessarily incorporates elements unique to a given language community, historical period, and culture. Each interactant has an interpretation of these extra-situational components, and in addition has a backlog of activities, including interactions, which provide information necessary to define situations. The interactant may have a special vocabulary or linguistic competence, a special history of interactions, or a special knowledge or interpretation of environments, norms, and roles. We may differentiate interactants on all this information (cf. Berger and Luckmann, 1967:31). The principle here is that, in any interaction, there are influences which may be treated as exogenous but relevant to the interactional process of defining the situation. This exogenous information provides us with content, but not process. To evolve a general theory is to capture these historical patterns in a scheme which is itself historically invariant. Particular information may be regarded as providing an individual with a specific cognitive map that differs, to a greater or lesser degree, with that of other individuals (Hewitt and Stokes, 1975; Woelfel and Saltiel, 1974). Clearly this in itself does not provide the dynamics of interaction. A scheme is required which extracts from the particular meaning of acts their interactional implication as relevant for a theory of interaction (cf. Kaplan, 1964:358ff).

1.23 Conversation. When interaction is examined, the question arises as to what aspects of the interaction should comprise our data base. We must include those aspects of the interaction that serve to indicate and interpret the definition of the situation. Clearly, what we call conversation contains the information interactants transmit both to others and to themselves (cf. Bem, 1972). Conversation includes the verbal, paralinguistic, and kinesic bands. Since one may utilize any or all of these bands in the process of defining the situation, theory dictates that none be excluded in studying interaction. The focus on conversation may seem direct, yet a relatively small number of social or behavioral scientists actually investigate it. This is to be contrasted with the primacy attributed to conversation for providing our knowledge of social reality:

> The most important vehicle of reality-maintenance is conversation. One may view the individual's everyday life in terms of the working away of a conversational apparatus that ongoingly maintains, modifies and reconstructs his subjective reality (Berger and Luckmann, 1967:152).

A hindrance to conversation is, ipso facto, a hindrance to the definitional processes of the interactants. We may differentiate two modes by which individuals proceed in conversation. A given interactant may provide definitional information, or seek it from any other participant(s) in the interaction. This is not to say that providing and seeking are mutually exclusive, for the same act may be understood to do both. Hence, "counting" methodologies, such as Bales' (1950) category scheme, are not sufficient to analyze the information

relevant to a symbolic interaction. Any specimen of human behavior has the potential to be saturated with complex meaning. On the other hand, the interactant "can be understood only in terms of the behavior of the whole social group of which he is a member, since his individual acts . . . implicate the other members of that group" (Mead, 1934:6-17). Acts, including definitional acts, have an interactional context which is inter-subjective. There must be some correspondence of meaning between an interactant's understanding of his or her acts, and the understanding of another with whom the interaction is proceeding. By extension, a person who is interactionally competent with a given interactant (i.e., a person who is capable of interacting with a given interactant) can serve to interpret the meaning of that interactant's communications.

1.24 Definitional Factors. A remaining issue in regard to situational definition is how the definitional content of interaction is to be analyzed. We imagine that any interaction can be characterized by the identities of the participants, and the normative structure of the situation.[1] Any social act may be analyzed for the extent to which it situates interactants or regulates their interaction. Considered in this way, there is no need to categorize various identities or norms. Rather, we may inquire as to the definitional impact of an act in terms of these two factors. For example, rather than be caught in the difficulty of having to decide whether cigarette smokers or depressed persons are identities or roles or statuses, the question to be decided is how much definitional information is associated with the communication of

these behaviors in social interaction. In the same way we may examine how "defining" is the communication of various norms for the interaction. Notice that this approach allows the use of estimating these process variables as continuous quantities. Any segment of conversation may be analyzed for the extent it defines the situation by implicating identities and/or norms.

The further elaboration of this scheme is necessary. Since interactants may provide or seek self-identities independently of the identities they provide or seek for another interactant, it seems useful to differentiate the identity factor into two components: self-identity and other identity (in the dyadic case).

To summarize, definition of the situation is conceived of as occurring in two modes and implicating three factors:

		Mode	
		Provide	Seek
Factor:	Normative Structure		
	Self-Identity		
	Other's Identity		

The evidence that suggests the validity of this typology is extensive. Scott and Lyman (1968:58) indicate that a normative structure serves to govern the "nature and types of communication between the interactants, including whether and in what manner accounts may be required and given, honored or discredited." Denzin (1969:925) discusses relational rules which "define how the self is to be presented, and display the forms that self-lodging

is to take place." In general, we may imagine norms can indicate conversational topic and style, as well as the topical and stylistic transitions of a conversation. Many experimental studies demonstrate how interactants mutually determine the kind of interaction that is to occur, but few studies utilize actual interaction and conversation of the subjects (for the former, the prisoner's dilemma paradigm is exemplary; for the latter, Davis and Farina, 1970, is one example).

The discussion of the negotiation of identities by interactants yields a long list of investigations. Discussion of the interactional providing and seeking of self-identity may be found in Blumstein (1975), on ceding identity; Prus (1975), on resisting designations; Foote (1951), on identity establishment; Potter (1952), on one-upmanship; and Goffman (1959), on self-presentation and impression management. Discussion of providing and seeking identity of another in interaction includes Strauss (1959), on status forcing; Weinstein and Deutschberger (1963), on altercasting; and Goffman (1959). Jones' (1964) discussion of ingratiation is relevant to both self-identity (self-presentation) and other's identity (other enhancement). The generation of a list of experimental studies on this topic would reflect the ingenuity of the author, since many studies incorporate interaction between subjects explicitly, and in any case there is always an implicit (to the investigator) interaction between the investigator and the subject; many findings on compliance, obedience, conformity, and other topics may be readily interpretable in terms of providing and seeking identities within the experimental setting (see, e.g., Alexander and Knight, 1971; Alexander and Weil, 1969; and Gamson, 1968:125ff).

From this review, it seems that the cells in the six cell typology are theoretically and empirically meaningful.

To summarize, the major points indicated for a definitional approach to the study of interaction are:

(1) Interaction must be studied as a process over time.

(2) Information prior to the interaction must be considered in the definitional process.

(3) Definitional factors must have a general and universal quality.

(4) Conversation in all its channels provides the data-base for the study of interaction.

(5) Interactants both provide and seek the definition of the situation.

(6) Acts must be considered inter-subjective meaning complexes.

(7) Interactants communicate about self-identity, other's identity, and norms.

(8) Communications imply an amount of situational definition.

(9) It is hypothesized that invariant laws of interaction exist, and that they consist of relations between and among definitional factors.

We will now examine objective self-awareness, its relation to situational definition, and its impact on interactional continuity.

1.3 Objective Self-Awareness

1.31 Theory of Objective Self-Awareness. Objective self-awareness is a variable that has received increasing attention by psychologically-oriented social psychologists. As an example, in the recent monograph by Duval and Wicklund (1972), this variable is used to account for a diverse body of findings dealing with conformity,

attitude-behavior discrepancy, social facilitation, and other phenomena. In the bulk of the current literature on self-awareness, we find two interesting things. First, the major focus has been on the effects of self-awareness, rather than on its causes. Second, and a consequence of the first point, is that the manipulation of self-awareness has relied on environmental artifacts, such as mirrors or videotapes, rather than on less obtrusive processes that result in heightened self-awareness in everyday activities.

Before we look at the naturalistic causes of objective self-awareness, the theoretical components of the variable will be specified.

Within the theory of objective self-awareness (Duval and Wicklund, 1972), there are three theoretical assumptions which are relevant to conversational situations and which specify causes and effects. First, the theory implies that there are certain factors in the situation which may lead one to become objectively self-aware: "the conditions leading to objective self-awareness . . . are nothing more than stimuli that cause a person to focus attention on himself" (Duval and Wicklund, 1972:7). The second assumption, referring to the effects of objective self-awareness, posits that when a person is objectively self-aware he/she will strive to leave that state. An individual will seek to shift from an objectively self-aware level because he/she has become aware of discrepancies between the self and a system of standards of correctness. The discovery of this discrepancy produces negative affect and motivates the individual to focus attention on aspects of the situation other than the self.

The objectively self-aware individual can use one of two strategies to reduce this negative affect. The individual can either better his/her performance so that it meets the "standard of correctness" already mentioned, or the individual can avoid stimuli which produce awareness. In essence, in order to avoid stimuli, the individual has to find external stimuli in the environment, whether an object or another person, on which to focus attention. Thus, this second important theoretical statement implies that when one experiences self-awareness, one will seek to improve one's interactional behaviors and/or seek different stimuli in the environment to attend to.

The third theoretical assumption, pertinent to a theory of interaction, addresses the end results of utilizing either of the two negative affect reducing strategies. If one resorts to either strategy, and can use it successfully, then the level of objective self-awareness, and hence, negative affect, will decrease. But if one cannot better one's interactional performance or avoid stimuli which produce awareness, negative affect will increase.

Working with this theoretical framework, the causes of self-awareness and its effects on the continuity of interaction will be discussed.

1.32 Causes of Objective Self-Awareness. We can examine the naturalistic causes of objective self-awareness in a situational context and its theoretical relationship with situational definition.

In the interactional situation the simple presence of another individual is the stimulus for objective self-awareness. Duval and

Wicklund note that various standards for self-evaluation may be situationally cued by the presence of another (p. 8). Duval and Wicklund do not go further to specify why objective self-awareness will be triggered by another. However, there also does exist a body of literature concerned with the naturalistic causes of objective self-awareness. This literature consists of the work on self-presentation (Goffman, 1959), alienation from interaction (Goffman, 1957), embarrassment (Goffman, 1956; Gross and Stone, 1964; Modigliani, 1971) and situational definition (Emerson, 1970; Hewitt and Stokes, 1975; Scott and Lyman, 1968). The conclusions drawn from this research are that objective self-awareness arises from interactional events that occur due to unclear or conflicting norms for the interaction, and/or unclear or conflicting identities for the interactants, all of which are components of situational definition.

The lack of situational definition affects the interactant's awareness of discrepancies between the self and the standard of correctness that should exist in the interaction. The negative affect experienced due to this awareness can be reduced if the interactant has knowledge of how the interaction is to be structured and how one is expected to behave in the interaction with this knowledge. The interactant would be able to establish the meaning system for the interaction, and thus improve his/her performance within the interaction. The individual has two available techniques which can be utilized to obtain this definitional information. First, the individual may try to establish or provide the definition of the

situation. This would then be "better performance" by the individual, which would reduce negative affect. The second technique available to the individual is to avoid the burden of providing definition by seeking it from the other interactant. If the other can help the interaction along, the focus of attention then lies on the other and again negative affect is reduced.

Examining these connections between situational definition and objective self-awareness, it is suggested that low situational definition, which implies difficulty for interaction, induces objective self-awareness. Also, it is suggested that high objective self-awareness initially impedes the individual's ability to participate in effective situation defining activities. Duval and Wicklund suggest that:

> with consciousness turned toward the self, to the exclusion of the external world, the line of communication between the causal agent self and external reality is temporarily eliminated. This disconnection of the causal agent self's contact with the world makes it impossible for the person to constantly monitor the environment for stimuli changes and control his behavior accordingly (1972:36).

This implies that when objective self-awareness is experienced one cannot immediately establish the situational definition. But when the individual becomes aware that there is a discrepancy between the self and standards of correctness, defining activity should increase so that negative affect can be reduced.

Another important theoretical link between the two processes is that when an interactant is experiencing high objective self-awareness,

fewer references about the self will be made, that is, one will not make reference to one's own situational identity (Duval and Wicklund, 1972:4). These theoretical ties will now be further specified and explored in a theoretical model.

1.4 A Theoretical Model

This attempt at model building begins with a specification and analysis of interactions that exhibit difficulties for the participants. These difficulties are of the meaning system kind. By this it is meant that persons find it difficult to continue because the meaning structure within the interaction is failing. Hence, we would identify a heated argument between two people as not difficult if the interaction continues, and differentiate it from one in which individuals are literally at a "loss for words" (i.e., where overt communication ceases). In the latter situation, persons have only a minimal correspondence of meanings for the situation, and the communication that does take place is meta-communicative; there is exhibited knowledge that the meaning system is in trouble. This second situation would also be differentiated from one in which interactants communicate by silence, leave taking, or non-verbal means. In this situation, while aspects of interaction have ceased, the meaning system still remains in tact. A theoretical system abbreviated in the model of Figure 1 will now be presented which represents the process that has been discussed.

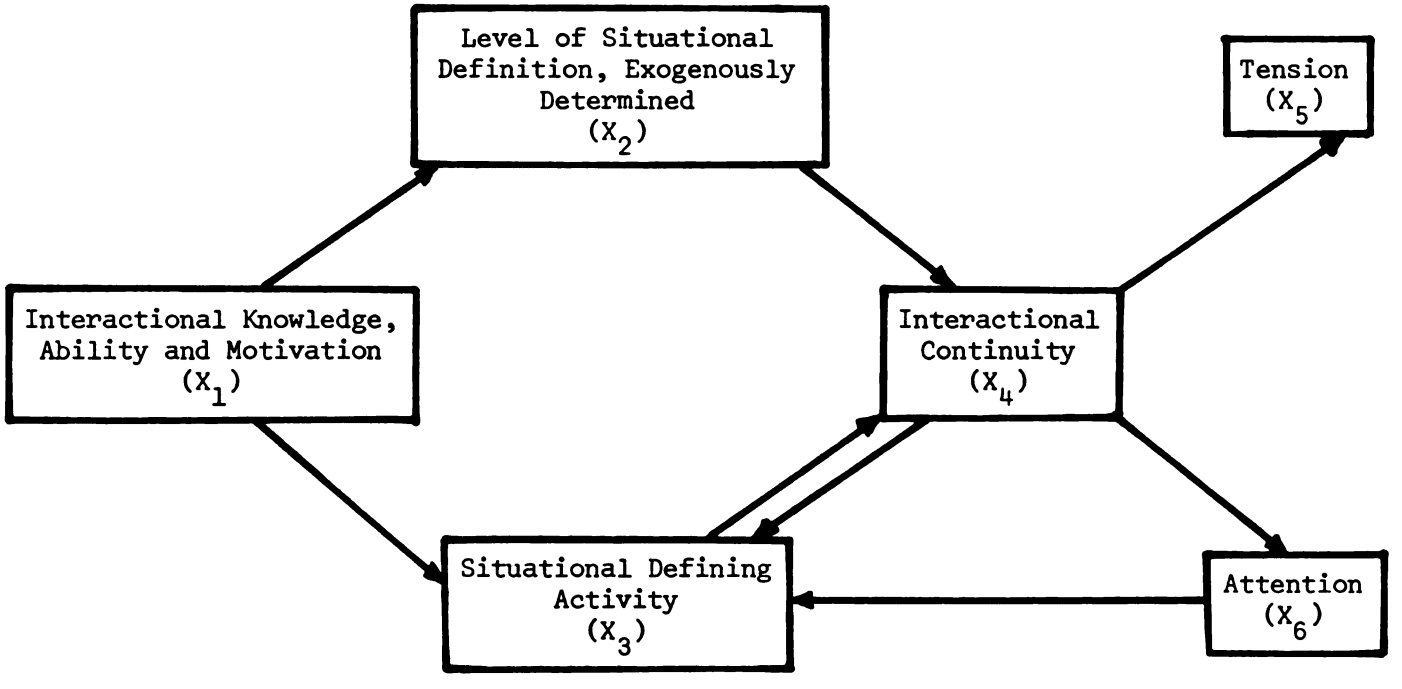


Figure 1. A non-recursive static model of interactional continuity, excluding error terms.

First, individual and group differences are represented as X_1. It must be assumed that individuals are knowledgeable, able, and want to participate in a given interaction, and to the extent that this is uncontrolled, the empirical results are less precise.

Second, X_2 is the level of situational definition determined exogenously, i.e., by events outside the immediate control of the interactional system, including the interactional knowledge, ability, and motivation of the interactants. The factors of situational definition in a dyadic social system are self-identity, or knowledge of one's own role that structures communication in interaction; other's identity, or knowledge of the other's role that structures one's communication in interaction; and normative definition, or knowledge of norms and rules that make salient features of the environment which in turn affect communication.

Third, interactants engage in defining the situation over the course of the interaction. This is represented as X_3, and six activities are subsumed under this variable: interactants may (1) seek self-identity; (2) provide self-identity; (3) seek other's identity; (4) provide other's identity; (5) seek normative definition; and (6) provide normative definition. The support of this typology has been stated.

Continuing with the model, it is seen that the effects of X_2 and X_3 on interactional continuity (X_4) are complex. The model summarizes the following process: X_2 initially brings about a level of continuity (X_4) which results in initial defining activity (X_3) by the interactants.

Assuming no disturbances to the meaning or social systems, situational defining activity continues and brings about a varying level of continuity over time. Hence, the level of continuity and the amount and character of defining activity are represented as a non-recursive relationship to indicate this process over time.

As indicators of continuity, two variables are proposed. The first is the tension level in the system (X_5). For this particular investigation, tension level will be indicated by laughter. Research on interpersonal ambiguity, embarrassment, and humor suggests that laughter is a tension-indicating activity and hence an overt indicator of system tension (see Bales, 1950; Coser, 1960; Emerson, 1970; Fink and Walker, 1975; Goffman, 1956).

Finally, as previously discussed, it seems that interactional problems affect the attention (X_6) of the interactants. As Goffman (1957) indicates, interactants are expected to be spontaneously attending to the interaction; a failure in this regard is generally contagious to other interactants, and also is contagious in the sense that lack of spontaneous involvement eventually brings about a self-consciousness. Hence, the indicator of non-spontaneous attention will be objective self-awareness (cf. Duval and Wicklund, 1972).

1.5 A Rudimentary Test and Hypotheses

In the experiment to be reported below, only a rudimentary test of the theoretical system is proposed. In this experiment all dyads are male-male to control for some X_1 factors; other variables represented by X_1 in Figure 1 are randomized. The manipulated variable is

X_2, hereafter called situational definition. It is expected that situational definition will bring about large differences in the X_3 variables. In this study, seeking self-identity and providing other's identity are not measured. Hence it is hypothesized:

Hypotheses 1-3:

The less the situational definition, the greater the seeking normative definition, providing normative definition, and seeking other's identity.

Since it has been theorized that when objective self-awareness is experienced one seeks to shift attention from self, it is hypothesized that:

Hypothesis 4:

The less the situational definition, the less the providing self-identity.

Since tension (laughter) and attention (objective self-awareness) are associated with problems brought about by initially poorly defined situations, it is hypothesized that:

Hypotheses 4-6:

The less the situational definition, the greater the objective self-awareness and the greater the laughter.

Time has explicitly entered into the discussion of communication in two ways. Interactants use time to order their communication with memory and anticipation, and over time the situational defining activity occurs. The six dependent variables should fluctuate over time, and time may also interact with the level of situational definition.[2] This would mean that the pattern of flow of the varibles over time is affected by the level of situational definition. These effects will also be examined.

1.6 Summary and Perspective

This chapter has sought to identify and explain fundamental variables that can provide a theoretical system for the analysis of the interpersonal communication process. In examining interpersonal communication the focus of concern is with the process of interactional continuity, which is conceived of as the maintenance, flow, and relationship of a meaning system and social activity system. The process of defining the situation has been identified as the key to determining interactional continuity. Theory posits that knowledge about the role of self, the role of other, and the structure of an interaction is necessary if a meaning system for interaction is to be established. When this knowledge is not preestablished for the interactants, certain disturbances occur, such as lack of spontaneous attention. Since the interest is with how these disturbances are overcome and how continuity is reestablished, examining interactions over time is necessary. In the experimental study described in Chapter 2, we seek to examine the process that disrupts or breaks down the interactional continuity system.

CHAPTER I

FOOTNOTES

[1]Situational definition is conceptualized as consisting of three components: self-identity, other's identity, and normative structure. It is contended that these three components are exhaustive and of equal importance for defining the situation. The relative importance of these components are not dealt with in this thesis. (For another conceptualization, see McHugh, 1964.)

[2]To date, there are no other studies that examine the effects of situational definition in interaction over time. Thus, there is very little basis for prediction as to how these variables will behave over time. Therefore, the examination of these variables over time is exploratory.

CHAPTER 2

METHOD

2.1 Overview of Study and Design

An experimental laboratory study was conducted to test the theory of dyadic interaction. Situational definition was manipulated to have two levels, high and low. In each of these two conditions there were 10 subject-confederate dyads. Each subject interacted for five minutes with a confederate. Each interaction was unobtrusively videotaped. Subjective reports were obtained from all subjects. However, primary analysis utilized videotapes of the interaction. This analysis entailed having coders make independent ratio estimates on six dependent variables for every 15-second segment of the discussion. The data obtained were analyzed with an analysis of variance procedure. Hence, the design consists of two independent variables, situational definition with two levels, and time, which will be examined at twenty 15-second intervals. Situational definition is a between subjects factor, while time is a within subjects factor (i.e., a repeated measure). The results from these analyses will be reported in Chapter 3 of this thesis.

This experiment is a rudimentary test of the theoretical system presented in Chapter 1. The design is conducive to the examination of the interactional processes over time. The difficult task in designing this or any experiment is in establishing a functional relationship

between the operationalization of the independent variable and the theory. For this study a situation needed to be devised that would be adaptable to either a high definition condition or a low definition condition, and in which the components of situational definition could be easily and successfully manipulated.

Discussion of these and other design considerations follow.

2.2 Experimental Design

2.21 Design Considerations. In choosing an appropriate design to test the relationships of the independent and dependent variables many issues needed consideration. A major issue was whether and how to manipulate objective self-awareness and situational definition. Situational definition is conceptualized as consisting of three components: knowledge of self's role in the interaction, knowledge of other's role in the interaction, and knowledge of the norms, rules, and structure of the interaction. When deciding on a manipulation, all three components need to be implicated. In considering the manipulation of objective self-awareness, an issue that required attention was the probability that an already high level would exist due to the nature of situation, that is, the lab experiment.

Other issues in designing this study were the role of the confederate and the specific situation for the subjects. These design considerations will be discussed below.

2.22 Manipulations. Originally situational definition and objective self-awareness[1] were to be independently experimentally manipulated. Each was to have two levels. This design was first

chosen because it would give the researcher optimal control and information. However, due to theoretical and operational problems, the manipulation of objective self-awareness was not adequate. A discussion of these problems and manipulation considerations follows the presentation of manipulations.

The manipulation of situational definition that was used in the original design was refined and used in the final design. As stated earlier in choosing a manipulation for situational definition, all three components of the variable had to be incorporated. The manipulation for high situational definition entailed giving the subject a set of written instructions which informed him (a sample of male subjects was used) that he would be discussing campus life at Michigan State University with a new transfer student (the confederate; see Appendix A). These instructions explain that the new student has never attended a major university campus and that he is a transfer student from a small college. The subject is also told that as a student at MSU he is the best person to prepare a new student for university life. These written instructions also suggested possible topics the subject might discuss with the new student. This first part of the manipulation begins to tap the three components of the variable. It clearly explains the subject's role in the discussion. It also explains the other student's role, and finally, it suggests guidelines and rules for the discussion.

The self-identity and other's identity components of the manipulation of the variable were made stronger by the exchange

of a 20-statement "Who Am I" test (Kuhn and McPartland, 1954) filled out by both the subject and the confederate prior to the discussion (see Appendix B). This then gave the subject additional background information about the confederate. The subject would also feel that the confederate now had more information about the subject.

The manipulation of the normative structure component was further strengthened by giving the subject specific discussion topics. An index card with discussion topics was placed on a table in the discussion room (see Appendix C). The subject was instructed to discuss these topics. The purpose of this index card was to give the subject additional direction and structure for the interaction. To insure the understanding of the instructions and for greater impact, all instructions were orally reiterated immediately prior to the beginning of the discussion. Thus, the manipulation for situational definition was multifaceted to satisfy the three components of the variable.

Low situational definition was manipulated by informing the subject in written instructions that he would participate in a discussion with another student. He was not given specific instructions as to how to structure the discussion, nor was he informed of his role or the other's role in the discussion. Discussion topics were not given to the subject. The 20-statement test was filled out, but was collected by the experimenter rather than exchanged by the subject and confederate. Thus, in this condition, the subject had little understanding of his role or the confederate's role in the interaction, no background knowledge about the confederate, and little understanding

of the normative structure of the interaction. When pretested this manipulation proved to be successful. In pretest and post-experimental interviews subject responses confirmed the success of the manipulation.

The manipulation creating a high level of objective self-awareness was pretested. The pretest consisted of informing the subjects that they would be observed from behind a two-way mirror. The curtain in the discussion room was to open, giving the subject full view of the two-way mirror. Those in the low objective self-awareness condition were not told they would be observed and the two-way mirror was not visible to them. During pretest post-experimental interviews it was realized that this manipulation was not successful. Those subjects in the low objective self-awareness condition indicated that they were very self-conscious during the discussion and suspected they were being watched. Thus, it became evident that we could not easily manipulate the level of objective self-awareness independently of situational definition.

Several possible reasons may account for the failure of this manipulation. One explanation may be that the level of objective self-awareness was at a high level before the introduction of the manipulation due to the laboratory setting: the psychiatric room, the videotape equipment, and the microphones in view. Even though great effort was taken by the researchers to find a physical environment that least resembled a laboratory setting, the above-mentioned conditions could not be avoided. It is also possible that by simply omitting the statement that the subject would be observed did not assure that he

would believe this. This indeed was expressed by subjects in the low objective self-awareness treatment when interviewed. They stated that even though they weren't told they were being watched, they suspected that they were.

Another important possibility for failure is the strong theoretical and conceptual linkage between situational definition and objective self-awareness. It was found during the pretest post-experimental interviews that subjects in the low-situational definition treatments were objectively self-aware regardless of whether they were being observed or not and the objective self-awareness manipulation was only slightly affecting an already high level of objective self-awareness. Thus, if this third reason is in fact the correct reason for failure, then the two variables cannot be successfully independently manipulated. Therefore, due to the reasons stated, objective self-awareness was not manipulated, but was measured. The manipulation of situational definition remained as indicated and was used in the final design. The adjusted design was a 2 x 20 design, with 2 levels of situational definition and 20 time units. In each of the two treatments there were 10 subject-confederate dyads.

Further discussion of the considerations in choosing an experimental manipulation will be discussed in the subsection on general considerations in manipulation selection to follow.

2.23 General Manipulation Considerations and Confederate's Role. One issue that arises when a manipulation is chosen is how the experimenter introduces that manipulation. The manipulation in this

study is introduced in a set of instructions given to the subject before the discussion takes place. One problem to consider when incorporating written instructions to introduce the manipulation is whether it will have an impact during the actual experiment. The problem is one of time lag between the presentation of the instructions and the actual experiment. This issue was considered and was resolved by having the experimenter reiterate and reinforce the instructions orally in the discussion room immediately before the discussion was to begin. Utilizing both the techniques of written instructions and oral instructions, the researcher is afforded with both control and impact. The written instructions offer the experimenter control of interpretation by the subject while the oral explanation allows for greater impact.

Another issue of importance in regard to the experimental manipulations is the role of the confederate. It must be decided upon whether or not the confederate is to introduce the manipulations, whether or not one is to reinforce the manipulations, and if one is to know the manipulations. Having the confederate introduce the manipulation of the independent variable is a convenient procedure, but somewhat more likely to evoke suspicion from the subject. Thus for this reason, and to avoid bias due to the unintentional influence of the confederate, the confederate in this study did not introduce the manipulations. The confederate was, however, aware of the two different situations. However, he did not know the independent or dependent variables. He was instructed and trained to have consistent

behavior within treatments. The confederate was instructed not to direct or initiate the discussion, not to add to or help the discussion, and he was not to be too eager or too inattentive. We controlled the confederate's behavior in order to avoid suspicion on the part of the subject. Also, it was the subject's responses and communication techniques in the dyadic interaction that were of interest. If the interaction needed to be helped or saved, it was the subject's interaction patterns that were of concern.

The confederate's behavior, however, was somewhat different in the two manipulated situations. In the low situational definition condition, he was instructed not to stay on one topic too long, not to give too much information, and not allow the subject to assume the role of an interviewer. He was told that if the subject took the role of interviewer, then he should respond by asking the subject a question In the high situational definition condition, he was allowed to be more attentive and talkative. The rationale for this adjustment of confederate's behavior was due to the fact that in one condition he was to play the role of a new student, while in the other, he was to play the role of another student who was a subject in an experiment. It should also be noted that in both situations, the confederate needed to appear as uncertain about the situation as the subject. However, the confederate remained consistent across situations when the subject asked him questions about himself. For example, regardless of condition, if the confederate was asked where he was from, he replied, "Inkster, Michigan." If he was asked if he was a student at MSU, he replied,

"no" and state that he attended Albion College but was to be attending MSU in the fall. If the confederate was asked why he was participating in the study, he replied that it was part of his orientation to the Department of Communication at Michigan State University. In the post-experimental interviews, subjects in both conditions perceived the confederate as a quiet, shy, and nice individual.

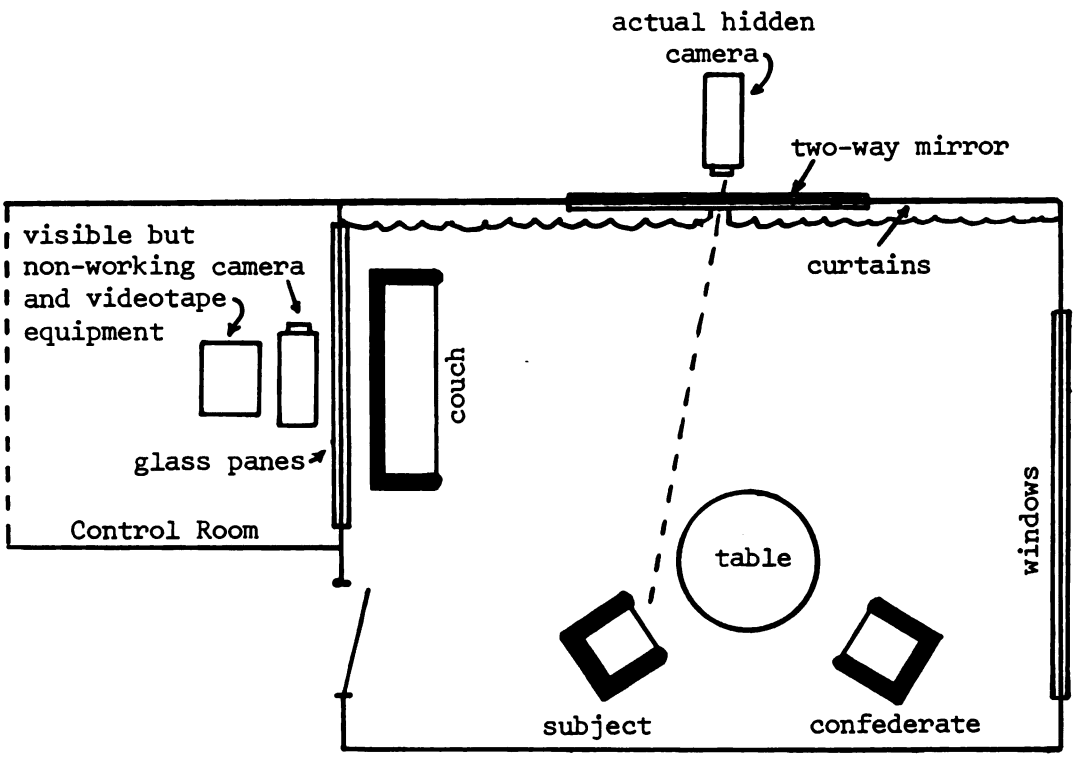
2.24 Pretests. Both the original design and the adjusted design were pretested in the last two weeks of April, 1975. When deciding upon the situation for the experiment, the researcher sampled an Introduction to Human Communication class at Michigan State University. Each class member was asked to list at least five difficult or embarrassing situations. This survey was conducted so that the researcher could find a situation viewed most often as a difficult one by a college age student (see Appendix D for list of most often mentioned situations). Pretests were then conducted with those situations mentioned the most to determine the actual discussion situation. In choosing the actual discussion situation it was important to select a topic that would render a two-way discussion rather than a one-way interview. Also, the situation had to be amenable to the manipulation. That is, the situation had to be one where the researcher could supply both a high level and low level of situational definition to the discussion. The topic decided upon was what a student would tell a new student at Michigan State University. Once this was established, a second sampling of Human Communication students was conducted to obtain a list of topics which would be used in the high situational definition condition. Those topics repeatedlv listed were used for the discussion topics (see Appendix C).

The pretest of the complete design was conducted in April 1975. During the pretests, the researchers[2] conducted post-experimental interviews with subjects. The purpose of these interviews was to check the manipulations, suspicions, and reactions to the confederate. Based on these interviews, minor changes were made in the manipulations and instructions to the confederate.

2.25 Facilities and Apparatus. The experiment was conducted in the Department of Psychiatry, East Fee Hall, Michigan State University. Several other experimental laboratories were investigated before the researchers decided on Fee Hall. The researchers strongly believed that the facilities needed to be as naturalistic and comfortable as possible. Several pretests were conducted elsewhere on the Michigan State University campus. Some facilities were discarded after subjects indicated that they felt highly conscious of the laboratory atmosphere.

There were several important considerations in choosing the setting. First, the lab had to be a naturalistic setting; second, it had to facilitate the use of videotape equipment and microphones; and third, it had to be equipped for unobtrusive taping. The facilities used met all these considerations. The discussion room where the interactions were to take place was connected to a main videotaping control room which facilitated unobtrusive videotaping. The room itself was arranged to resemble a living room. There was a couch, coffee table, three comfortable chairs, carpeting, and curtains. Two-way mirrors were hidden behind draperies and videotaping could be done with just a slight opening in the curtains. The control room could be seen,

if desired, through glass panes. (The importance of this point will be discussed in the procedures section.) The discussion room then looked like this:



The Discussion Room

Many other rooms on the same floor were available. Rooms to be used as waiting room and a post-experimental interview room were made available. A videotape technician[3] provided assistance with the technical aspects of data gathering.

All taping was done on one-half inch black and white videotape.

2.26 Questionnaire Instruments. The first instrument administered was titled Pre-Discussion Report (Appendix B). This was a 20 statement "Who Am I" test (Kuhn and McPartland, 1954). It was completed by all subjects. The purpose of this pre-experimental instrument was to obtain background information from the subjects which would be used in the high situational definition condition. It should be noted that the confederate filled out this form with identical information each time the experiment was run (see Appendix E for confederate's form).

The second form was called the Post-Experimental Questionnaire. The first page of the Post-Experimental Questionnaire (see Appendix F) was titled "Initial Report." The "Initial Report" consisted of two questions which served as manipulation checks on the independent variables. The subject was asked to answer these two questions based on how he felt after he read the instructions, but before he participated in the discussion. The scale used for this "Initial Report" was the same type of scale used throughout the questionnaire.

The scale used throughout the instrument is a ratio scale, where "0" represents total absence of a given variable, and "100" is anchored as "average." "Average" is the level that would be expected in a typical task-oriented discussion between two males. For any given variable, the subject would make a ratio comparison with the mean level of the corresponding variable in an average discussion. The subject was able to write any non-negative integer he wished. Each question, then, was to be compared to an average task-oriented discussion that the subject had at one time participated in. Each question was

accompanied with a "yardstick." The yardstick was used as a guide for each question. It explained what "0" and "100" represented for that particular question. For instance, question 4 asked: "how similar do you feel to the other participant?" In the yardstick for this question "0" equals not at all similar and "100" equals average similarity. If the subject felt average similarity he would answer "100." If he felt half as similar based on an average discussion he would answer "50." If he felt twice average, he would answer "200." The advantage of this scale is that it allows for ratio measurement. Also, the scale has no boundary and thus the subject is not limited in his estimate.

The "Discussion Report" within the Post-Experimental Questionnaire (see Appendix G) was a set of questions that pertain to the actual discussion. For these questions, the subjects were asked to make estimates for himself and also for the other participant (the confederate). For instance, question 7 asked: "how much communication was centered on you and how much communication was centered on the other participant?" The "yardstick" stated "0" indicates no communication centered on you, and no communication centered on the other participant, and "100" indicates the average amount of communication centered on you and the average amount of communication centered on the other participant. The purpose of having the subjects rate the other participant's behavior was to enable the researchers to have a check on the consistency of the confederate in and across treatments.

Questions 26 and 27 were open-ended questions. These questions checked subjects' suspicions about the cover story (see subsection 2.27 for cover story), the facilities, and the videotape equipment, the confederate, the researchers, and the researchers' purpose for the study.

Question 31 asked the subject to graph the difficulty of the discussion over time. A graph was given with a horizontal line indicated. This line is labelled "Average Difficulty = 100." This question was utilized to give the researchers a visual representation of how difficult the interaction was perceived by the subject over time.

The dependent variables to be analyzed for this thesis were obtained from the estimates made by six outside coders over 20 points in time. This procedure will be discussed in subsection 2.31 of this chapter.

2.27 Experimental Procedures. The experiment was conducted from May 10, 1975 to May 31, 1975. The study was carried out during the hours of 7:00 to 10:00 p.m. on weekdays and during the hours of 10:00 a.m. to 4:00 p.m. on the weekends.

Each subject participated in a five minute interaction with a confederate.[4] Each interaction was unobtrusively videotaped.

Upon the arrival of the subject to the floor of the building in which the experiment was to take place, he met the confederate. Both were then met by Experimenter #1.[5] The two participants did not converse, other than exchanging formalities. It was carefully planned that an experimenter would be stationed so that the subject's arrival

could be seen. The experimenter introduced herself as a member of the research staff, and asked the two subjects if they were scheduled to participate in the communication study. After they replied, she asked them to follow her. They proceeded down the hallway to a room labelled "Waiting Room." The experimenter then seated the confederate and subject at two adjacent desks. She gave each of them two forms, the 20 statement tests, and the appropriate experimental instructions (form GA; see Appendix A). She orally instructed them to first fill out the 20 statement test to the best of their ability and then to proceed to read the instructions on the other form very carefully.

The subjects were allowed about 10 minutes in the waiting room to complete their tasks. At the end of the 10 minutes, Experimenter #2[6] entered the waiting room. She asked the subjects if they had completed the form and read the instructions. If they replied affirmatively, she then collected the forms and pencils from each. If a few more minutes were needed to read the instructions, the time was allowed. If the subject was randomly assigned to the high situational definition condition (form GA2 instructions), Experimenter #2 asked the subject and the confederate to exchange their Pre-Discussion Reports. They were allowed two minutes to read the other's form and then both forms were collected.

Next, Experimenter #2 gave both the subject and confederate a form entitled "Project Design" (see Appendix H). This form contained the cover story. As the subjects read this form, the experimenter read it aloud. The cover story states that "the purpose of this study

is to look at final discussions. There are four conditions." The following chart is on the form:

	Prediscussion	No Prediscussion
Film	(A)	B
No Film	C	D

→ Final Discussion

On the forms handed to all subjects Condition A is circled in pencil. The experimenter explained that "a coin was tossed in order to have random selection and you two are in Condition A, which means that you will have a pre-discussion, see a film, and then participate in a final discussion."

The purpose of this cover story was to prevent suspicions about hidden videotape equipment. Then Experimenter #2 brought the subject and confederate into a room labelled "Discussion Room." In this room, the subjects could view non-working videotape equipment behind a glass pane. Experimenter #2 stated that, as they can see, the camera is not working. She explained that the videotape equipment was for the final discussion, and that the final discussion would be taped. They were also told that pre-discussion would not be taped, but rather that at the end of the pre-discussion they would fill out a short questionnaire and have a short interview and then proceed to see the film.

Next, Experimenter #2 proceeded to state the discussion instructions. She introduced the two subjects and, in the high situational definition condition the confederate was introduced as a new student.

The experimenter waited for both the subject and the confederate to state their names. She would then ask the confederate if he was the new student. Once the confederate confirmed that he was the new student, she would say, hesitating, "Gary is from . . . [looking at the confederate] Albion College?" The confederate would reply that that was correct. She would then reiterate the information on the high situational definition instruction sheet.

In the low situational definition condition, the experimenter again would allow the subject and confederate to introduce themselves. She would then tell them that they were to participate in a discussion. She gave them no further instructions.

After appropriate instructions were given, the experimenter instructed them to begin and thanked them. All the subjects were actually videotaped from a camera that was behind a two-way mirror behind an almost closed curtain. The camera that was in view was directed away from the subjects and was in fact not functioning. Once the interaction began, taping was done from the second camera which was not visible to the subjects.

Experimenter #2 waited outside the Discussion Room for a signal from the assistant[7] videotaping the interactions, who was also timing the interaction. The assistant indicated when five minutes were up, and Experimenter #2 would then reenter the Discussion Room. She told both the confederate and the subject that they were to be interviewed. She asked the subject to come with her, and informed the confederate that another experimenter would come for him in a minute. Experimenter

#2 and the subject left the Discussion Room and went to the room labelled "Interview Room."

In the Interview Room, the subject was given the Post-Experimental Questionnaire which was titled "Discussion Report" (Pre-Film) to enhance the cover story. The experimenter then explained the scale on the questionnaire, did the sample question with the subject and explained that the two questions of the "Initial Report" should be based on how the subject felt after he read the instructions but before he participated in the pre-discussion. She asked the subject to complete the questionnaire, thanked him and exited.

The final step in this experimental procedure was the post-experimental interview. Experimenter #3[8] entered the Interview Room approximately 20 minutes after Experimenter #2 left. When the subject completed the questionnaire, Experimenter #3 would ask the subject several questions (see Appendix I, debriefing statement titled "Post-Experimental Interview"). These questions sought the subject's understanding of the scale of the questionnaire, his likes and dislikes of the discussion, his feelings about the other participant, and his understanding of the purpose of the study. After these questions were answered, Experimenter #3 read the debriefing statement (Appendix J). Experimenter #3 would then ask the subject if he had heard about the project from any other students and if he had any questions. After answering any questions the subject might have had, the experimenter asked the subject not to discuss the study with any other students because many students across campus would be participating. The

subject was thanked for his assistance and shown out of the building by Experimenter #3. The subject left by a different exit so as not to come in contact with any waiting subjects.

It should be noted that subjects were not totally debriefed at this point. Discussion of debriefing procedures follows in the next subsection.

2.28 Ethical Considerations. In the research that was conducted for this thesis there are two ethical issues which must be dealt with. The first issue involves lying to the subject about the confederate. In one condition, the subject is told a false story about the confederate. In the low situational definition condition, the subject is just told that the confederate is another student. But as previously stated, if the subject asked the confederate background information, the confederate would reply with the same information that was given about him to the subjects in the high situational definition condition, that he was a transfer student and was not presently attending Michigan State University.

The second issue of concern deals with the ethics of unobtrusively videotaping the interaction. For obvious reasons, the subject could not be told prior to the discussion that he would be taped. However, in the post-experimental interview, the subject was told that the interaction was taped and then asked if the researchers could use the tape for data analysis. This appears to be an adequate way to handle this problem. Each subject was given the opportunity to refuse the use of his tape. It appears that no harm was experienced by the subjects since they

were immediately informed of this fact. It should also be indicated that all subjects knew there would be a videotaping of themselves later in the study and that they had agreed to that. (It should be noted that this information will not be found in the debriefing section of the post-experimental interview sheet. It was inadvertantly omitted. However, all subjects were informed about the videotaping and asked permission to use it by the experimenter.) It is therefore believed that no unethical or harmful practices were used.

The debriefing paragraph on the post-experimental interview (see Appendix I) does not mention or refer to the confederate. The subjects were not given this information because it was feared that it might be relayed to classmates who were to be future subjects. Thus this information was purposely omitted to avoid contamination.

All subjects received a formal debriefing letter (see Appendix J). The letter revealed the truth about the confederate and again informed them about the videotapes, explained the variables and hypotheses in the study, gave them the names of the researchers, and thanked them for their assistance. This letter was mailed approximately 12 months after participation. Only two participants could not be located by letter.

2.29 Subjects. Subjects were drawn from an introductory sociology and introductory communication class at Michigan State University. Twenty male subjects were used. Since it was anticipated that background variables (X_1) would affect levels of interactional continuity, sex of interactants, one such background variable, was controlled for in this study.

2.3 Coding Procedures

2.31 Coder Training. Six undergraduates[9] were utilized as coders (three males, three females). There were many objectives that needed consideration in the training procedure. First, all coders had to understand and agree upon the conceptualizations of the variables. Second, they all had to use the same criteria for evaluating the presence of the variables. Third, they had to use the same comparison group for their "average" discussion. Fourth, they had to be trained to use this average group as the comparison for each 15-second segment. Fifth, they needed to understand and appreciate the ratio scale technique to be used. (It should be noted that the scale used by the coders was the same kind of scale used on the Post-Experimental Questionnaire, Appendix G).

It is apparent that great time and effort was needed to properly train the coders. The process that took place was one of negotiation of meanings and consensual establishment of a coding symbol system. The coders' thinking had to be structured. They had to be able to conceive of the variables in the abstract and yet recognize them in concrete examples. They had to be able to evaluate the variables numerically. Thus, they had to relate a linguistic symbol system to a numerical symbol system in a consistent and parallel way.

Very few studies to date have used such an elaborate coding procedure (see Fink and Walker, 1975; Pacanowsky and Fink, 1976). Thus, there was little information available to the researcher as to how to proceed. It was apparent that the first task was to help the

the coders understand their existing thought processes. This was accomplished by first having them make independent decisions about variables. This process shall be discussed below.

The coders were trained for about 150 hours over a period of eight weeks. The first two weeks of training (see Appendix K for training schedule) entailed meeting with all six coders as one group. The researcher spent time discussing the process of conceptual and operational variables, latent and manifest variables, and the different types of research designs in the social sciences. Also, time was devoted to the explanation of different scaling procedures in measurement. The two weeks were also used to familiarize the coders with the procedures that were to take place in the following weeks, and to explain to the coders why training was necessary and time consuming. To accomplish this, the researcher had the coders participate in role playing skits. Skits were invented and two coders would enact them, while the remaining coders would make estimates on practice variables. The practice variables used were shyness, embarrassment, anxiety, and nervous tension. After participating in these short role playing exercises it became evident to the coders that they were conceiving of the variables differently and that they were using the different criteria for estimating the variables. They also realized that each of them was using a different comparison group for their ratio judgments.

Based on these exercises, both the coders and researcher appreciated the importance of discussion and negotiation of

conceptualizations for variables, criteria for variables, and a comparison group for variables. Thus, the training procedure for the next two weeks was an intensive training with communication variables other than the variables to be used in the study. The coders were given five variables: verbal aggression, dominance, altruism, compliance, and effort. These variables were purposely chosen because they were felt to be difficult to conceptualize due to their highly abstract nature. It was important to make the coders realize that a functional relationship needed to exist between the indicators (symptoms) of a variable and its conceptualization. These practice variables were chosen because a functional relationship is not obvious and indicators are not apparent. This means that the coders needed to realize that any indicators they established for a variable must represent the presence of that variable based on its conceptualization. This problem became evident in the conceptualization and operationalization of compliance, which is illustrated in Appendix L.

The procedure that followed was to have each coder independently formulate a conceptualization for each communication variable. They independently established a conceptual definition for each of these communication variables and explicated the terms in their definition. When this part of the task was completed for the first variable, discussion would take place. As a group they would modify or redefine the definition and jointly explicate the terms. The end product was a consensual conceptualization and explication of the variable. After this was accomplished, each coder independently established symptoms

for the consensual conceptualization. The term symptom was assigned to those behaviors that indicated the presence of the particular variable. Many different behaviors could be symptomatic of the particular variable, but all symptoms need not be present to indicate the manifestation of the variable. Thus, symptoms for a particular variable were not meant to be necessarily additive. The term indicators usually implies that additivity is necessary to confirm the presence of a particular variable and it was for this reason that the term was not used. Again, discussion and negotiation took place. The symptoms had to be functionally related to the conceptualization and had to be mutually exclusive for that variable. By practicing with these communication variables the coders became prepared and trained to work with the actual variables in the study.

The variables in the study were presented to the coders one at a time. The coders were divided into two groups, a morning group and an afternoon group. The morning group was comprised of two females and one male, while the afternoon group was made up of two males and one female. All were undergraduates at Michigan State University. Each group worked with three variables. Each group met on the average of four hours a day, six to seven days a week for five weeks. The variables for the morning group were <u>experiencing objective self-awareness</u>, <u>providing self-identity</u>, and <u>seeking normative definition</u>. The variables for the afternoon group were <u>seeking other's identity</u>, <u>providing normative definition</u>, and <u>laughter</u>. The variables were divided based on their conceptual relationships. It would not have

been wise to give one group both providing and seeking normative definition. It would have been difficult for them to separate the variables in a given segment. Those variables most conceptually similar were divided between the two groups. Even though the criteria for each variable were conceptually independent, it was necessary to avoid as much as possible coding dependence among variables.

The researcher provided the groups with a basic conceptual framework for each variable. Next, there were discussions on the conceptualizations of each variable. Each coder then explicated the terms in the conceptualizations. Discussion among the group on the explications took place and consensual explications were formulated. The researcher only provided the background information for each variable and then would only participate in the discussions if the coders began theorizing. On occasion the coders would try to establish causal relationships of the study variables and other variables. In these instances the researcher would remind the coders that their interest is with the variable's presence in an interaction and not with why it was present. Problems such as this occurred only during the beginning of the training procedure, and as the coders became more confident with the variables this problem was alleviated. From the long extended discussions the researcher was able to evaluate the coders' understanding of the variables. When the researcher was confident that the variables were understood and conceived of the same way by each coder, she instructed each coder to formulate symptoms for the variables. Discussion of each coder's symptoms

took place as well as discussion of other possible symptoms. Each coder presented his/her symptoms with examples. Discussion and negotiation of the symptoms for each variable took approximately one week. The final consensual symptoms were an outgrowth of the discussions and negotiations of the coders.

This procedure took place for each variable. At the end of the four weeks each group had formulated working consensual conceptualizations and symptoms to evaluate the presence of each variable. What remained to be established was the comparison group. Again, there was discussion on what an "average" group might be. Also, discussion prevailed on what an average amount of each variable would be. The group had a basic conception of average and continued to reformulate it while viewing practice videotapes. Eventually segments were found in the practice tapes for each group that would constitute "average" for each variable.

Two weeks were spent practicing on pretest tapes. The coders would see a 15-second segment and then code it. For each segment the estimates were discussed. During practice coding the researcher was able to make sure the coders were using only the symptoms they had established for the variables. Also, the practice coding gave the coders the opportunity to learn comparable meanings for the ratio judgments. Discussion would take place as to why the degree of the variable for a given segment was viewed as, e.g., twice average or one-half average. By continued discussion the coders soon appreciated each other's conception of the quantitative scale. Once this was

understood, they were able to agree upon comparable meanings of the scale. Again, discussion and negotiation facilitated this. Practicing on the pretest tapes also helped to get the coders into the habit of comparing each segment to their average comparison group and not to a previously observed segment.

During the two weeks of practice it was also established that the symptoms should not be viewed as additive. In other words, they should not make their estimates based on the number of symptoms present but rather on the magnitude of the symptoms. Therefore, if only one symptom is present but in a great amount, it is possible to consider that the variable is present in a great amount.

A detailed statement of the conceptualization of each variable and the corresponding symptoms formulated and used by the coders is presented in the next subsection.

2.32 Conceptualizations and Corresponding Symptoms. The following is a detailed statement of the conceptualization of each variable and the corresponding symptoms formulated and used by the coders. Each team of coders studied the same set of notes for their variables. Both teams jointly agreed on the average comparison group. Their definition of "average" will be discussed first.

The average comparison group consisted of two males participating in an average discussion which lasts for five minutes. The discussion is somewhat task oriented; in other words, there is a goal or purpose for the discussion. The two people in this average discussion group are aware that a goal or task is to be completed and they know what the

goal is. They are both also aware that they are participants in the task.

Objective self-awareness was defined as the self being the object of its own conscious attention. An objectively self-aware state is characterized as one of passivity, introspection, and self-evaluation. There is an awareness and consciousness of aspects of self. Consciousness is focused exclusively on self and the individual consequently attends to his own conscious state, personal history, his body, or any other personal aspects of self. An objectively self-aware state is a state of heightened self-consciousness. An objectively self-aware individual views self as another object in the environment, rather than a subject of the environment.

The following symptoms were generated to signify the presence of objective self-awareness:

(a) Attending to physical aspects of self

1. frequently observing one's own body and limbs
2. fussing with one's hair, hands and nails
3. straightening of one's clothing

(b) Attending to psychological aspects of self

1. evaluative statements; e.g., I feel like . . . , I wish I was . . . , I'd like to be. . . .
2. critical and subjective statements about self
3. statements about one's own body.

Symptoms were also established which would indicate the avoidance of objective self-awareness. If any of these symptoms were present, it indicated that the subject at that instance was not experiencing objective self-awareness. These symptoms are as follows:

(a) Rapid entry into a conversation

(b) Staring at an object

(c) Talking about an object

(d) Focusing verbal and non-verbal attention towards environment and objects

(e) Attending to physical environment; e.g., looking at a soda can, lighting cigarette, drinking, reading a newspaper, reading a sign.

Providing self-identity was defined as the extent to which the subject is providing and communicating about self-identity. It is the giving of information by self about self for the purpose of establishing who one is and what his/her role is in the interaction. The self provides information by verbal account and actions which will inform the other interactant as to how the self will behave in certain situations. The provision of self-identity can be thought of as the expression the self gives to others.

The symptoms for providing self-identity are as follows:

(a) Statements such as I am, I was, I can't be

(b) Personal history statements

(c) Information statements about the self that lack an evaluative dimension

(d) Information about the self's role

1. role in situation; e.g., I am a subject, I volunteered
2. role outside of situation that relates to the situation; e.g., I am a student, I am interested in research
3. role outside of situation that had nothing to do with situation; e.g., I am a pro-golfer, I am catholic.

(e) The more specific the information is about self's role in the interaction, the higher the providing of self-identity.

Seeking normative definition was defined as the extent to which the subject seeks information which will set, explain, or stipulate the rules, regulations and structure for the interaction. It is the seeking of information which will tell the subject how the interaction is to proceed and what is to be done or take place. The subject is trying to obtain more information about the rules, regulations, and norms of the interaction. He seeks information which will guide acceptable behavior for the participants in the interaction.

The symptoms for seeking normative definition are:

(a) Subject is seeking information about his/her function in the interaction

(b) Subject is seeking information about other's function in the interaction

(c) Subject is seeking rules

(d) Subject is seeking norms

(e) Subject is seeking structure

(f) Subject is seeking regulation

(g) Questions from subject seeking knowledge about the function and structure of the interaction; e.g., what are we supposed to talk about? What are we doing here? How much time do we have? Am I supposed to begin? What's going to happen? Are we going to see a film? Are we being taped?

(h) Nonverbal cues that indicate a seeking of definition; e.g., looking around the room, reading instructions

(i) Seeking information which is specific to the interaction indicates a higher level of seeking normative definition.

Seeking other's identity was defined as the extent to which the subject is seeking information from other which reveals other's role in the interaction. The subject seeks information from other about

other in order to establish who the other is, what the other's role in the interaction is. The subject is seeking information which will inform the subject as to how to behave toward other in different situations.

The symptoms for seeking other's identity were as follows:

(a) Seeking other's identity need not be situation-bound--can seek background information from other

(b) Opinion seeking is different from role seeking; e.g., "Are you a practicing Catholic?" is identity seeking, whereas "How do you feel about abortion?" seeks an opinion and thus the degree of information obtained is not as high

(c) Questions which obtain information as to who other is in present situation; e.g., a subject, an experimenter

(d) Seeking background information such as age, name, major, hobbies, place of birth, interests, likes and dislikes, political and moral views.

The conceptual definition of providing normative definition was the extent to which the subject sets, explains, and/or stipulates the rules, structure, and regulations for the interaction. The subject communicates or provides information as to how the interaction should proceed, what is to be done in the interaction, and what the functions of the participants are in the interaction. The subject explains the rules and norms which govern the discussion.

The following were the symptoms used to establish the presence of providing normative definition:

(a) Making directive statements about the interaction

(b) Providing the regulations of the interaction such as how long it should be, what topic should be discussed, and what function the participants are to have

(c) Providing the structure of the interaction such as whether it should be a debate, an interview, a casual conversation

(d) Metacommunicating about the experiment

(e) Statements such as: I think we should do . . . ; We are being watched . . . ; What they want us to do is . . . ; I am supposed to ask you questions . . . ; You are supposed to be an interviewer . . . ; We only have five minutes. . . .

Laughter, the last dependent variable, was also discussed by the coders. An average amount of laughter was located on one of the pretest tapes. All instances of laughter were then compared to the average amount. A formulation of symptoms for laughter was not necessary since laughter, when present, was easily identifiable.

The above definitions and symptoms were generated and used as a guideline by the coders for evaluating the presence and magnitude of each variable. The procedures for the actual data gathering follows in the next subsection.

2.33 Data Coding. Data were obtained from independent ratio estimates made by six coders from black and white videotaped recordings. These estimates were made for every 15-second time segment of the five-minute discussion. Before coding procedures are discussed, it needs to be mentioned why a five minute interaction was decided upon and why a 15-second time interval was chosen for analysis.

In regard to the interaction time length, five minutes was decided upon after discussions of varying lengths were pretested. It was felt that a five minute interaction was a sufficient amount of time to give the interactants to have the type of discussion assigned in the two conditions. For the high situational definition condition, five minutes

was appropriate for explanation of the discussion items by the subjects. For the low situational definition condition, where the task was relatively ambiguous, a five minute time span was enough time for the interactants to try to establish a purpose for the interaction, to inquire about the purpose of the interaction, and to exhibit varying degrees of behavior on the research variables. Also, since this condition was thought of as the difficult interaction, the experimenters did not want to subject the participants to the situation longer than necessary.

The task of choosing the time interval for analysis was a more difficult one. There was no theoretical or empirical formula available to suggest the appropriate interval. The interval could be determined by a change of topic, or with a change of speaker, or by a new sentence, or by a time unit. If each new sentence or change in topic was used as the unit of analysis, then it would imply that the main interest of study was in the verbal components of the interaction and many of the nonverbal aspects of interaction would be ignored. Analysis by change of speaker would not have been particularly useful for this study, since a confederate was used and his behavior was not to be analyzed. Analysis of the interaction by a time interval appeared to be the most systematic and efficient way to analyze the data. A time unit was easy to utilize and allowed for the observation of continuous communication patterns. A 15-second time interval was decided upon. After viewing preliminary tapes, 15 seconds appeared to be a good choice. The time interval was longer than one could imagine, insofar

as a great deal could transpire in 15 seconds. In this time interval several verbal and non-verbal exchanges were possible, and more than one topic could be discussed. A time interval was needed in which there would be minimal variation of behaviors, for if the interval was too large, too much would be occurring and thus one estimate for each variable in a given time segment would not adequately represent changes in the variables. Thus 15 seconds appeared to efficiently deal with this issue, insofar as any given variable could vary in this time duration, but variation would be held to a minimum. Actual coding procedures will now be discussed.

A room for coding was arranged with three booths. Each coder sat in a booth and could not see the other two coders. The researcher was also positioned in a booth and could not be seen by the coders. A television monitor could be seen by all the coders and the researcher. The videotape recorder was manually operated by the researcher. Each 15-second time segment was timed by a stop watch. The coders would view a segment, then the videotape would be stopped, and coders would code each of three variables on a code sheet (Appendix M). When the coders had finished making estimates for a given segment, each would indicate that he/she was finished. The only one who could see that a given coder had completed coding a segment was the researcher.

Each coder in the morning group was "teamed up" with a coder from the afternoon group. Thus, there were three teams of coders. Each code sheet was arranged for six variables, three from morning group and three from afternoon group. The afternoon group received

the set of code sheets from the morning group partner. Each team of coders coded their variables in a different order from the other teams. The variables were coded in different orders due to the concern of possible order effects. Since there was a lack of randomization of coders with variables for any given time segment or for any given subject, order effects were possible. The ideal situation would have been to randomly select variables to be coded by randomly selected coders. Since this was not a feasible solution (because it would have entailed the use of 18 coders), the researchers had each team code the variables in different orders. Therefore if any order effects did exist, they would hopefully wash out.

The variables were arranged in the following order:

For morning group:

Variable 1. Objective self-awareness
Variable 2. Providing self-identity
Variable 3. Seeking normative definition

For afternoon group:

Variable 1. Seek other's identity
Variable 2. Providing normative definition
Variable 3. Laughter.

Team one, which was a male-male team, coded its variables in the above order. Team two, which was a female-female team, coded its variables in the order of variable 3, variable 1, and variable 2. Team three, which was a female-male team, coded its variables in the order of variable 2, variable 3, and variable 1. Each coder found this easy to do. It was explained to them that this was needed to be done to avoid any possible ordering effects.

As stated, not having each variable independently judged was one possible ordering effects problem. A second ordering problem that was considered was in regard to the coding of the 15-second segments from the tapes. There was a possibility that there would be ordering effects if the coders coded the segments of the tape for any given subject in the actual order in which they appeared on the tape. It was thought that perhaps the coders might compare each new segment to the previous segment, or that all previous segments would affect the coders' estimate of a given segment. Again, the ideal situation would have been to have independent random selection of 15-second segments assigned to randomly selected coders. The researcher, however, did consider the possibility of randomly selecting the segments. This would have entailed showing a tape of a given subject up to the randomly chosen segment and have that segment coded. This would have created the new problem of having several segments of tape viewed more than once. Also, the 15-second segments were not isolated by blank tape and therefore it would be difficult to locate a given 15-second segment in the middle of an interaction. Since independent random selection of segments appeared to compound the problems of order effects and was mechanically unfeasible, the researcher trained the coders to compare each segment to the average comparison group and not the previous segment. This appeared to be an adequate solution to the problem.

Another concern of the researcher was that each 15-second segment for a given subject was identical for each group of coders. In order to assure this, each tape was transcribed while the morning group coded.

This included beginning and ending non-verbal gestures and all verbal statements. Thus, for the afternoon group both a stopwatch and the transcriptions were utilized to assure the interval was precisely the same as the interval coded by the morning group.

Each new day of coding the coders reread the detailed statement of the conceptualization of each variable and the corresponding symptoms that were formulated. The coders would then practice from pretest tapes to "recalibrate" their thinking.

Actual coding of the experimental data took 10 days.

The analysis and results of the data obtained will be discussed in Chapter 3.

CHAPTER 2

FOOTNOTES

[1]The theoretical perspective proposed in this thesis treats objective self-awareness as being caused by the level of instructional definition and also as a cause for certain defining activities. Time-series analyses allow for a variable to be analyzed as both a predictor and criterion variable. Therefore, the author attempted to manipulate objective self-awareness so that the initial values for this variable could be controlled. This attempt at manipulation of this variable does not reflect a shift in the author's theoretical thinking since the variable will be analyzed as both an exogenous and lagged endogenous variable in a time-series analysis.

[2]The researchers for the pretests of this study, other than the author, were Professor Edward L. Fink, Michigan State University, and James Ashton, Andrea Daiss, Patricia McKay, and Jo Fondrie, undergraduate students at Michigan State University.

[3]Thanks are extended to Paul Streng, Media Coordinator, Department of Psychiatry, Michigan State University, for providing videotaping facilities and to Peter Martino for providing technical assistance.

[4]The confederate throughout the study was Gary Wilson. He was 20 years old at the time of the study, and was an undergraduate major in the Department of Communication, Michigan State University. He did not know any of the experimental hypotheses.

[5]Patricia McKay, a biological sciences major, and Jo Fondrie, a computer science major, alternately acted as Experimenter #1.

[6]The author acted as Experimenter #2.

[7]James Ashton, a preprofessional major and Andrea Daiss, an education major, alternately acted as videotape assistants.

[8]Other than the author, John Marlier, Michael Pacanowsky, and Steven McDermott, graduate students in the Department of Communication, Michigan State University, alternately acted as Experimenter #3.

[9]Michael Chrypinski, Jon Gillespie, Marie Kleco, Deidre McEachern, Patricia McKay, and Ralph Susalla were the six coders. All were former students of the author and interested in social science research.

CHAPTER 3

RESULTS

In this chapter, the results of the experiment will be presented. This chapter will attempt to evaluate the validity of the manipulations, to present issues on reliability and analytical procedures, and finally to discuss the effects of the independent variables. Each of these issues will be discussed in a section of this chapter. A brief summary will conclude the chapter.

3.1 Effectiveness of Manipulations

3.11 Questionnaire Items. Two items on the post-experimental questionnaire serve as checks on the manipulation of situational definition. Subjects were asked to respond to the following questions:

> After you read the instructions, but before you participated in the discussion, did you know what your role and the other participant's role were to be in the discussion? And did you know how the discussion was to be structured and how it was to proceed?

The scale used for role knowledge was a ratio scale in which 0 = no knowledge of role, and 100 = average knowledge. The scale for discussion structure was similar, with 0 = no knowledge of how the discussion should be structured and how it would proceed, and 100 = average knowledge.

Significant differences for both items for our two experimental treatments are found. For the item on role knowledge, $t = -3.70$,

11.74 d.f., $p < .005$ (one-tailed). The means obtained for this item were 15.0 for the low situational definition group (N = 10), and 115.8 for the high situational definition group (N = 10). For the item on discussion structure, $t = -2.29$, 13.75 d.f., $p < .025$ (one-tailed). Means obtained for this item were 21.0 for the low situational definition group and 81.8 for the high situational definition group.[1]

These items represent a good check on the manipulation of situational definition. The manipulation was contained in the written instructions and orally stated prior to the discussion. The items are tapping the subject's understanding of these instructions. However, it should be noted that these items were asked after the subjects had participated in the discussion and thus the responses might have been influenced by the discussion. One might think the ideal situation would have been to administer these questions prior to discussion, but by doing so subject's suspicion in regard to the variables under investigation might have been aroused. It was emphasized to all subjects that they should base their response on how they felt before the actual discussion took place. Since the manipulation is viewed as primarily determining the content of the discussions, if the subjects were influenced by the actual discussion, then what affected the responses was in fact the manipulation. Nevertheless, these two items are only an indication of the success of the manipulation, and t tests do show significant mean differences between the two groups.

3.12. Qualitative Analysis of Interactions. Brief reference should be made to the qualitative analyses of the discussion tapes. The tapes have been viewed by researchers trained in sociology, social psychology, psychiatry, anthropology, and ethnomethodology. In discussing the videotapes, all viewers were capable of correctly distinguishing the two levels of situational definition based on the characteristics the researchers manipulated. The viewers commented that one group of subjects (those who were in the high situational definition condition) appeared to know what to discuss, how to behave in the discussion and the role of other person in the discussion. These researchers also observed that another group of subjects (those in the low situational definition condition) appeared to be uncertain as to what the discussion was to be about, what their function was in the discussion and what the role of the other participant was.

Although this information is qualitative rather than quantitative, it is still another good indication of the success of the manipulation.

3.2 Establishing a Metric

3.21 Problem of Heteroscadacity. One important assumption of the analysis of variance is homogeneity of the error variance. The F statistic is said to be robust enough to withstand moderate deviations from this assumption (Winer, 1962). Moderate deviations will not seriously affect the sampling distribution of the resulting F statistic. However, when examining the effect of the treatments upon the variance in our data set (data set is comprised of coder's judgments) we find

that we do not have equal variances. From an examination of cell variances for the two experimental groups, we see that the ratio of treatment variances often differ dramatically for the raw data. To correct for the heteroscadacity of variance in the errors, the data were logarithmically transferred. Logarithmic transformations are commonly performed when there is heteroscadacity and when data are ratio scaled. This transformation is discussed below.

3.22 Logarithmic Transformations. In the data analysis, the data are transformed logarithmically, such that if X is the original score and X' the transformed score,

$$X' = \log_{10} (X + \tfrac{1}{2}).$$

This transformation is relatively successful (see Appendix N for examples of untransformed and transformed cell standard deviations) eliminating heteroscadacity in the sample data, and it corrects for non-linearities expected in magnitude estimation data (Hamblin, 1974).

Logarithmic transformations are appropriate when psychophysical measurements are at the ratio level. Stevens (1957, 1960) found that stimulus-response relationships can be described by a power law: $\psi = C\phi^n$, where ψ is the magnitude of the sensory response, ϕ is the magnitude of the related physical stimulus, and C and n are empirical parameters. Using a logarithmic transformation, the above equation becomes linear:

$$\log \psi = \log C + n \log \phi.$$

What is implied here is that the subjective response (which is a direct ratio estimation of the physical stimulus by the coder) will increase as a power function of the magnitudes of the related physical stimuli (cf. Stevens, 1960). Thus, by performing a logarithmic transformation, a linear relationship is established, thus allowing standard analyses utilizing the general linear model to be performed.

In summary, there appears to be two very important and valid reasons for performing logarithmic transformations on ratio data: (1) because it stabilizes unequal variances, and (2) because the psychophysical law implies that psychological responses of a related physical stimuli increase as power functions of the magnitudes of that related physical stimuli.

We will now proceed to discuss the reliability of the data.

3.3 Reliability Estimates

Two procedures were employed to examine the reliability of the three teams of coders. Table 3.1 presents (1) intercorrelations among the coders, and (2) Cronbach's reliability coefficients (α's).

The correlations among the coders on each dependent variable range from .844 (objective self-awareness, r_{12}) to .988 (seeking other's identity, r_{13}). All correlations were calculated averageing over time; reliability coefficients within a given time interval are not presented. Furthermore, it must be cautioned that these correlations (as well as the Cronbach's alphas) reflect the coder's reliability as well as the heterogeneity of the subjects (especially as induced by the experimental manipulation). It should also be noted

Table 3.1

Reliability Estimates Among Coders for Dependent Variables (N = 20)[a]

Dependent Variable	Intercorrelations Among Coders[b]			Cronbach's Internal Consistency Reliability Coefficient (α)
	r_{12}	r_{13}	r_{23}	
Objective Self-Awareness	.844	.892	.955	.919
Providing Normative Definition	.976	.976	.967	.988
Seeking Normative Definition	.891	.872	.898	.959
Providing Self-Identity	.946	.893	.904	.967
Seeking Other's Identity	.976	.988	.982	.993
Laughter	.849	.875	.849	.916

[a]Logarithmically transformed variables averaged over time. Missing data for two subjects (one at interval 20, one at intervals 18, 19, and 20) estimated. See section 3.4.

[b]All correlations significant at $p < .001$, one-tailed test.

that no weighting procedures were utilized for the composite scores (other than simple averaging) and thus, the reliability scores are not necessarily optimal composites. All correlations are significant at $p < .001$ (one-tailed test). The correlations are a good indication of the reliability of the coders.

Cronbach's α, an overall measure of internal consistency for the three coders, was also computed. Cronbach's α is equivalent to the correlation of the true (reliable) score with the observed score from averaging over coders (Nunnally, 1967). As seen in Table 3.1, the range for α is .916 (laughter) to .993 (seeking other's identity). Cronbach's alpha is a precise estimate of reliability. It is seen that the averaged scores are highly reliable for each of the six dependent variables.

In summary, we see from the correlations and reliability coefficients that the coders are very reliable on all six dependent variables.

3.4 Treatment of Missing Data

For two subjects in the high definition condition (one at interval 20, and one at intervals 18, 19, and 20), missing data had to be estimated due to poor timing with the videotape equipment (i.e., the taping stopped some seconds too soon). For these two subjects for the indicated time intervals a score on each dependent variable for each coder was estimated by (1) establishing the average standard (Z) score the subject had received based on the available untransformed data, and (2) using the average (Z) score with the appropriate cell mean

and cell standard deviation to estimate an untransformed score. A missing score estimated as negative was converted to a score of zero.

3.5 Analytical Procedures

Six univariate analyses of variance with repeated measures were performed for the dependent variables. Since it is expected that the dependent variables will be correlated, the analysis to be reported cannot be said to have an experiment-wise error of .05. Experiment-wise error rate is the probability that at least one comparison will be said to be significant when in actuality the null hypothesis is true for all comparisons (Hummel and Sligo, 1971). Another error rate that is involved when dependent variables are correlated and univariate analyses are performed is the error rate per comparison. This error rate is the probability that any given comparison will be said to be significant when in actuality the null hypothesis is true for that comparison (Ryan, 1959).

The expected dependency among the variables can affect the type I error rates. If the dependent variables are correlated, then the comparisons based on these variables will be dependent. The probability level for the error rates with uncorrelated variables is $\underline{\alpha}$; with p dependent and uncorrelated variables, the probability level is $1 - (1-\alpha)^p$. It should be noted, though, when only univariate analyses are performed and one is dealing with multivariate data, the experiment-wise error rate is affected and would rarely equal $1 - (1-\alpha)^p$, and the actual probability generally would not be known (Bock and Haggard, 1968; Hummel and Sligo, 1971).

A multivariate technique, such as multivariate analysis of variance (MANOVA) would correct this problem in the abstract, but would leave us with two additional problems. First, it would not be correct to assume a simple factor structure for the dependent variables, since they are viewed as causally related. Thus, with a multivariate analytical procedure the true interdependency of the dependent variables would not be taken appropriately into account. Second, MANOVA would not allow for the complete analysis of this data set. If MANOVA was attempted, the number of variables or time points would have to be reduced in order to accommodate the degrees of freedom problem which would be encountered because the number of subjects and time points would exceed the number of dependent variables. Thus, considering the structure of the data set, repeated measures univariate ANOVA's appear to be the most informative technique for initial statistical analysis.

A key assumption for the repeated measures ANOVA is that of compound symmetry. Compound symmetry assumes that:

> Over all subjects in the design, the variance (σ^2) of the dependent measure must be constant for each observation (i.e., the variance of the first observation, the variance of the second observation, etc.), and the covariance ($\rho\sigma^2$) between each pair of observations must be constant. Furthermore, it is assumed that the above variance and covariance are the same for each group of subjects in the design (Poor, 1974:204).

MANOVA does not require assumptions this strict. However, by using log transformations, the constant variance of residuals assumption is satisfied. The assumption of constant covariance of error terms, however, is still probably violated. It is violated because we believe

that the type of autocorrelation between the error terms does not follow the assumption of compound symmetry. Minor deviations from this assumption do not seem to be very serious (Box, 1950), and ANOVA with repeated measures would still be a reasonable procedure.

Discussion of the univariate ANOVAs with repeated measures follows in the next section.

3.6 Effects of the Independent Variables

Tables 3.2-3.7 contain the cell means for each dependent variable by the level of situational definition and by time interval. It is clear that the level of situational definition plays a major role in the levels of the dependent variables. In Table 3.2, the overall mean value for objective self-awareness in the high situational definition condition is 1.4628, whereas in the low situational definition condition the mean is 2.5032. Low situational definition results in almost two times as much objective self-awareness as compared to the high situational definition condition. In Table 3.3, the overall cell mean for providing normative definition by high situational definition is .2616, while for low situational definition the mean is 1.8914. Providing normative definition is exhibited 7 times as much in the low condition as compared to the high condition. In Table 3.4, it is found that low situational definition results in 12.5 times as much seeking normative definition ($\overline{X}$ = 1.1042) as compared to high situational definition ($\overline{X}$ = .0870). In Table 3.5, as predicted, greater providing self-identity is found for the high situational definition condition.

Table 3.2

Cell Means for Objective Self-Awareness, by Level of Exogenous Situational Definition and Time Interval[a]

Time Interval	Level of Situational Definition	
	High (N = 10)[b]	Low (N = 10)
1	2.0275	2.4095
2	1.8654	2.3898
3	1.7356	2.2654
4	1.7233	2.3495
5	1.6360	2.3932
6	1.4316	2.3482
7	1.2972	2.4328
8	1.4513	2.4609
9	1.3464	2.4974
10	1.3722	2.5502
11	1.5858	2.6569
12	1.6804	2.6075
13	1.2801	2.5813
14	1.3704	2.5120
15	1.2134	2.5699
16	1.1634	2.6384
17	1.3987	2.5306
18	1.4158	2.6239
19	1.0781	2.6473
20	1.1401	2.6010
Mean	1.4628	2.5032

[a] Logarithmically transformed variables averaged over three coders. High values indicate greater objective self-awareness.

[b] Missing data for two subjects (one at interval 20, and one at intervals 18, 19, and 20) have been estimated. See section 3.4.

Table 3.3

Cell Means for Providing Normative Definition, by Level of Exogenous Situational Definition and Time Interval[a]

Time Interval	Level of Situational Definition	
	High (N = 10)[b]	Low (N = 10)
1	1.7185	2.2524
2	.1447	1.8264
3	.0942	2.1843
4	-.0674	1.8862
5	.1290	1.8226
6	-.2016	1.6827
7	.1560	2.1004
8	.2254	1.7641
9	.3544	1.7654
10	.0840	1.8021
11	.1795	2.1851
12	.2049	2.1283
13	.2194	2.1486
14	.1267	2.1652
15	.0760	1.8759
16	.1852	2.0284
17	.5076	1.7555
18	.2697	2.0612
19	.3228	1.4568
20	.5046	.9373
Mean	.2616	1.8914

[a] Logarithmically transformed variables averaged over three coders. High values indicate greater providing normative definition.

[b] Missing data for two subjects (one at interval 20, and one at intervals 18, 19, and 20) have been estimated. See section 3.4.

Table 3.4

Cell Means for Seeking Normative Definition, by Leve. of Exogenous Situational Definition and Time Interval

Time Interval	Level of Situational Definition	
	High (N = 10)[b]	Low (N = 10)
1	.7562	2.0972
2	.0418	1.6779
3	.0752	.8692
4	.0095	1.1346
5	-.2316	1.4706
6	-.0826	1.0388
7	.0461	.8902
8	.0557	.8907
9	.1067	1.0390
10	-.0385	1.0607
11	.0563	1.4089
12	.0954	.7004
13	-.1309	1.1478
14	-.0824	.6708
15	-.1687	1.0226
16	-.0736	1.0249
17	.2750	1.0670
18	.0479	1.1883
19	.1787	.9598
20	.8034	.7249
Mean	.0870	1.1042

[a] Logarithmically transformed variables averaged over three coders. High values indicate greater seeking normative definition.

[b] Missing data for two subjects (one at interval 20, and one at intervals 18, 19, and 20) have been estimated. See section 3.4.

Table 3.5

Cell Means for Providing Self-Identity, by Level of Exogenous Situational Definition and Time Interval[a]

Time Interval	Level of Situational Definition	
	High (N = 10)[b]	Low (N = 10)
1	1.5585	.6102
2	1.4325	.6031
3	1.3156	1.3399
4	1.4578	1.2144
5	1.2305	.9214
6	1.3293	.9844
7	1.6840	1.0188
8	1.1053	.4397
9	1.5484	.9746
10	2.0002	.5477
11	1.4586	.3849
12	1.3916	.7714
13	1.5528	.8629
14	1.1128	.5048
15	.9201	.4209
16	1.5593	.1235
17	.9738	.2972
18	1.1499	.3575
19	1.1315	.2709
20	.7097	.1294
Mean	1.3311	.6389

[a] Logarithmically transformed variables averaged over three coders. High values indicate greater providing self-identity.

[b] Missing data for two subjects (one at interval 20, and one at intervals 18, 19, and 20) have been estimated. See section 3.4

Table 3.6

Cell Means for Seeking Other's Identity, by Level of Exogenous Situational Definition and Time Interval[a]

Time Interval	Level of Situational Definition	
	High (N = 10)[b]	Low (N = 10)
1	.4205	1.4522
2	.1564	1.4249
3	-.3010	.9955
4	-.3010	1.1213
5	-.3010	.6645
6	-.1475	.7552
7	-.2663	.5420
8	-.1482	.6579
9	.1581	.7090
10	-.3010	.3948
11	-.3010	-.0357
12	-.3010	.1995
13	-.3010	.1855
14	-.2342	-.0326
15	-.3010	.1583
16	-.3010	.6508
17	-.0707	.4178
18	-.3010	.4550
19	-.0453	.5881
20	-.1711	.2034
Mean	-.1703	.5754

[a] Logarithmically transformed variables averaged over three coders. High values indicate greater seeking other's identity.

[b] Missing data for two subjects (one at interval 20, and one at intervals 18, 19, and 20) have been estimated. See section 3.4.

Table 3.7

Cell Means for Laughter, by Level of Exogenous Situational Definition and Time Interval[a]

Time Interval	Level of Situational Definition	
	High (N = 10)[b]	Low (N = 10)
1	.6438	1.4217
2	.6227	.4796
3	.1709	.9931
4	.6906	.6335
5	.3544	.5888
6	.3137	.6302
7	.6628	.5373
8	.5228	.2820
9	.1229	.6090
10	.4821	.8123
11	.6174	.7045
12	.2038	.7468
13	.3981	.1417
14	.4116	.6472
15	.4647	.6123
16	.4525	.6727
17	.0893	.6240
18	.6430	.8017
19	-.0137	.4025
20	.7933	.4160
Mean	.4323	.6378

[a] Logarithmically transformed variables averaged over three coders. High values indicate greater laughter.

[b] Missing data for two subjects (one at interval 20, and one at intervals 18, 19, and 20) have been estimated. See section 3.4.

The cell mean for the high condition is 1.3311, compared to .6389 for the low condition. Providing self-identity is exhibited about twice as much in the high condition as compared to the low condition. In Table 3.6, the overall cell mean value for seeking other's identity is -.1703 for high situational definition, and .5754 for low. Finally, in Table 3.7, the overall cell mean for laughter is .4323 for the high situational definition condition as compared to .6378 for the low situational definition condition. Therefore, it can be seen from these tables that as hypothesized, low situational definition results in greater objective self-awareness, greater providing normative definition, greater seeking normative definition, less providing self-identity, greater seeking other's identity, and greater laughter.

Table 3.8 presents the statistical results of a repeated measures analysis of variance for each dependent measure.

First, it is clear that level of situational definition significantly[2] explains mean differences, as predicted, for all dependent variables except laughter. Averaging the data over time to find the proportion of the variance that level of situational definition accounts for (in terms of mean differences) on each dependent variable, it is found that it accounts for 84.3% of objective self-awareness; 92.2%, providing normative definition; 77.0%, seeking normative definition; 48.4%, providing self-identity; 69.5%, seeking other's identity; and 9.2%, laughter.

Examining the effects of time, it is found that there is a statistically significant main effect of time for objective self-awareness, providing normative definition, seeking normative definition,

Table 3.8

Results of Analysis of Variance for Each Dependent Variable by Level of Exogenous Situational Definition and Time Interval (N = 20)[a]

	Effect					
	Situational Definition		Time Interval		Situational Definition by Time Interval Interaction	
Dependent Variable	$F_{1,18}$	$p<$	$F_{19,342}$	$p<$	$F_{19,342}$	$p<$
Objective Self-Awareness	96.366	.001	2.761	.001	7.154	.001
Providing Normative Definition	211.487	.001	2.622	.001	2.208	.003
Seeking Normative Definition	60.415	.001	1.786	.023	1.211	.246
Providing Self-Identity	16.895	.001	1.833	.018	.795	.714
Seeking Other's Identity	40.928	.001	2.287	.002	.848	.648
Laughter	1.831	.193	1.584	.058	1.386	.130

[a] Logarithmically transformed variables averaged over three coders. Missing data for two subjects (one at interval 20, and one at intervals 18, 19, and 20) estimated. See section 3.4.

providing self-identity, and seeking other's identity. A main effect of time on laughter approaches significance at $p < .058$.

The only simple (linear, quadratic, or cubic) curves descriptive of trends over time on the dependent variables that are statistically significant are as follows: objective self-awareness, cubic trend ($F_{1,18} = 8.36$, $p < .01$); seeking normative definition, quadratic trend ($F_{1,18} = 10.46$, $p < .005$); providing self-identity, linear trend ($F_{1,18} = 31.54$, $p < .001$); seeking other's identity, linear trend ($F_{1,18} = 10.76$, $p < .004$), and quadratic trend ($F_{1,18} = 15.67$, $p < .001$).[3]

Time interacts significantly with situational definition on objective awareness, which exhibits (among simple curves) both linear and quadratic interactions. The linear interaction indicates that those subjects in the high situational definition condition become less self-aware over time, whereas subjects in the low situational definition condition become more self-aware over time. A time by situational definition interaction is also significantly present for providing normative definition. The major component in this interaction effect is due to a quadratic interaction: in the high condition, the curve for providing normative definition decreases and then increases over time; this does not occur in the low situational definition condition.

From the results reported in this section we see that all the hypotheses predicting main effects for level of situational definition on all dependent variables except laughter are supported. It was predicted that low situational definition would result in greater

amounts of all the defining activities except providing self-identity, as well as attention (objective self-awareness) and tension (laughter). It was also predicted that low situational definition would result in less providing self-identity. All these directional hypotheses were supported. We also find statistically significant main effects of time on all the dependent variables except laughter. Level of situational definition and time interactions are statistically significant for objective self-awareness and providing normative definition.

The results of these analyses are very encouraging and support the theoretical notions presented in Chapter 1; however, it again needs to be stated that the analytical procedures employed here have ignored the dynamic aspect of the experimental situation since time-series relations have not been examined. In order to examine these relations and the causal structure of the dependent variables, a pooled cross-sectional times-series analysis is required.[4] This analysis, however, is a future endeavor.

3.7 Summary

The following is a brief summary of this chapter.

1. Questionnaire items serving as manipulation checks appear to be good indicators of the success of the manipulation. Qualitative discussions and post-experimental interviews further enhance the confidence in the manipulations.

2. The problem of heteroscadacity in the errors of the data has been corrected by logarithmic transformation of the data. This transformation is appropriate for psychophysical, ratio-scaled data.

3. Intercoder reliabilities are high. Intercorrelations among coders for the dependent variables range from .844 to .988. Cronbach's internal consistency reliability coefficient ranges from .916 to .988.

4. Since it is believed that there is some dependency among the dependent variables, the analysis reported in this chapter cannot be said to have an experimentwise error rate of .05. However, for the analyses reported here, the repeated measures univariate ANOVAs appear to be reasonable.

5. The level of situational definition is found to have a large effect on all the defining activity variables (providing and seeking normative definition; providing self-identity; seeking other's identity), and on attention (objective self-awareness), but does not significantly affect tension, as indicated by laughter.

6. Significant main effects of time are found for all the defining activity variables and objective self-awareness. A main effect of time on laughter approaches significance. Trends over time are complex and not clearly explicable at this stage of investigation.

7. A statistically significant interaction effect of time by level of situational definition is found for objective self-awareness and providing normative definition.

CHAPTER 3

FOOTNOTES

[1]The raw data was used to calculate the t values. The separate variance estimate t values are reported because when performing the F_{max} test for homogeneity of population error variances, we find F_{max} = 6.401 for item one, and F_{max} = 3.506 for item two. Both are greater than the tabled F_{max} critical value, F = 3.55, $p < .05$. Therefore, equal population error variances cannot be assumed and separate variance estimates should be used. The t statistic using separate variance estimates takes differences in population error variances into account and will have about the same distribution as the t statistic using pooled variance estimates (see Winer, 1962). These data could be transformed to attempt to equalize error variances. Nevertheless, the separate variance estimates provide a good variance estimate for mean differences in the groups.

[2]"Significantly" is used here in a statistical sense at $p < .05$.

[3]Examining the significant main effects of time, the direction of the time trends is noted. For the level of objective self-awareness we find the curve decreases over time, then increases and decreases again. The time curve for seeking normative definition appears to be U shaped, whereas the level of the variable begins high, decreases and then increases. A significant linear trend is found for providing self-identity. The variable begins at a high level and gradually decreases over time. Both a significant linear and quadratic trend are found for seeking other's identity. The direction of the linear trend is an initial high level of the variable decreasing over time. The quadratic trends appear to be a U-shaped curve, where the level of the variable begins high, decreases over time, and then increases.

[4]This analysis can be performed with a newly available computer program, XSECT1, a subroutine of the SPEAKEASY/FEDEASY computer package of the Federal Reserve Board (Washington, 1975). For an elaboration of these techniques, see Hibbs (1974) and Kmenta (1971:508-517).

[5]It should be noted that time-series models to be attempted with these data may find that these complex trends can be described by a linear generating function (see Gottman et al., 1969).

CHAPTER 4

CONCLUSION

In this chapter, the study will be concluded. The discussion here will be in four sections, with a final summary section. The first section will attempt to evaluate the internal validity of the study. Here we will look at the methods of testing the theoretical perspective presented and the evidence supporting it. The second section will address the issue of external validity. Here concern will be focused on the generalizability of the results. The third section will examine the theoretical validity of the study. This will entail the examination of the meaningfulness of studying interaction in the theoretical framework proposed in Chapter 1. The fourth section will explore possible areas of future research.

4.1 Internal Validity

In this section the methodological and analytical procedures employed in this study will be examined in retrospect as to their appropriateness, both logically and empirically. We will first reconsider the design of the study.

4.11 The Design in Retrospect. When reviewing the design of this study or any study one should attempt to address the issue of whether or not the design logically tests the theory, regardless of

the results. After examining the results of this study, it would be relatively painless to conclude that the design is both appropriate and successful. Nevertheless, when one is concerned with the logic of the design, one seeks to examine the functional relationship between the theory and the actual design employed in the study. In respect to this issue, several comments about the design need to be specified.

To investigate the hypotheses proposed in Chapter 1, it was obvious that the design needed to meet restrictive assumptions. First of all, if defining activities, attention, and tension are the primary dependent variables and come about because of a lack of situational definition, then the variable to be manipulated must be situational definition. The manipulation requires a situation in which at least two levels[1] of situational definition are presented so that we could see if a subject would actively try to establish the definition of the situation when one is not provided, and if there is a causal relationship between situational definition and definitional activity, attention, and tension of the subjects.

Another consideration of the design concerns objective self-awareness. For objective self-awareness to take place as a function of situational factors, non-interactive inducements (e.g., the use of mirrors or videotapes) would not have been appropriate. Theory strongly suggests that becoming self-aware is a social process, determined by the situational structure of the interaction, and therefore it was necessary to observe if those manipulated situational components affected the levels of objective self-awareness over time.

Observing these dependent variables over time was also a necessary condition of the design. The thrust of the theory indicates that interactional continuity and discontinuity are important to and necessary for the understanding of the interpersonal communication process. This implies that single responses or measures would have been theoretically inadequate and that highly reliable unbounded measures at many time points were theoretically required.

Another issue of the validity of the design relates to the use of a confederate and a subject to form the interactional dyad. An argument can be leveled that by using a confederate, a "true" interaction did not take place. However, careful attention must be given to the types of processes that were of concern in this study. Interest was centered on behaviors that an individual would elicit in an undefined situation. Since both the confederate and the subject did communicate with each other, behaviors elicited by the subject were readily observable; however, since the behaviors of the confederate were constrained, they were not measured. The use of two subjects would have allowed for two individuals to be measured in a given interaction, but the nature of the interaction should not be significantly different. However, this is an empirical question which requires future research.

We will now move from the issue of the validity of the design to a discussion of the validity of the analysis.

4.12 Validity of Analysis. Many analytical and statistical issues of importance to this study have been discussed in previous chapters of this thesis and further specification of these issues

would be redundant. However, issues still in need of further elaboration are (a) the use of magnitude measurement; (b) coder evaluation of the dependent variables; and (c) data assessed over many time points. Although these methods are to some extent novel in this content area, it is felt that they are highly appropriate and even necessary.

In regard to the use of magnitude measurement, research has shown that there is greater statistical power and precision when a ratio scaling technique is used (Torgerson, 1956). The standard objection raised against the use of magnitude measurement is in regard to reliability. It must be conceded that obtaining high reliability in this study was difficult, and thus necessitated the considerable time allocated to the training of coders. Nevertheless, when one reviews the reliabilities reported here (see Table 3.1), one may see that sufficiently high reliability was achieved. Thus, with intensive training of coders, high reliability may be obtained for ratio scaled data.

Moving from magnitude measurement, we find two issues which are pertinent to a discussion of coder evaluation of the dependent variables. The first issue pertains to the actual use of trained coders or observers to estimate the magnitude of the variables, as opposed to responses by the subjects themselves. First and foremost, coders were used to facilitate the gathering of the data over time. Second, obtrusive measures in this study have limited utility due to problems such as experimenter bias, social desirability in responses

and subject's inability to report the level of these variables accurately. Unobtrusive measures facilitate precision. The theory would predict that there would in fact be an inability on the part of the subjects to report the level of the particular variables, and most important, there would be an inability to report the level of these variables over time. A third reason for the use of unobtrusive measures was to obtain multiple indicators at multiple time points. Fourth, since the coders were not familiar with the research aims of the study, contamination and bias was held to a minimum. Coders were trained to use the information obtained during training to make their judgments and it is believed (based on the intensity of the training program) that there were no significant extraneous factors affecting the coders.

The second concern in regard to coder evaluation of the dependent variables is the statistical issue of using the estimates from the coders as multiple indicators of the dependent variables. As noted in Chapter 3, the three measures for each dependent variables were not weighted by multivariate procedures, but rather the estimates of the coders were averaged. By averaging over coders a single estimate is derived for each dependent variable at each time point. The alternative method would have entailed performing one two-way MANOVA for each dependent variable. In this analysis, time would be a within subjects factor, situational definition a between subject factor, and three coding team scores would be dependent variables. In these MANOVAs, each coder's score would be used as a multiple indicator of the dependent construct, so as to form an optimally reliable linear

combination of the scores from each coder (Harris, 1975). This analysis could not be performed because of unavailability of a computer program. Programs needed for this repeated measures design were in actuality treating time as a dependent variable rather than a repeated measure. A degrees of freedom problem was encountered because the number of dependent variables exceeded the number of subjects.

4.13 Summary. In summary, it appears that both the methods and analyses employed in this study are appropriate. The design appears to both logically and empirically test a theory of dyadic interaction. The analyses, although preliminary, reveal interesting, important, and significant results. The analyses give us an excellent indication that we are pursuing a correct approach to the study of interaction, in regard to the variables examined and their relation to time.

We shall now discuss the external validity of the study.

4.2 External Validity

External validity refers to the generalizability of one's theory and empirical results. The theoretical notions and the results of this study are generalizable to a wide range of interactional situations. If we can assume that all interpersonal communication consists of both a meaning system and a social activity system, then a parsimonious model incorporating this information is applicable to all such communication situations. The set of variables proposed in this study are general variables which can indicate the course of the communication process over time. These variables also suggest how both the meaning system

and the social activity system are capable of absorbing exogenous disturbances, and how these systems are maintained. This theoretical framework has explanatory power, parsimony, and generalizability.

The basis of the theory presented here assumes that definitional processes are universal and ubiquitous within interactions, and hence, it is hypothesized that invariant laws of interaction exist, and that they consist of relations between and among definitional factors. Therefore, we could imagine any interactional structure, regardless of its content, operating with these invariant laws of interactions. Thus, the theory as well as the results should not be bound by cultural or historical differences. It is these very differences that might cause disturbances within the interaction and it is these types of disturbances that are absorbed by the meaning and social activity system. More empirical evidence, however, is still required to further support these contentions.

While the theory discussed here may be said to have universality, the question remains as to the generalizability of the actual results. We would expect results to be replicable in different types of interactions. Since all interactions should be guided by the defining processes, depending on individual and group differences, (X_1, background factors; see p. 30), results should be comparable to those found here. Levels of the variables might differ at any given time interval, but controlling for X_1 variables, we would hope to find these invariant interactional laws withstanding empirical scrutiny.

4.3 Theoretical Validity

In this section, a selective examination of the theoretical assumptions of the study will be made for the purposes of evaluating the theoretical approach presented here.

It is necessary to examine interactional factors if a better explanation of why interpersonal communication systems break down and how they are reestablished is to be obtained. The process of defining the situation appears to be fundamental to the understanding of such communication systems.

Defining the situation is a process of ordering and interpreting interactional knowledge and information in order to facilitate interactional continuity. Examination of this process will then allow for the understanding of why and when interactional disturbances are experienced. Since the main emphasis of the theory pertains to the understanding of interactional flow or continuity, studying interaction as a dynamic process is mandated. Examination of the interactional process must allow for the observation of disturbances and thus changes in the structure of the interaction due to these disturbances. This can only be facilitated by an over time study.

In reference to disturbances which might jolt or change the level of equilibrium in the interaction, exemplification of one such type of disturbance might be informative. The concept of embarrassment has been said to be a hindrance to interactional flow, and comes about due to a lack of knowledge about one's role in a given event (Fink, 1975; Fink and Walker, 1975). The theory of dyadic interaction proposed allows

for the understanding of interactional factors which might control such behaviors or disturbances. The theory examines in a fundamental way the relation between the meaning system and the social activity system in interpersonal communication and precludes the need to examine specific situational content or conversation. The implication here is that we are able to examine these fundamental relations in any interpersonal communication system, without concern as to the specific nature of the interaction.

The conceptualization of interpersonal communication suggested here rests on the centrality of three ideas. First, defining the situation is an activity that takes place in interaction that significantly determines the content of communication and the attention (awareness) and tension (emotionality) of the interactants. Second, the variables to use to investigate this fundamental issue must themselves be fundamental, general variables emerging directly from the conceptualization of defining the situation as a social process with inter-individual concomitants. Finally, theory indicates the importance of interactional continuity and discontinuity, and thus, dictates the examination of the interactional process over time.

One final mention should be made in regard to the importance of observing objective self-awareness in an interactional framework. At a general level, this study seeks to integrate the social, here represented by situational definition, with psychological, as indicated by objective self-awareness. The literature dealing with social interaction is an appropriate, though largely untapped source for work on

objective self-awareness. Becoming self-aware is a social process, caused by uncertainties within the social environment. The results of this study strongly suggest that time and the interactional environment, both implicit in every study, are powerful determinants of self-awareness levels.

In summary, the theory of dyadic interaction proposed here appears to be a logical and valid approach to the study of interpersonal communication. It proposes fundamental variables that can provide a theoretical system for the analysis of interpersonal communication as a dynamic process and can be empirically tested as such. Results indicate that the variables selected are intimately related and that they can be reliably measured. It is suggested that the theory precludes the necessity of examination of specific types of disturbances in a given interaction and that it has a wide range of application. Some of the areas of application will be explored in the next section.

4.4 Future Research

In this section specific reference will be made to both future theoretical and statistical work which can be explicated from the study presented here.

4.41 Theoretical Application. In reference to future theoretical exploration, emphasis should be placed on examining and/or controlling the X_1 variables, that is, individual or group differences, or as referred to previously, the background factors of interactants. Sex of the participants, one such background factor, was controlled for

in this study. Subjects were also similar in age and college status, and all were taking a social science class. However, future work should examine mixed sex dyads, mixed race dyads, and different age groups to see if there are any differential effects due to these type of background variables. It is further necessary to examine these types of variables since it is believed that tension, as indicated by laughter, might have been especially sensitive to the uncontrolled individual and dyadic differences in the situation.

Future research using the paradigm for defining activity should also measure the two definitional activity variables excluded in this study. These variables are providing other's identity and seeking self-identity. Measurement of a two-subject dyad (vs. a subject-confederate dyad) should also be done. This research is presently being carried out (see Craig et al., 1976).

Much of the research on group dynamics and communication can be further investigated with the theoretical perspective proposed in this thesis. Relevant questions to be addressed are: How is group structure established? How are group rules and norms communicated? How is group cohesiveness maintained? When group cohesion decays, through what processes is equilibrium reestablished? Since a theory of interaction is addressing the dynamic components of the communication system, it appears highly applicable to the group communication process.

Interest might also be directed towards the comparison and analysis of specific types of dyads. Such dyads rendering themselves to investigation might be professional/client dyads (e.g., doctor/patient dyads,

teacher/student dyads, lawyer/client dyads) as well as intimate dyads, and dyads at various points in their development. Research questions similar to those asked in a group situation would apply to the investigation of specific types of dyadic relationships.

It appears that many areas of investigation can be further explored using the theoretical framework proposed in this thesis. Since the theory is fundamental to interpersonal communication processes, it is pertinent and relevant to the investigation and explanation of many types of interactional structures.

4.42 Future Statistical Research. Frequent reference has been made to subjecting this data set to a pooled cross-sectional time-series analysis. In performing this type of analysis, the examination of the dynamic structure of the data would be possible. That is, the analysis would provide information about the predictive power of variables at previous time intervals on the levels of those variables at subsequent time points. This is accomplished by including a lagged endogenous variable in the times series equation. Thus, a truly dynamic model would be tested (see Hibbs, 1974, for explanation of statistical procedures). This is a crucial analysis to perform if we wish to understand and explain the dynamic aspects of interaction. This analytical procedure may also provide for the examination of the autocorrelational structure of the residual terms. This analysis is a necessary one to pursue and will be performed in the near future.

4.5 Summary

This study initially posed a definitional approach to social interaction which emerges from the symbolic interactionist perspective. Situational definition was indicated to be a central concern for the maintenance of interactional continuity in interpersonal communication systems. Interpersonal communication has been defined as consisting of a meaning system and a social activity system. The process of interactional continuity was conceived of as the maintenance, flow, and relationship of these two systems. The knowledge or definition that interactants have about a situation was said to determine the interactional continuity. The fundamental variables specified in this theoretical system were divided into background factors (X_1); exogenous level of situational definition (X_2); definitional activity (X_3), interactional continuity, an unobserved variable (X_4); and two indicators of continuity: tension (laughter, X_5) and attention (objective self-awareness, X_6). A rudimentary test of this theoretical system was proposed. It was hypothesized that the less the situational definition, the greater the degree of some defining activity (seeking normative definition, providing normative definition, and seeking other's identity). Because providing self-identity was seen to be associated with objective self-awareness, it was hypothesized that the less the situational definition, the less the providing self-identity. Since tension (laughter) and attention (objective self-awareness) are associated with problems brought about by initially poorly defined situations, it was hypothesized that the less the situational definition,

the greater the objective self-awareness and the greater the laughter. It was suggested that the six dependent variables would fluctuate over time, and that time would interact with the level of situational definition.

An experiment was then reported in which the level of situational definition was manipulated by either providing the subject with sufficient knowledge of the roles of the interactants and the structure of the interaction or by providing minimal knowledge about the components of the situation. Twenty male subjects participated in the experiment. All interacted with a confederate for five minutes. All interactions were unobtrusively videotaped. Analysis of these tapes by six trained coders comprise the data base. Ratio estimates were made every 15 seconds for all the dependent variables by the three coding teams.

Results suggest the study is internally valid, and that situational definition is a determinant of interactional continuity. The hypotheses concerning the effect of situational definition on the defining activity variables and attention were strongly confirmed while the hypothesis concerning laughter was not. Statistically significant effects of time were found for all variables except laughter. A time by situational interaction was significantly present for objective self-awareness and providing normative definition.

The final chapter of this study consists of a critique and reconsideration of the method and the theory used in the study, as well as a proposal for areas of future investigation.

CHAPTER 4

FOOTNOTE

[1]Two levels of situational definition were used in this study for two reasons. First, the number of subjects utilized in this study would not have been sufficient for more than two levels of the variables and the addition of more subjects would have furthered the complexity of data gathering and analysis. Second, it is believed that the theory was capable of being tested with two levels of situational definition. The hypotheses suggest a linear trend between situational definition and the dependent variables, hence two levels of situational definition should be appropriate.

APPENDICES

APPENDIX A

DISCUSSION INSTRUCTIONS

FORMS GA2 AND GA4

INTERACTION ANALYSIS LABORATORY

Michigan State University

Spring, 1975

FORM GA2 DISCUSSION INSTRUCTIONS

We would like you to spend several minutes in a discussion. You will be speaking with another student. This student will be attending Michigan State University next fall. This is the first time on a major university campus for this student. He/she is eager to learn and be prepared for campus life. We want you to specifically discuss some problems students encounter. We want you to talk about living accomodations, specifically dorm living versus off-campus living. We want you to indicate the cultural and sport activities and also discuss how to select classes. We believe that since you have been on campus for some time and you are also a student, you are the best one to prepare a new student for campus living. You are not to deviate from the topics provided. You are to give the information from a student's point of view. If needed, you can give personal experiences, but do not feel that you have to be very personal. After the discussion and a film, this student will tell you a little about life on a small campus, so you understand what this is like.

At the end of this discussion, you will both fill out a short questionnaire and be interviewed. Then you will see an interesting film. The film is approximately twelve minutes in length.

While in the waiting room, we would appreciate your not talking with the other participants. Thank you.

INTERACTION ANALYSIS LABORATORY

Michigan State University

Spring, 1975

FORM GA4 DISCUSSION INSTRUCTIONS

We would like you to spend several minutes in a discussion. You will be speaking with another student. At the end of this discussion, you will both fill out a short questionnaire and be interviewed. Then you will see an interesting film. The film is approximately twelve minutes in length.

While in the waiting room, we would appreciate your not talking with the other participants. Thank you.

APPENDIX B

PRE-DISCUSSION REPORT

INTERACTION ANALYSIS LABORATORY

Michigan State University

Spring, 1975

Form GX PRE-DISCUSSION REPORT

Please fill in the blanks.

I am.....

1. _____

2. _____

3. _____

4. _____

5. _____

6. _____

7. _____

8. _____

9. _____

10. _____

11. _____

12. _____

13. _____

14. _____

15. _____

16. _____

17. _____

18. _____

19. _____

20. _____

DO NOT WRITE BELOW LINE

N	D	T	C	C#	T#	S#

APPENDIX C

DISCUSSION TOPICS

APPENDIX C

DISCUSSION TOPICS

(On Index Card During Experiment)

1. Dorm living versus off-campus living
2. Cultural activities
3. Sport activities
4. Selecting classes
5. Selecting professors
6. Problems of loneliness
7. How to make friends

APPENDIX D

LIST OF FREQUENTLY MENTIONED DIFFICULT SITUATIONS

APPENDIX D

LIST OF FREQUENTLY MENTIONED DIFFICULT SITUATIONS

1. A discussion about sex

2. A discussion about politics

3. A discussion about religion

4. A discussion about one's personal life

5. A discussion about death

6. Talking to a stranger

APPENDIX E

CONFEDERATE'S PRE-DISCUSSION REPORT

INTERACTION ANALYSIS LABORATORY

Michigan State University

Spring, 1975

Form GX PRE-DISCUSSION REPORT

Please fill in the blanks.

I am.....

1. Gary Wilson
2. Age 21
3. A Junior
4. From Inkster, Michigan
5. Attending Albion College
6. A Communication Education major
7. Serious in my studies
8. A high achiever
9. A graduate of Sacred Heart High School
10. Fond of animals
11. Interested in old furniture
12. An avid Tiger fan
13. Interested in many sports, etc.
14. Eager for the summer
15. Fun loving
16.
17.
18.
19.
20.

DO NOT WRITE BELOW LINE

N	D	T	C	C#	T#	S#

APPENDIX F

INITIAL REPORT OF POST-EXPERIMENTAL QUESTIONNAIRE

INTERACTION ANALYSIS LABORATORY

Michigan State University

Spring, 1975

Form GZ INITIAL REPORT

Please answer the following questions. When you have completed them, proceed to the Discussion Report.

1. After you read the instructions, but before you participated in the discussion, did you know what your role and the other participant's role was to be in the discussion? And did you know how the discussion was to be structured and how it was to proceed?

Yardstick	Answer
0 = No knowledge of role 100 = Average	
0 = No knowledge of how discussion should be structured and proceed 100 = Average	

2. After you read the instructions, but before you participated in the discussion, how much did you feel that you were going to be the focus of attention in the discussion?

Yardstick	Answer
0 = No such feeling 100 = Average	

APPENDIX G

DISCUSSION REPORT (PRE-FILM)

INTERACTION ANALYSIS LABORATORY

Michigan State University

Spring, 1975

Form G DISCUSSION REPORT (PRE-FILM)

1. Sex (please check): _____ male
_____ female

2. Date of Birth: _____
day month year

3. The year you are in school (please check):

_____ freshman
_____ sophomore
_____ junior
_____ senior

For each of the following questions we would like you to write a number as an answer. We will give you a yardstick to use in responding. Here is an example:

Question	Yardstick	Answer
How happy are you?	0 = totally unhappy 100 = average	[ ]

If you felt as happy in this discussion as in an average discussion, write 100. If you felt half as happy, write 50. If you felt twice as happy, write 200. You may write any number you wish. "Average" always means compared to what takes place in average discussions in which you have participated. Remember to put your answer in the box(es) at the right.

Question	Yardstick	Answer
4. How similar do you feel to the other participant?	0 = Not at all similar 100 = Average similarity	[ ]

(Remember: The higher the number, the more similar. Write any number you wish.)

Question	Yardstick	Answer
5. How much did you like the other participant?	0 = Totally dislike 100 = Average	[ ]

(Remember: If you like the other participant less than average, write a number less than 100. If you like the other participant more than average, write a number more than 100.)

The following questions have two parts. Each question should first be answered for yourself and then for the other participant. You are to answer based on how you felt during the discussion, and then answer how you believe the other participant felt during the discussion. You may write any number for yourself and any number for the other participant. Once again, "average" always means compared to what takes place in average discussions in which you have participated.

Question	Yardstick	By You	By Other
6. How much self-consciousness did you and did the other participant experience during the discussion?	0 = No self-consciousness 100 = Average		

Question	Yardstick	On You	On Other
7. How much communication was centered on you and how much communication was centered on the other participant?	0 = No communication centered 100 = Average		

Question	Yardstick	Communication Provided By You About You	Communication Provided By You About Other
8. How much communication did you provide to indicate "who you were" in the discussion; and how much communication did you provide to indicate "who the other participant was" in the discussion?	0 = No such communication 100 = Average		

Question	Yardstick	Communication By Other About Who He/She Was	Communication By Other About Who You Were
9. How much communication did the other participant provide to indicate "who he/she was" in the discussion; and how much communication did the other participant provide to indicate "who you were" in the discussion?	0 = No such communication 100 = Average		

Question	Yardstick	About You	About Other
10. How much did your communication provide information about you and information about the other participant?	0 = No such communication 100 = Average		

Question	Yardstick	Directed About Self	Directed About Other
11. How much did you direct your communication to be about yourself and how much did you direct your communication to be about the other participant?	0 = No such communication 100 = Average		

Question	Yardstick	Directed About You	Directed About Him/Herself
12. How much did the other participant direct his/her communication to be about you and to be about himself/herself?	0 = No such communication 100 = Average		

Question	Yardstick	For You	For Other
13. How much of an understanding did you and did the other participant have about how the discussion should proceed and be structured?	0 = No such understanding 100 = Average		

Question	Yardstick	For You	For Other
14. How much did you and did the other participant communicate about how the discussion should proceed and be structured?	0 = No such communication 100 = Average		

Remember you may write any number you wish.

Question	Yardstick	Experienced By You	Experienced By Other
15. How much did you and did the other participant experience a continuous flow in the discussion?	0 = No experience of continuous flow 100 = Average		

Question	Yardstick	By You	By Other
16. How much did your communication and did the other participant's communication provide a continuous flow to the discussion?	0 = No such communication 100 = Average		

Question	Yardstick	You Felt	Other Felt
17. How comfortable did you and did the other feel in the discussion?	0 = Totally uncomfortable 100 = Average level of comfort		

Question	Yardstick	By You	By Other
18. How much did you and did the other participant communicate about your lack of comfort in the discussion?	0 = No such communication 100 = Average		

Question	Yardstick	By You	By Other
19. How much physical effort and movement did you and did the other participant experience in the discussion?	0 = No physical effort experienced 100 = Average		

Question	Yardstick	By You	By Other
20. How much of the communication did you provide and did the other participant provide through nonverbal gestures and body movement?	0 = No such nonverbal provided 100 = Average		

Question	Yardstick	You Felt	Other Felt
21. How much did you and did the other participant feel that the discussion needed to be helped or saved?	0 = No such feeling 100 = Average		

Question	Yardstick	For You	For Other
22. How much did your communication and the other participant's communication help the discussion along?	0 = No such communication 100 = Average		

Question	Yardstick	You Talked	Other Ta
23. How much did you and did the other participant talk about the need to help or save the discussion?	0 = No such talk 100 = Average		

Question	Yardstick	Other's Responses to You
24. How much did you feel the other participant was responding to what you were saying?	0 = No response by other 100 = Average	

Question	Yardstick	Your Responses to Other
25. How much did you feel you responded to what the other participant was saying?	0 = No response by self 100 = Average	

Please go back over the questions. Make sure that you have answered every question, both for yourself and from the point of view of the other participant. Remember you may use any number, with 100 indicating an average discussion. After checking questions 1 to 25, please proceed to question 26.

26. Please describe in a short paragraph the discussion that just took place.

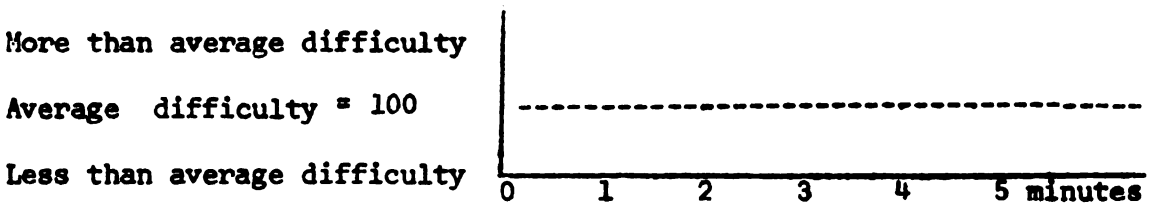
27. What did you do to keep the discussion continuing?

28. What points in the discussion stand out?

29. What do you think is of interest to the researchers in this project?

30. Do you have any comments about the room, the facilities, the other participant, or the research staff?

31. Please show on the graph the line that describes the discussion that just took place. Show how difficult or not difficult the discussion was.



We are interested in how difficult the conversation was for you over time. The higher the line, the more difficult.

WHEN YOU FINISH THIS REPORT, PLEASE GIVE IT TO THE RESEARCHER. THANK YOU.

DO NOT WRITE BELOW LINE

N	D	T	C	C#	T#	S#

APPENDIX H

PROJECT DESIGN

INTERACTION ANALYSIS LABORATORY

Michigan State University

Spring, 1975

Form GY

PROJECT DESIGN

The purpose of this study is to analyse final discussions. There are four conditions:

	Pre-Discussion	NO Pre-Discussion
Film	A	B
No Film	C	D

→ **Final Discussion**

Some participants will have a discussion, see a film, while others will not. All will participate in a final discussion. You will be randomly selected to one condition.

APPENDIX I

POST-EXPERIMENTAL INTERVIEW

INTERACTION ANALYSIS LABORATORY

Michigan State University

Spring, 1975

FORM GB POST-EXPERIMENTAL INTERVIEW

1. Do you understand the number system we provided you on the questionnaire?

2. To what did you compare the discussion you just had?

3. What did you like and dislike about this discussion?

4. What do you think about the other participant?

5. What do you think is the purpose of this project?

Debriefing

The purpose of this project is to investigate the interpersonal communication process. There will be no film. The purpose for telling you this was so that you would not think that the discussion was the main part of the project.

6. Did you hear about the project from other students?

7. Do you have any questions? Please do not discuss this with any other students.

PLEASE DO NOT WRITE BELOW THIS LINE

N	D	T	C	C#	T#	S#

APPENDIX J

DEBRIEFING LETTER

MICHIGAN STATE UNIVERSITY

College of Communication Arts
Department of Communication

East Lansing, Michigan 48824

May 4, 1976

Dear Participant:

We would like to take this opportunity to once again thank you for your assistance in the communication study which was conducted Spring term, 1975.

The purpose of this study was to examine interactional communication patterns in dyads. Our variables were the level of situational definition and the level of objective self-awareness. In one condition of the level of situational definition, both participants were asked to discuss campus life at Michigan State University. In the other condition, where situational definition was low, there was no pre-set topic for discussion, thus giving you little or no information about your role, the other participant's role, and the norms and rules for the interaction.

In regard to the other participant in your discussion, it should be noted that he was a confederate. His role was to remain consistent in both conditions. He was instructed not to add to, or help the discussion. The purpose of using a confererate was to control stimulus input across all subjects. This information was not divulged sooner for the fear that it might be discovered by future subjects.

Once again, we would like to remind you that the discussion was videotaped for the purpose of analysis. Your identity has and will remain anonymous. The reason you were not informed of the videotaping prior to the discussion was due to the possibility that this information would affect your level of objective self-awareness.

Again we would like to thank you for your participation and your time in this study. A paper, further detailing the procedures and results is available upon request, from the researchers. Any further questions you may have should be referred to:

Ms. Nadyne G. Edison
Department of Communication
532 South Kedzie Hall
Michigan State University
East Lansing, Michigan 48824

Dr. Edward L. Fink
Department of Communication
517 South Kedzie Hall
Michigan State University
East Lansing, Michigan 48824

Sincerely,

Nadyne G. Edison

Edward L. Fink

Nadyne G. Edison

Edward L. Fink

APPENDIX K

CODER TRAINING SCHEDULE

APPENDIX K

CODER TRAINING SCHEDULE

June 18, 1975	Introduction to training procedures
June 19-June 22	Discussion of scientific inquiry: conceptualizing, operationalizing and measuring variables
June 23-June 25	Role-playing exercises
June 26-July 6	Conceptualizing, negotiating symptoms and scaling practice communication variables
July 7	Coders divide into two groups
July 7	Introduction to first study variable to each group
July 8-July 13	Conceptualizing, negotiating symptoms and scaling first variable
July 14	Introduction to second study variable to each group
July 15-July 20	Conceptualizing, negotiating symptoms and scaling second variable
July 22	Introduction to third study variable to each group
July 23-July 27	Conceptualizing, negotiating symptoms and scaling third variable
July 28-July 29	Discussion and agreement of average comparison group
July 30-August 10	Practice with pretest videotapes: estimating the study variables
August 11-August 21	Actual coding

APPENDIX L

ILLUSTRATION OF TRAINING PROCEDURES': COMPLIANCE

APPENDIX L

ILLUSTRATION OF TRAINING PROCEDURES': COMPLIANCE

To illustrate the training procedure, let's look at what happened with the variable compliance. First, they independently conceptualized the variable. The negotiated consensual conceptualization was as follows: "Compliance is conceding one's opinions or behavior as a result of perceived pressure in order to attain a common goal." The terms were explicated as follows: Conceding--temporarily yielding to someone else's opinions or ideas; Perceived Pressure--a perceived challenge to person's self-concept which is either external or internal. This was agreed on by all the coders. It should be noted that the accuracy or theoretical rigor of this conceptualization is not of issue. The coders had no background with the variable and this exercise was not for the purpose of testing their theory construction abilities but rather to get them to practice rigorously associating symptoms with conceptualizations.

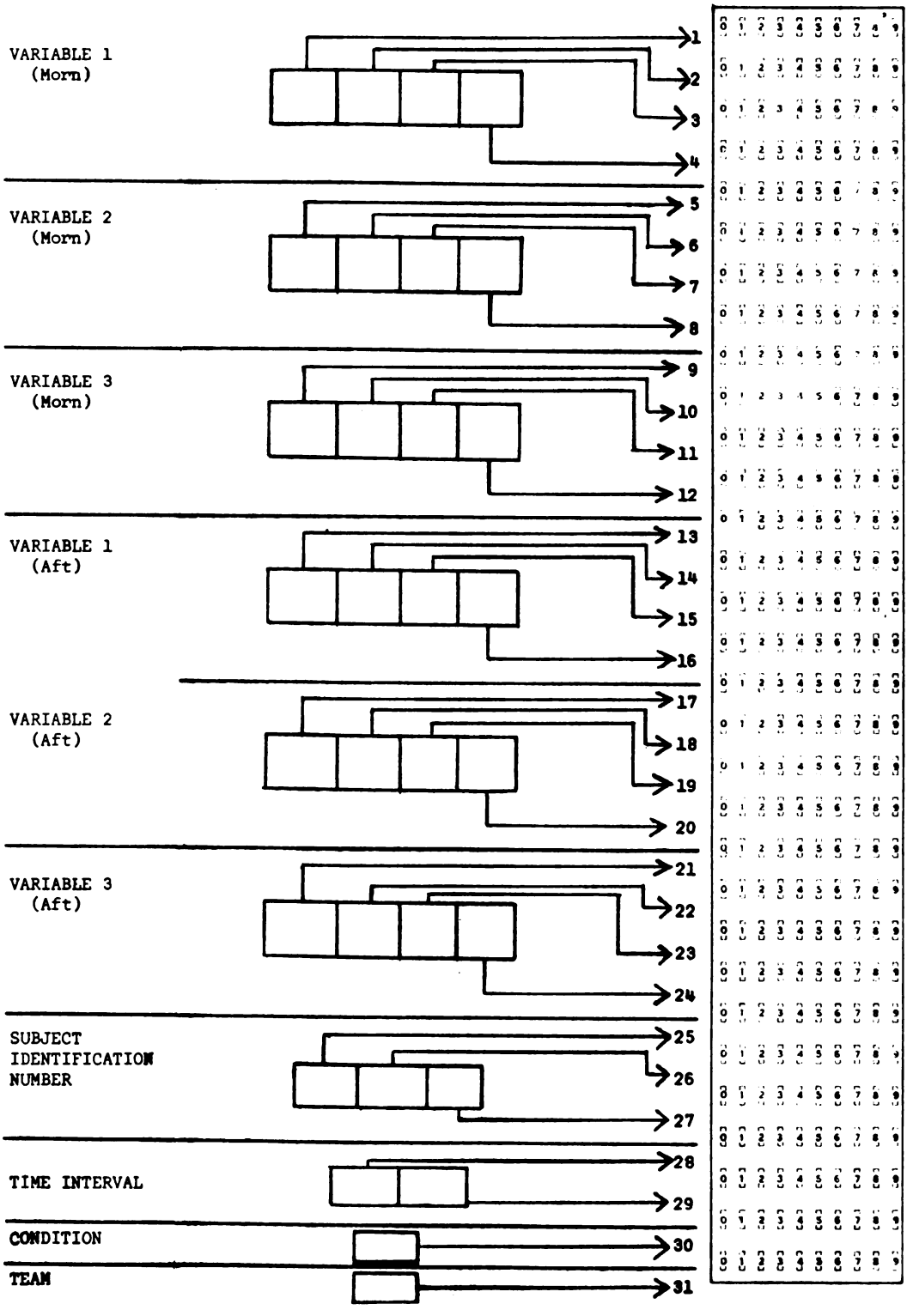
The consensual symptoms that were derived were under two headings: physical symptoms and content symptoms. The physical sumptoms were: nodding of the head, little talking, soft voice, limited gesturing, constant eye movement, shifting position, perspiring, tensing up, clutching. The content symptoms were: no command statements, withdrawal of previously stated views, use of noncommittal statements, frequent agreement and devaluating of own opinion. The problem with these symptoms became obvious to the coders after long discussion. They soon realized that they had many symptoms for "conceding one's opinions or behaviors" but few to none for "perceived pressure." Thus it was realized that the subject could be conceding opinions or behaviors due to boredom, fatigue, tiredness, nervousness. or perceived pressure, but from the symptoms it would not be obvious that it was due to only perceived pressure. Therefore, based on the symptoms they derived they would not be measuring compliance as they had conceptualized it. They realized that their symptoms would need to be reworked and that the end product must be symptomatic of the whole conceptualization.

APPENDIX M

CODE SHEETS

APPENDIX M

CODE SHEETS



APPENDIX N

EXAMPLES OF UNTRANSFORMED AND TRANSFORMED CELL STANDARD DEVIATIONS FOR DEPENDENT VARIABLES

Table N.1

Examples of Untransformed and Transformed Cell Standard Deviations for Objective Self-Awareness by Level of Exogenous Situational Definition for Coder 1

	Untransformed Level of Situational Definition		Transformed Level of Situational Definition	
Time Interval	High (N = 10)	Low (N = 10)	High (N = 10)	Low (N = 10)
1	50.4315	157.5339	.3730	.3288
5	29.8084	127.8448	.4667	.2292
10	35.2603	245.8935	.8160	.3184
15	21.5316	298.1953	.8584	.3214
20	32.6567	233.1480	.9488	.2784

Table N.2

Examples of Untransformed and Transformed Cell Standard Deviations for Providing Normative Definition by Level of Exogenous Situational Definition for Coder 1

	Untransformed Level of Situational Definition		Transformed Level of Situational Definition	
Time Interval	High (N = 10)	Low (N = 10)	High (N = 10)	Low (N = 10)
1	102.6103	287.1235	.5071	.5004
5	10.1242	159.0562	.6942	.8956
10	4.7434	258.9985	.4716	1.1842
15	6.3245	296.7532	.6288	1.4700
20	12.4829	471.4116	.6714	1.2885

Table N.3

Examples of Untransformed and Transformed Cell Standard Deviations for Seeking Normative Definition by Level of Exogenous Situational Definition for Coder 1

	Untransformed Level of Situational Definition		Transformed Level of Situational Definition	
Time Interval	High (N = 10)	Low (N = 10)	High (N = 10)	Low (N = 10)
1	69.1235	141.8097	.9770	.9569
5	.0000	132.6241	.0000	1.0992
10	1.5776	100.4559	.3467	1.2967
15	.9487	88.9444	.2672	1.1525
20	62.5695	93.1665	1.0300	1.1813

Table N.4

Examples of Untransformed and Transformed Cell Standard Deviations for Providing Self-Identity by Level of Exogenous Situational Definition for Coder 1

	Untransformed Level of Situational Definition		Transformed Level of Situational Definition	
Time Interval	High (N = 10)	Low (N = 10)	High (N = 10)	Low (N = 10)
1	64.5604	50.4315	.9822	1.1835
5	104.5838	40.3319	1.3142	1.0595
10	151.1520	50.4315	.8610	1.1183
15	65.5934	83.2933	1.1523	1.1821
20	104.9422	31.5524	1.2711	.8414

Table N.5

Examples of Untransformed and Transformed Cell Standard Deviations for Seeking Other's Identity by Level of Exogenous Situational Definition for Coder 1

	Untransformed Level of Situational Definition		Transformed Level of Situational Definition	
Time Interval	High (N = 10)	Low (N = 10)	High (N = 10)	Low (N = 10)
1	48.5455	144.7612	1.1703	1.2530
5	.0000	86.6923	.0000	1.2890
10	.0000	45.4117	.0000	1.0973
15	.0000	33.7474	.0000	.9108
20	.0000	42.1637	.0000	.9711

Table N.6

Examples of Untransformed and Transformed Cell Standard Deviations for Laughter by Level of Exogenous Situational Definition for Coder 1

	Untransformed Level of Situational Definition		Transformed Level of Situational Definition	
Time Interval	High (N = 10)	Low (N = 10)	High (N = 10)	Low (N = 10)
1	7.6311	75.2140	.6606	.6328
5	5.7889	110.4423	.5629	1.0620
10	4.4522	61.5995	.6260	.8307
15	7.3643	77.7610	.6165	.8190
20	41.7800	31.0061	.7534	.8567

APPENDIX O

RAW DATA CELL MEANS FOR DEPENDENT VARIABLES

Table 0.1

Raw Data Cell Means for Objective Self-Awareness, by Level of Exogenous Situational Definition and Time Interval[a]

Time Interval	Level of Situational Definition	
	High (N = 10)[b]	Low (N = 10)
1	133.7	330.0
2	99.5	333.3
3	82.8	261.0
4	78.8	324.2
5	57.5	286.6
6	48.4	267.8
7	47.7	378.8
8	50.2	366.8
9	44.8	470.1
10	46.5	424.0
11	51.3	527.8
12	62.0	483.7
13	37.7	469.7
14	53.0	515.7
15	36.9	457.4
16	37.3	539.0
17	49.4	418.6
18	54.9	503.5
19	37.5	554.5
20	37.8	504.2
Mean	57.4	420.8

[a]Averaged over three coders. High values indicate greater objective self-awareness.

[b]Missing data for two subjects (one at interval 20, and one at intervals 18, 19, and 20) have been estimated. See text.

Table 0.2

Raw Data Cell Means for Providing Normative Definition, by Level of Exogenous Situational Definition and Time Interval[a]

Time Interval	Level of Situational Definition	
	High (N = 10)[b]	Low (N = 10)
1	91.3	238.8
2	5.6	284.8
3	11.3	211.8
4	2.2	220.2
5	4.4	170.7
6	1.0	174.5
7	4.9	231.3
8	6.7	180.3
9	6.5	204.0
10	3.0	197.8
11	5.1	344.3
12	17.9	250.3
13	5.1	330.2
14	4.5	426.8
15	3.5	266.8
16	4.8	320.8
17	20.0	215.2
18	23.9	258.2
19	22.6	189.7
20	20.1	120.3
Mean	13.2	241.8

[a]Averaged over three coders. High values indicate greater providing normative definition.

[b]Missing data for two subjects (one at interval 20, and one at intervals 18, 19, and 20) have been estimated. See text.

Table 0.3

Raw Data Cell Means for Seeking Normative Definition, by Level of Exogenous Situational Definition and Time Interval[a]

Time Interval	Level of Situational Definition	
	High (N = 10)[b]	Low (N = 10)
1	28.8	214.8
2	10.4	176.3
3	20.7	74.8
4	2.4	56.5
5	0.3	165.9
6	1.1	69.3
7	18.2	84.8
8	10.0	58.5
9	9.1	97.8
10	1.4	101.2
11	9.7	165.3
12	14.5	53.8
13	0.9	133.3
14	3.7	51.7
15	0.6	85.0
16	1.4	98.3
17	16.8	108.9
18	8.8	120.3
19	14.1	69.4
20	37.4	57.2
Mean	10.5	102.2

[a]Averaged over three coders. High values indicate greater seeking normative definition.

[b]Missing data for two subjects (one at interval 20, and one at intervals 18, 19, and 20) have been estimated. See text.

Table 0.4

Raw Data Cell Means for Providing Self-Identity, by Level of Exogenous Situational Definition and Time Interval[a]

Time Interval	Level of Situational Definition	
	High (N = 10)[b]	Low (N = 10)
1	81.3	35.0
2	109.0	22.5
3	70.7	61.4
4	99.8	44.8
5	85.8	50.2
6	95.5	28.4
7	163.3	52.7
8	97.5	42.9
9	109.8	40.9
10	195.2	33.8
11	85.0	31.8
12	102.8	39.2
13	121.5	78.4
14	95.0	62.0
15	64.8	36.3
16	124.6	21.7
17	67.7	20.0
18	56.0	22.5
19	85.2	7.9
20	45.2	12.9
Mean	97.8	37.3

[a]Averaged over three coders. High values indicate greater providing self-identity.

[b]Missing data for two subjects (one at interval 20, and one at intervals 18, 19, and 20) have been estimated. See text.

Table 0.5

Raw Data Cell Means for Seeking Other's Identity, by Level of Exogenous Situational Definition and Time Interval[a]

Time Interval	Level of Situational Definition	
	High (N = 10)[b]	Low (N = 10)
1	28.3	122.2
2	19.3	128.8
3	0.0	98.2
4	0.0	73.2
5	0.0	55.3
6	6.7	63.5
7	0.2	65.3
8	6.5	58.8
9	19.7	73.7
10	0.0	31.8
11	0.0	10.7
12	0.0	21.7
13	0.0	28.3
14	1.7	25.0
15	0.0	21.7
16	0.0	52.3
17	10.0	78.8
18	0.0	65.3
19	5.6	38.6
20	3.6	18.5
Mean	5.1	56.6

[a]Averaged over three coders. High values indicate greater seeking other's identity.

[b]Missing data for two subjects (one at interval 20, and one at intervals 18, 19, and 20) have been estimated. See text.

Table 0.6

Raw Data Cell Means for Laughter, by Level of Exogenous Situational Definition and Time Interval[a]

Time Interval	Level of Situational Definition	
	High (N = 10)[b]	Low (N = 10)
1	10.7	55.5
2	13.2	5.9
3	4.5	31.1
4	10.3	21.4
5	5.0	28.4
6	9.7	23.2
7	13.1	25.0
8	14.4	15.9
9	2.5	16.3
10	5.7	30.3
11	25.4	19.1
12	7.5	33.6
13	11.7	6.8
14	8.1	17.4
15	6.8	17.1
16	12.7	13.2
17	2.7	24.0
18	11.2	24.4
19	5.7	17.8
20	22.0	9.8
Mean	10.1	21.8

[a]Averaged over three coders. High values indicate greater laughter.

[b]Missing data for two subjects (one at interval 20, and one at intervals 18, 19, and 20) have been estimated. See text.

APPENDIX P

INTERCORRELATIONS AMONG DEPENDENT VARIABLES

Table P.1

Intercorrelations (and One-Tail Levels of Significance) Among Dependent Variables[a]

Dependent Variables	X_1	X_2	X_3	X_4	X_5	X_6
X_1 Objective Self-Awareness	1.000					
X_2 Providing Normative Definition	.9476 (.001)	1.0000				
X_3 Seeking Normative Definition	.8279 (.001)	.8806 (.001)	1.0000			
X_4 Providing Self-Identity	-.6631 (.001)	-.6998 (.001)	-.6624 (.001)	1.0000		
X_5 Seeking Other's Identity	.7339 (.001)	.7549 (.001)	.8829 (.001)	-.5961 (.003)	1.0000	
X_6 Laughter	.3719 (.053)	.3422 (.07)	.2403 (.154)	-.2892 (.108)	.3273 (.079)	1.0000

[a]Averaged over time and over coders (N = 20).

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