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MULTICHANNEL CONTROL TECHNIQUES IN DYADS AND TRIADS AND THEIR RELATION TO INFLUENCE

A Dissertation

Presented for the

Doctor of Philosophy

Degree

The University of Tennessee, Knoxville

Theodore Alan Lamb

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ABSTRACT

Social psychologists are interested in how various social structures (e.g., of leadership, power, status and affect) develop, are maintained and change during the life of a social unit. The social processes through which these structures emerge all involve communication. Thus, much research has focused upon communication, especially verbal communication. Communication occurs through one channel or many channels. Researchers have neglected examination of multichannel communication.

Recent research has focused on various forms of nonverbal communication ranging from extra sensory perception to interaction distances. Content-free aspects of speech, such as speaking time and speaking order are receiving increased attention, also. Of particular interest to social psychologists is the relation of communication through multiple channels to patterns (structures) of control and influence in small social units.

The relationship between nonverbal and content-free verbal communication may vary in different sized social units. Previous research found several content-free aspects of speech were positively correlated with eye gaze aversion hierarchies in dyads. This study examines forms of nonverbal (eye gaze aversion) and content-free verbal

(speaking time and speaking order) communication in dyads and triads.

Thirty groups of three same sex subjects participated in the experiment. All dyadic combinations of each three person group were video taped separately. Subjects then interacted in a triadic encounter. Finally, the three subjects were separated and asked to make judgments about slides. The experimenter manipulated the other subjects' judgments in order to examine the targets' susceptibility to social influence.

The findings indicate that "control hierarchies" emerge in dyads and triads. Eye gaze aversion, speaking first and talking time were positively correlated in dyads and triads. The relationships between the control hierarchies and susceptibility to influence were inconclusive. The relationships also were examined separately for male and female groups and were similar for both. Susceptibility to influence was negatively correlated with eye gaze, speaking first, talking time in the dyad, talking time in the triad and speaking order in the triad.

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CHAPTER I

THEORETICAL ORIENTATION

I. INTRODUCTION

Numerous phenomena such as power, influence, leadership, and interpersonal dominance may exist in small social units. Various processes of social interaction underpin such structures. Currently there is interest in how such structures are established and maintained by communication processes, verbal, nonverbal and content-free forms of communication.

An individual's clothing (Keasey and Tomlinson-Keasey, 1973) and physical appearance (Dion, 1972; Clifford and Walster, 1973) including the wearing of eyeglasses (Manz and Lueck, 1968) may affect social evaluations, attitudes and influence, for an individual's appearance may be treated as a nonverbal statement about himself/herself. In addition to appearance, there are numerous other forms of nonverbal communication which may contribute to the development and maintenance of social structures.

Visual regard,[1] a form of nonverbal communication, is of interest to social psychologists, given the importance

[1]Visual regard is used primarily as a general term to describe eye behavior is a social setting.

Americans often assign to "eye behavior." The numerous popular depictions of eye behavior, such as "hypnotizing stares," "looking someone straight in the eye," "bedroom eyes," and being "shifty eyed" suggest that eye behavior is a significant social behavior. Ekman and Friesen (1975) related various combinations of visual regard (e.g., eye glance direction, eye brow position, and wideness of the eyes) with other facial expressions. However, researchers generally have not established the meaning of various forms of eye behavior.

Eye contact is a theoretically interesting but infrequently studied aspect of visual regard. Due to the reciprocal nature of eye contact, it may be related to the hierarchies (structures) in small social units found by previous researchers.

The content of speech long has been recognized as an important aspect of human communication[2] and related to interaction patterns. Content-free aspects of speech[3] have received less recognition, although they have been related

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[2]The analysis of content of speech has varied from "fair fights" in love relationships (Bach and Wyden, 1970) to sexism (Eakins and Eakins, 1978) to humor (Coser, 1959, 1960).

[3]The concept of content-free speech, as used in this paper, is essentially the same as the concept of paralanguage, but it emphasizes patterns, e.g., speaking time, speaker order, rather than voice qualities.

to social structures, e.g., leadership (Bales, 1950). There are a number of content-free aspects of speech.

Nonsense phrases can be expressed to communicate a wide range of feeling, for example, anger, sadness, nervousness, pride and sympathy (Davitz and Davitz, 1959). Researchers particularly have focused on speaking time (length) and speech acts (frequency).

Social psychologists recognize that interaction patterns vary depending upon the size of the social units. The significance of size was postulated by Simmel (1950) and later supported by the research of Asch (1951) and others. Research has shown that as the size of the group increases communication patterns change, for example, the communication pattern may become more centralized (Bales et al., 1951; Stephan and Mishler, 1952). However, despite Simmel's early interest in size, later researchers empirical substantiations of the importance of size and communication patterns in dyads and triads infrequently have been compared.

Speech patterns in small social units have been analyzed to some extent, but nonverbal and content-free aspects of speech generally have been neglected. Researchers seldom have examined the relationships between communication patterns and other properties of small social units. For example, Strongman and Champness (1968) found

fairly consistent hierarchies of eye glance aversion in dyadic face-to-face encounters; however, they did not relate these hierarchies to any other group properties. Subsequently, Rosa and Mazur (1976) examined the relationship of eye aversion hierarchies to leadership patterns in three-person discussion groups. Further research examining the relationships between communication patterns and other properties of dyads and triads needs to be conducted.

II. PERSPECTIVES ON COMMUNICATION

Numerous perspectives on communication exist in sociology. Simmel provided some early insights into communication. The discrete, definable forms of process or "sociation" (e.g., superordination, subordination, competition, and domination) were important to the study of social units. He postulated the need to examine communication through all the senses in order to properly explain the dynamics of the forms. In fact, he emphasized the "sociology of the senses" because "it is through the medium of the senses that we perceive our fellow-men" (Park and Burgess, 1969:356). His suggestions were basically ignored.

Symbolic Interactionism

George Herbert Mead (1934) emphasized the importance of both nonverbal and verbal communication in his discourses on

mind, self and society. Symbolic interactionists emphasize the importance of shared symbols as the basis for meaningful interaction. Symbolic interactionists relegate as much importance to the individual as to the social order in determining social behavior (Meltzer, et al., 1975:2-3). Recently symbolic interactionists have reiterated the need to study nonverbal communication, since verbal communication has been the primary research focus. Stone (1970) has emphasized the need to examine nonverbal communication, particularly through appearance. He argues that all forms of nonverbal communication are important and that the study of nonverbal communication has been neglected due to the greater difficulties involved in analyzing it. Goffman's discussions of information given off (1959) and the rules governing nonverbal behavior in public places (1963) further suggest the need to examine nonverbal behavior.

Biosociology

Biosociology, an emerging perspective, emphasizes nonverbal communication. Biosociologists (or physiological sociologists) do not reduce social behavior to the biological level, but examine the biological bases of social behavior. Biosociological research ranges from ethological studies of nonhuman primates to testosterone analyses of

human males.[4] Both biosociology and sociobiology[5] are in their infancy and research evidence is limited (Mazur, 1977). It is unlikely that either will have enough predictive or explanatory power to "take over" any discipline by the year 2000, as Ellis (1977) predicts, but by then Louis Dotson's goal may be reached that, "sociologists have got to realize that people have bodies" (Personal communication, 1976). Concern with the body's physiological properties has led biosociologists to examine the multitude of methods used to communicate with the body, including nonverbal techniques.

Systems Theory

General systems theory is increasingly utilized as a mode of analysis, since it is applicable to many different situations. Systems theory offers additional insight into

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[4]See, for example, van den Berghe (1974), Mazur and Robertson (1972), Tiger and Fox (1971) or Mazur (1973) for a variety of perspectives.

[5]Biosociology may be tentatively defined as the examination of the physiological concomitants of social behavior. It does not view certain hormonal, genetic, or physical attributes as determinants of specific forms of social behavior but as functional prerequisites and/or results of social behavior.

Sociobiology as it is used by it's major proponents Wilson (1975) and Barash (1977) is an attempt to discover genetic structures and/or other mechanisms which have resulted in dominant modes of social behavior which are evolutionally adaptive.

human communication, both verbal and nonverbal. Lin (1973) developed a useful systems model of human communication represented in Figure 1.1. Encounter is the first phase in which information passes from one person to another (Lin, 1973). Information passing between people at this point dictates whether the encounter will continue to the second phase--exchange. Exchange is defined by Lin as "the shared flow of meanings" (1973:16). During this phase the various structures of the interacting unit emerge. Lin further states:

> Influence is defined as the discrepancy between (1) a person's behavioral patterns of attitude toward an object or situation before his participation, either voluntary or involuntary, in encounter and/or exchange and (2) his behavioral or attitudinal patterns after such encounter and/or exchange. (1973:17)

Influence is a product of communication control in small social units. Patterns of control emerge during encounter and exchange which give the interactants impressions of their "power quotients." Communication patterns may be affected by participants characteristics (e.g., external statuses) which are not directly related to the interaction.

Adaptation and control are the mechanisms through which a system maintains itself. Adaptation involves accommodation to the physical and/or social environment. Control

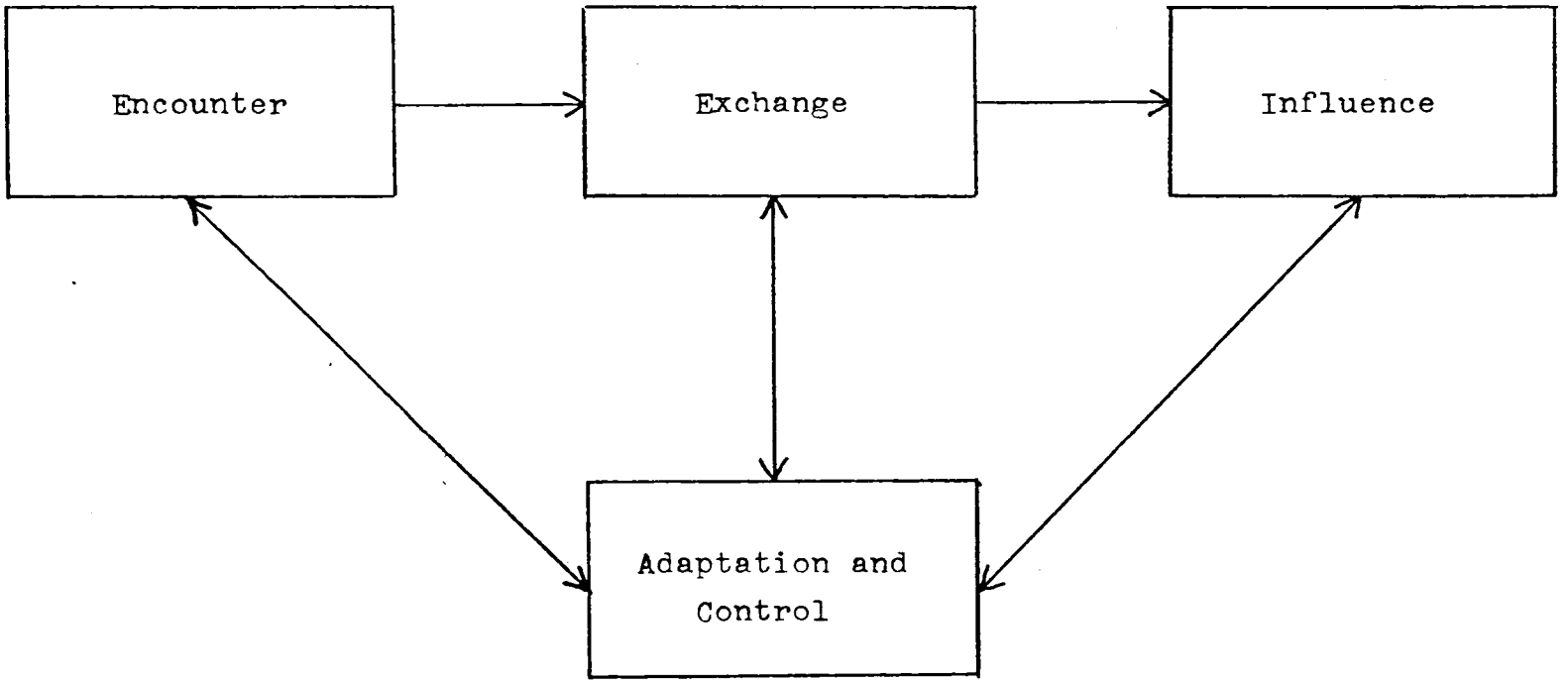


Figure 1.1 Phases of Human Communication (adapted from Lin, 1973:15).

is based upon feedback which indicates the success or failure of system performance.

Past experiences provide information to the system (the person) which may help to maintain equilibrium and continue pursuit of a goal. Depending on the type and nature of these past experiences, the individual may try to control his/her environment and engage in behavior which most effectively produces control over others. The ways in which humans attempt to control their social and physical environments vary as much as their socialization experiences vary. When two or more individuals form a social unit, the structures which emerge from their interaction reflect their responses (adjustments) to one another.

The various perspectives emphasize different aspects of the communication process. Taken together a useful model for the study of communication in dyads and triads can be developed. In this study the individual is defined as a biosocial system which exchanges symbols with other such entities, biosocial systems. The symbols exchanged may vary, but they inevitably are received via the sensory organs of the individual.

III. MULTICHANNEL COMMUNICATION

The concepts of channel and multiple channels are relatively recent in communication research. Definitions

of a channel vary from one writer to another (Weitz, 1974). For example, Goffman defines channel (or tract) as a line of activity or a "story line" which an individual pursues across a range of events (1974:201-202). Others use channel to refer to the physiological mechanisms through which information passes to and from an organism (Key, 1975). It is the latter perspective which is used in this paper. In humans, the senses provide the mechanisms for information passage. A channel is formed when information flows through a sensory opening. Channels are important to social psychologists when the openings of two or more individuals are linked in a state of mutual awareness which permits information exchange. Communication involves the passage of information from one entity to another through channels (Shannon and Weaver, 1949). Multichannel communication involves the passage of information from one entity to another through more than one channel. Human communication ordinarily involves information flowing over several channels simultaneously.

There are four human sensory openings and associated communication channels. Different types of information may pass through each channel. The auditory channel is the opening through which human verbal, animal noises, and miscellaneous noises (such as whistles, sirens, bells, or naturally occurring sounds) pass. With particular reference

to human verbal speech as opposed to human written communication, Goffman argues:

> The term sentence is currently used to refer to something that is spoken, but the early analysis of sentences seemed much caught up in examination of the written form. The term utterance has therefore come into use to underscore reference to a spoken unit. (1976:270)

For this study utterances, information passed through the auditory channel, are examined. The visual channel is the opening through which light is received. Information about the physical and/or social environment passes through it. The tactile channel is the opening through which pressure, heat, and humidity are sensed. Some information may pass through more than one channel, for example, body orientation may be transmitted through the tactile and visual channels. The chemical channels are the openings through which taste and smell information passes in from the physical and/or social environment.

The "sense" people make of or the meaning they assign to the information passing through these channels is in large part a function of socially acquired ways of "making sense" learned through socialization. People may encounter inconsistent information or contradictory messages and find it difficult to "make sense" of them. There are three primary types of information inconsistency: (1) inconsistency with past experience; (2) inconsistency between

channels; and (3) out of context channel usage (i.e., loud talking in a library, eye contact with inappropriate people, etc.). All types may produce dissonance, anxiety, or suspicion but the sources of these feelings are different.

Through the process of socialization people learn how to utilize the various channels in order to communicate more effectively. Interpersonal communication often results in an "interaction dance" in which various channels are utilized simultaneously. At some times attention may be focused on information transmitted through one or two channels. Examples of such channel selection are listening to music through earphones or watching television. At other times there may be channel overload or too much information for the channel to handle and individuals will break off communication or decrease information flow.

Multichannel communication and channel selection occur when people encounter each other. Friends, viewing each other from afar, wave recognition and maintain high visual regard. Upon approaching one another, people may decrease information flow through the visual channel, so as not to overload it, and increase information flow in the auditory channel. In addition, cues passing through the visual channel may contain subtle pieces of information as, "I don't want to interact now" or "I'm depressed, talk to me please" which may initiate or terminate further information flow.

The use of a channel also varies depending upon the social setting. A female desiring to interact with a male may look at him, then glance away, then look back again. This may indicate to the male a readiness on her part to interact. In turn, he may let his eyes wander over her body in a "visual caress" while she is looking indicating a similar interest. In a nudist colony, however, this "visual caress" is carefully avoided. Fast indicates "there is an exaggerated amount of eye contact among nudists, almost as if it were a defense against letting the eyes wander to more intimate areas of the body" (1977:86). Perhaps there is a fear of information overload in the visual channel. Maintaining eye contact generally is a high stimulus and information behavior, but not as stimulating as letting the eyes wander in that environment (given traditional socialization).

IV. CHANNEL CONTROL AND DOMINANCE

Interpersonal dominance and control are of continuing interest to social psychologists. Numerous works describe dominance and control hierarchies. Cartwright and Zander conclude:

> It appears to be almost impossible to describe what happens in groups without using terms that include "place" of members with respect to one another. Various words have been employed, but the most common are position, status, rank,

> office, role, part, clique, and subgroup. Although these do not convey intuitively quite the same meaning all do refer to the fact that individual members of a group can be located in relation to other members according to some criterion of placement. (1968:486)

Channel Control

Some researchers have focused on the importance of information control to acquisition and maintenance of a leadership position (Thibaut and Kelley, 1959). In most social encounters, dominance results from and reflects information flow through the sensory channels. Feedback from others may indicate to the individual that his/her location is in the control network. Channel control is the ability to initiate, stop, redirect or otherwise manipulate information flow.

Dominance

In the auditory channel human speech is of great importance. The content of speech, the meanings of words, is increasingly well studied (Brown, 1965; Civikly, 1974), but there are other aspects of speech. Less studied are the content-free aspects of speech.

Content-free aspects of speech can be used as indicators of dominance. One indicator of dominance in small groups is a content-free aspect of speech, the frequency of speech acts initiated and received (Bales, 1950, 1970).

According to Willard and Strodbeck (1972) "latency of verbal response" (or first-to-speak) indicates dominance patterns. Rosa and Mazur (1976) found that the first person to speak in a three person discussion unit also was most likely to initiate and receive the highest number of acts. Further, the second best predictor of acts initiated and received was a composite "first-to-speak" rank based on interaction behavior in all the dyadic combinations of the triad members.

In this study control is defined primarily from a dominance perspective, as direct control (or control by force) i.e., talking most, overpowering in eye contact, initiating conversation. In addition to direct control, there are methods of indirect control. Indirect control may be exercised by people accorded authority and/or high status. In World War II candidates in O.S.I. school went through small group learning and training sessions. A "leadership pattern" emerged in some sessions in which the high status person talked very little but was able to control the discussion by subtle and timely statements and questions (U.S. Office of Strategic Services, 1948). This pattern may occur also in graduate seminars in which the instructor has legitimate power. Although a person may not dominate a channel (or channels), a person may control information flow by invoking external status factors to the

situation, such as sex (Libby, 1970; Levine and Sutton-Smith, 1973) and age (Argyle and Dean, 1965; Exline et al., 1965). In addition, patterns of interruptibility, of who can interrupt whom with success and/or lack of conflict, have been related to status. Typically, the person interrupted the most has the lowest status (West and Zimmerman, 1977). Interruptions may establish channel control.

A substantial amount of information flows through the visual channel between humans unlike for some other animals, e.g., dolphins, which have highly developed brains but primarily utilize the auditory channel (Fichtelius and Sjolander, 1972; Lilly, 1973). Uneasiness may develop if a person cannot obtain desired visual information, e.g., about another person's visual behavior, if it is blocked by sunglasses. Regular eyeglasses occasionally reflect light blocking visual examination and produce the same uneasiness. Some individuals (e.g., celebrities) may purposely avoid eye contact and subsequent interaction by blocking others visual contact (Fast, 1977). And, people tend to avoid eye contact when reprimanded (Goffman, 1956), embarrassed (Modigliani, 1971) or shamed (Exline et al., 1970).

Eyebrow flashing (Eibl-Eibesfeldt, 1972), head nodding and hand signs (Fast, 1977, perception of body orientations (Sheflen and Sheflen, 1972), pupillometrics (Hess, 1965),

and eye gaze (Argyle and Cook, 1976) are but a few of the visual topics that have been studied. Some are not forms of "eye behavior," but rather involve information transmitted through the visual channel. Much of the early visual research either examined nonhuman primates or humans in informal and unstructured settings. Investigation of such topics frequently entails difficult methodological problems, which can be resolved to some extent in a laboratory setting. More systematic studies of humans in controlled (laboratory) settings are required.

There are similar eye gaze patterns among nonhuman primates and humans, however, findings about nonhuman primates cannot be assumed to apply to humans. Eye gaze is associated with threats, dominance displays, and courting behavior in nonhuman primates (Altman, 1967). "Alpha males"[6] in baboon troops generally receive the most visual attention. According to Chance (1962), an "attention structure" exists when the dominant individual in any social situation receives the bulk of the attention.

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[6]"Alpha" males are those which are the dominant in a primate troop. Normally there is only one per troop. He receives submissive gestures from males and females and is quite often the largest male. Past studies have yielded a variety of findings including the finding that they have the highest level of testosterone in the troop (Rose et al., 1972; Rose et al., 1975) but this contention is being reexamined as well as sexual access, Mazur (1976) and Gordon et al. (1976).

From a multichannel perspective, an attention structure would exist if the subordinate or low control person left the audio or visual channels open for information flow. This would allow the high status person to exercise control. Questions remain as to whether this type of control is related to the ability to influence another person's behavior and/or attitudes in other situations.

Strongman and Champness (1968) have established fairly consistent hierarchies of eye gaze aversion. These hierarchies are derived by having all the possible dyadic combinations of a group encounter each other in a short "get acquainted" session. In their research hierarchies developed in which the highest person would not avert eye contact first with anyone, the second would avert eye contact with the first person but not with the others, and so on. Rosa and Mazur (1976) found eye gaze aversion hierarchies related to several content-free aspects of speech in three-person discussion groups. Further research needs to consider whether control-related behaviors such as speaking first, talking the most, and dominating on eye contact produce clear rankings in two-person units as well. In addition, the multiple two-person units can be used to form "dyadic composite" units. These units may predict what actually happens when these same people are brought together to form one group.

V. DYADS AND TRIADS

Two and three person units have been the focus of numerous investigations by social psychologists. Small social units are sometimes studied as surrogates for larger size units (Bales, 1950; Homans, 1950, 1974). On the other hand, some researchers have pointed out how dyads and triads differ from one another and units of larger size (Simmel, 1950). For example, the dyad is a unique social unit, for unlike larger units it will cease to exist if one member leaves.

In a dyad there is more pressure on the participants to attend to the situation and to interact than in larger groups, since inattention may lead to termination of the dyad. Due to this pressure a person may engage in behavior normally associated with high status and control, such as speaking first. This behavior may be the result of nervousness rather than assertiveness or desire for control. People may talk more or less in the dyad than they do in larger units because of the obligation to speak when the other person stops speaking. Information control in a dyad may involve taking time or acquiescing time by speaking or not speaking.

Triads differ from dyads in several important ways. First, Simmel (1950) identified the nonpartisan, mediator,

and tertius gaudens as the roles of one member in relation to the other two. Also, the possibility of coalition formation exists. Caplow (1968) dealt with hierarchies based upon coalitions within triads. The possibility of a coalition dramatically changes the unit as well as the fact that it may continue to exist if one of the members leaves. In a triad there may be more differentiation of communication patterns than in a dyad.

The first-to-speak and amount of talking time variables consistently have been interrelated in triads (Rosa and Mazur, 1976) and also related to dyadic composite eye gaze aversion (who averts initial eye gaze first) hierarchies formed by the Strongman and Champness (1968) technique. Latency of verbal response (first-to-speak) was associated with status and influence in status differentiated dyads, that is, "the person who spoke first had relatively more influence than the second speaker" (Mazur et al., 1977:1). In addition Mazur et al. (1977) and Willard and Strodbeck (1972) found that in status differentiated dyads the high status person will speak first. In social encounters in which control is not preestablished and status is undifferentiated, the meaning of these variables is unclear and requires further investigation.

The following units are utilized in this research: the dyad; the "dyadic composite triad"; and the triad. The term

hierarchy describes the rank orders (structures) of eye gaze aversion (who averts initial gaze first), speaking first and talking the most in all the units. Much of the behavior in dyads involves an either/or situation and thus involves a slightly different usage of the term rank. In light of past research and given that it is the underlying rank orders that are of concern, hierarchy is used.

The dyadic composite triad is created by using the dyad rankings of a set of individuals who have been brought together in all the possible two-person combinations (3) of the triad. The triad is created by actually having the same individuals interact in a three-person setting.

Patterns in a dyad, the smallest possible social unit, may occur also in larger social units. Initially, the relationship should be examined for the same individuals in similar social settings. If interaction patterns are similar in such dyads and triads, then the patterns should be examined for different individuals and in different settings.

VI. SUMMARY AND HYPOTHESES

Of the numerous structures that may develop in small social units, hierarchies of control based on nonverbal information and content-free verbal information have not been examined in depth. In addition, the size of the unit

may be significant in determining the importance of information in ordering the hierarchies.

Specific types of information which may pass between individuals in a dyadic situation can be used to test the general hypothesis that: control-related variables are positively correlated in the dyad. Specifically these hypotheses are tested:

A1: The dyad eye aversion hierarchy is positively correlated with the dyad first-to-speak hierarchy.

A2: The dyad eye aversion hierarch is positively correlated with the dyad talking time hierarchy.

A3: The dyad first-to-speak hierarchy is positively correlated with the dyad talking time hierarchy.

Secondly, the general hypothesis that: control-related variables in dyads positively correlate with control-related variables in triads are tested.

B1: The dyadic composite eye gaze aversion hierarchy is positively correlated with the triad talking time hierarchy.

B2: The dyadic composite first-to-speak hierarchy is positively correlated with the triad talking time hierarchy.

B3: The dyadic composite talking time hierarchy is positively correlated with the triad talking time hierarchy.

B4: The dyadic composite first-to-speak hierarchy is positively correlated with the triad speaking order hierarchy.

B5: The dyadic composite talking time hierarchy is positively correlated with the triad speaking order hierarchy.

B6: The dyadic composite eye gaze aversion hierarchy is positively correlated with the triad speaking order hierarchy.

Finally the utility of these dyad and triad hierarchies in predicting influence patterns is examined. The general hypothesis is: the higher one is in any control hierarchy the more influence he/she exerts. Specifically these hypotheses are tested:

C1: The higher in the dyad eye gaze aversion hierarchy the more influence.

C2: The dyad first speaker exerts more influence than the second speaker.

C3: The dyad most talker exerts more influence than the least talker.

C4: The higher in the dyad composite eye gaze aversion hierarchy the more influence a person exerts.

C5: The higher in the triad speaking order hierarchy the more influence a person exerts.

C6: The higher in the triad talking time hierarchy the more influence a person exerts.

CHAPTER II

METHODS AND PROCEDURES

I. THE LABORATORY

A laboratory setting was selected for this research because of the difficulty involved in obtaining reliable information on the communication behavior of interest in natural settings and the general use of the laboratory setting for the study of social influence. In a laboratory setting the consistent video and audio recording necessary to document the communication behavior under investigation and to control extraneous factors is possible. The limitations of the laboratory setting have been well documented (Orne, 1962; Rosenthal and Fode, 1963; Friedman, 1967; Wuebben, 1967; Argyris, 1968). However, since this study explores whether or not particular variables relate to one another and if so, whether or not the relationships vary in different size units, the advantages of a laboratory setting outweigh the disadvantages.

The problems of experimental designs also have been researched (Wuebben et al., 1974). Ethical questions have been raised about experimental research and procedures to protect subjects developed. The subjects' "informed consent" was obtained before the study was conducted and they were debriefed at its conclusion.

II. SUBJECTS

Subjects were recruited from several undergraduate sociology classes at the university. Two extra credit options were available to the students in those classes: (1) participation in the experiment, or (2) completion of a task such as reading journal articles or reviewing video tapes. The second option was specified by the instructors of the classes. In all classes the amount of time and effort for each option was approximately equal. The amount of extra credit to be awarded, as well as the time and effort were defined clearly.

For each class the E or the instructor (if the E was not available) orally presented the informed consent statement which explained the research. At the same class meeting, the second extra credit option for the class was specified. The presenter asked for volunteers between the ages of 18 to 30. There were two sign-up sheets for each class, one for males and one for females (see Appendix A). The volunteers signed informed consent statements and selected times to participate in the study (see Appendix B). Volunteers then were given reminder notes on bright yellow paper with the time, place and date of the experimental session (see Appendix C). In addition, the E called all Ss to remind them of the experiment the day before they were to participate.

Only one person from each class was allowed to sign up for a particular time. Volunteers for each experimental session were recruited from three classes in this manner, thus yielding the required three subjects per experimental session. This was the most convenient strategy to insure that Ss in each session were strangers. Strangers were desired because pre-existing status differences between individuals who were acquainted might affect the behavior under examination. Strongman and Champness (1968) and Rosa and Mazur (1976) also used strangers in their research.

When black persons signed up, racial information was unobtrusively noted. The researcher called the black person and asked to change the time for his/her participation (a composite group of blacks was created), then a white male or female was contacted to take his/her place. One black female group was formed in this manner.

Several studies have indicated that pre-existing status differences such as sex, age, and race can affect the types of behavior under examination (Argyle and Dean, 1965; Libby, 1965; Libby, 1970; Exline et al., 1965; Mazur et al., 1977). Therefore, these variables were controlled in the study by creating same race, sex, and similar age groups. In addition, volunteer subjects may behave differently than other people would (Hood and Back, 1971). All of the subjects were volunteers.

The experimenter for all sessions was a white male graduate student in approximately the same age category as the Ss. A total of 90 subjects participated in the research, 12 in the pretest and 78 in the study. In the pretest there were 6 males and 6 females (4 groups). In the study, there were 42 females (14 groups) and 36 males (12 groups). Additional subjects volunteered and reported to the laboratory, but if all three potential subjects did not show up the session was cancelled. The subjects who reported received their extra credit. There were more female than male groups in the study, since more males failed to report to the laboratory.

After each session, subjects were given vouchers which they returned to their instructors to receive their extra credit (see Appendix C).

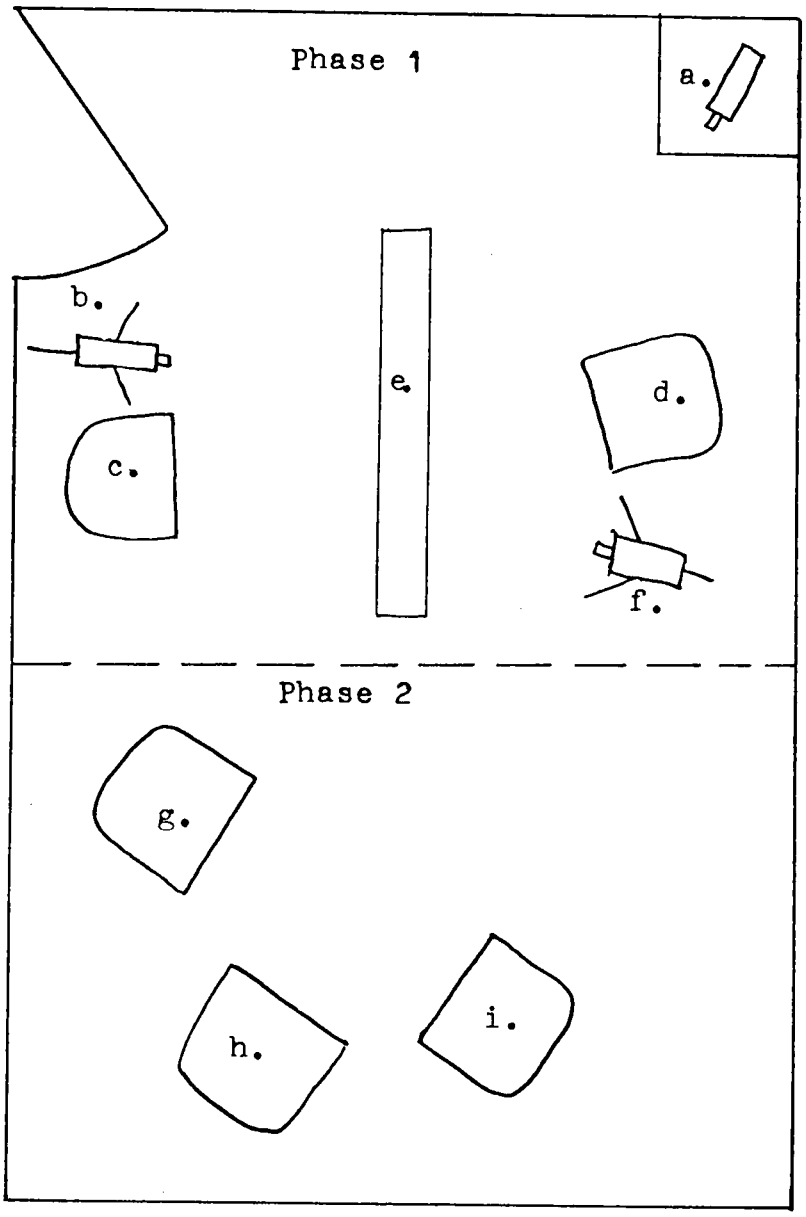
III. THE EXPERIMENT

The experiment had three phases. Upon arrival each S was taken to one of three rooms adjacent to the laboratory and asked to wait until the other Ss arrived. Phase 1 involved bringing the Ss together two at a time in all the possible dyadic combinations (3) and seating them across from one another with a barrier in between them that blocked their mutual gaze.

The first S to arrive at the laboratory was taken to a room with a large "A" on the door and given an informed consent form to read and sign plus a short questionnaire to fill out which was not related to the research (see Appendices D and E). The S was asked to fill out the forms and to wait in the room until the E returned. The door to the room was then closed. As the second and third Ss arrived, each was taken to other rooms and the process repeated. They were assigned letters B and C respectively. If by ten minutes past the scheduled time, a S had not arrived, the E called him/her. If the person was at home he/she usually came right away. If the person was not at home, he/she could have been on the way to the lab so the Ss present were retained for another fifteen minutes. Approximately ten groups were released because they were incomplete.

When all Ss were present the following procedures were followed:

1. Cameras (b) and (f) were turned on (see Figure 2.1).
2. Shade barrier (e) pulled down.
3. Person A asked to leave everything in the room (including pencils, pens and purses) and come with the E. He/she was then seated in chair (d).
4. The video tape recorder was then turned on.



a. Camera position with wide angle lens for Phase 2 triad recording.
b. Camera focused on person in Seat (d).
c. Seat for dyad member.
d. Seat for dyad member.
e. Shade barrier.
f. Camera focused on person in Seat (c).
g.,h.,i. Seats for Ss in triad condition.

Figure 2.1. Phase 1 and Phase 2 video recording room layout.

5. Person B was brought to the recording room in the same manner and seated in chair (c). The shade barrier prevented them from seeing each other.
6. The E then said, "This is quite simple, all I want you to do is to hold an ordinary conversation. You may talk about anything you want, get acquainted. If you have trouble thinking of something to talk about you might try the normal problems of being a U.T. student. Do feel free to discuss anything you like. You'll have three or four minutes." The E then lifted the shade barrier, left the room closing the door and started his stop watch. The sessions were taped for three minutes and thirty seconds.
7. At the end of this time the VTR was turned off and the E went into the recording room and said, "OK, if you'll go back to your individual rooms we'll go to the next part of the experiment." The Ss went back to their rooms and continued work on the questionnaires (this was A and B's Dyad 1).
8. The identifying letter signs which hung on the wall behind the Ss were then changed and the shade barrier pulled down.

9. Person B was then brought into the recording room first in the same manner as before and seated in chair (d) (this was B's Dyad 2 and C's Dyad 1).
10. Person C was brought into the room and seated in chair (c). Steps 6 through 8 were then repeated.
11. Person C was brought into the room first and seated in chair (d), person A was seated in chair (c) and Steps 6 and 7 were repeated (this was A and C's Dyad 2).

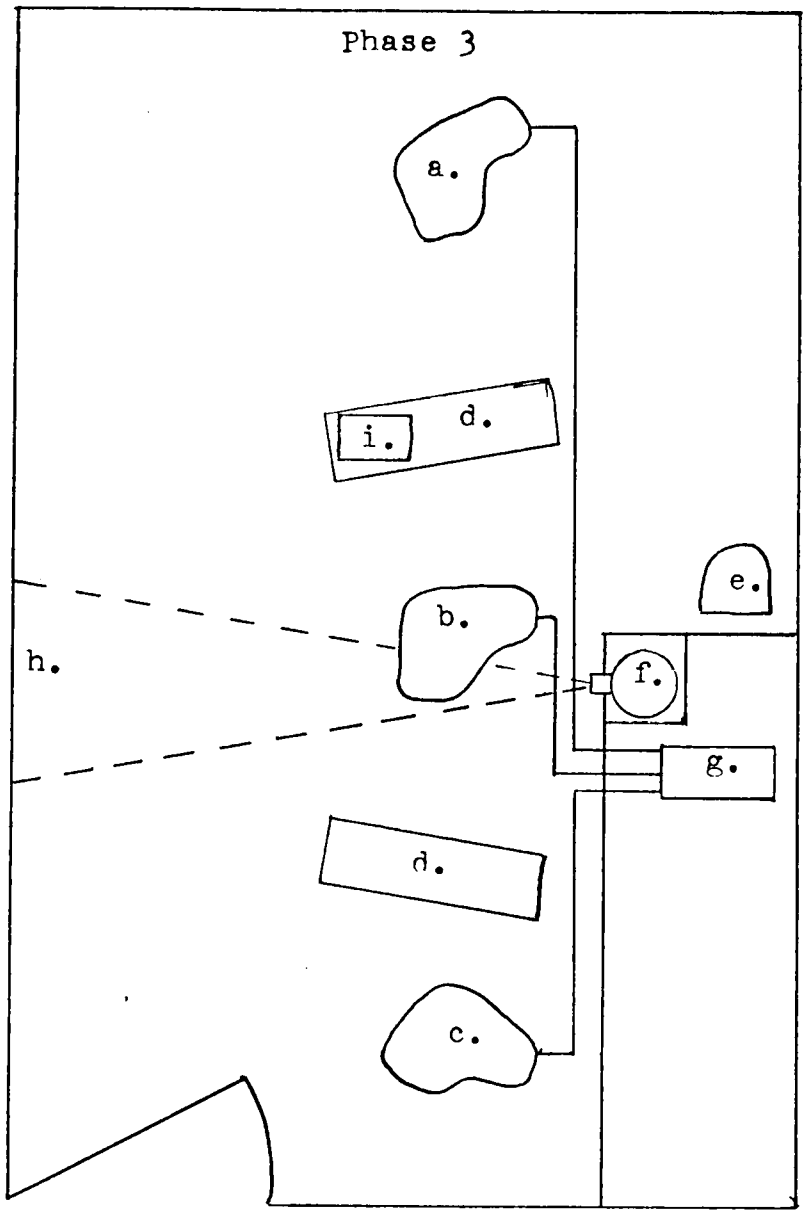
After Phase 1 was completed the Ss were brought together in a triadic situation. The following procedures were used to obtain Phase 2 data:

1. The VTR was turned on and switched to camera (a) which was wall mounted with a wide angle lens.
2. All three persons were brought to the recording room and asked to "sit in the blue chairs." The dyad chairs (c) and (d) were orange and the triad chairs (g), (h), and (i) were blue to avoid confusion.
3. The E then said, "This is a very simple part of the experiment. We're looking for interesting topics which groups like this

one would enjoy discussing. We would like you to come up with some ideas you think would be good topics. You'll have about fifteen minutes." The E then left and closed the door.

4. This session was recorded for fifteen minutes and thirty seconds.
5. At the end of the recording the E turned the VTR off, went into the recording room and said, "OK, if you'll come with me we'll go to the next part of the experiment.

Phase 3 consisted of a modification of the Berger and Fisek (1970) technique which allowed manipulation of the social influence factor. The three Ss were shown a series of slides which had two rectangular areas composed of white and black squares. The Ss were separated at this time to avoid eye contact but all were viewing the same slides simultaneously (see Figure 2.2). Duplicates of the Berger and Fisek slides were used. Research using such slides has demonstrated that they evoke equally probable responses to the question, "Which side has more light or dark area, the left or the right?" After viewing the slides, each S made his/her choice by flipping a switch on a panel in front of him/her (see Figure 2.3). Each S's decisions showed up on lights on the master panel (see Figure 2.4). The Ss



a. Chair-desk with subject panel for Person C.
b. Chair-desk with subject panel for Person B.
c. Chair-desk with subject panel for Person A.
d. File cabinets used to block Ss view of each other.
e. Chair in which E sat.
f. Projector.
g. Master panel.
h. Slide projection area.
i. Tape recorder.

Figure 2.2 Phase 3 slide viewing room layout.

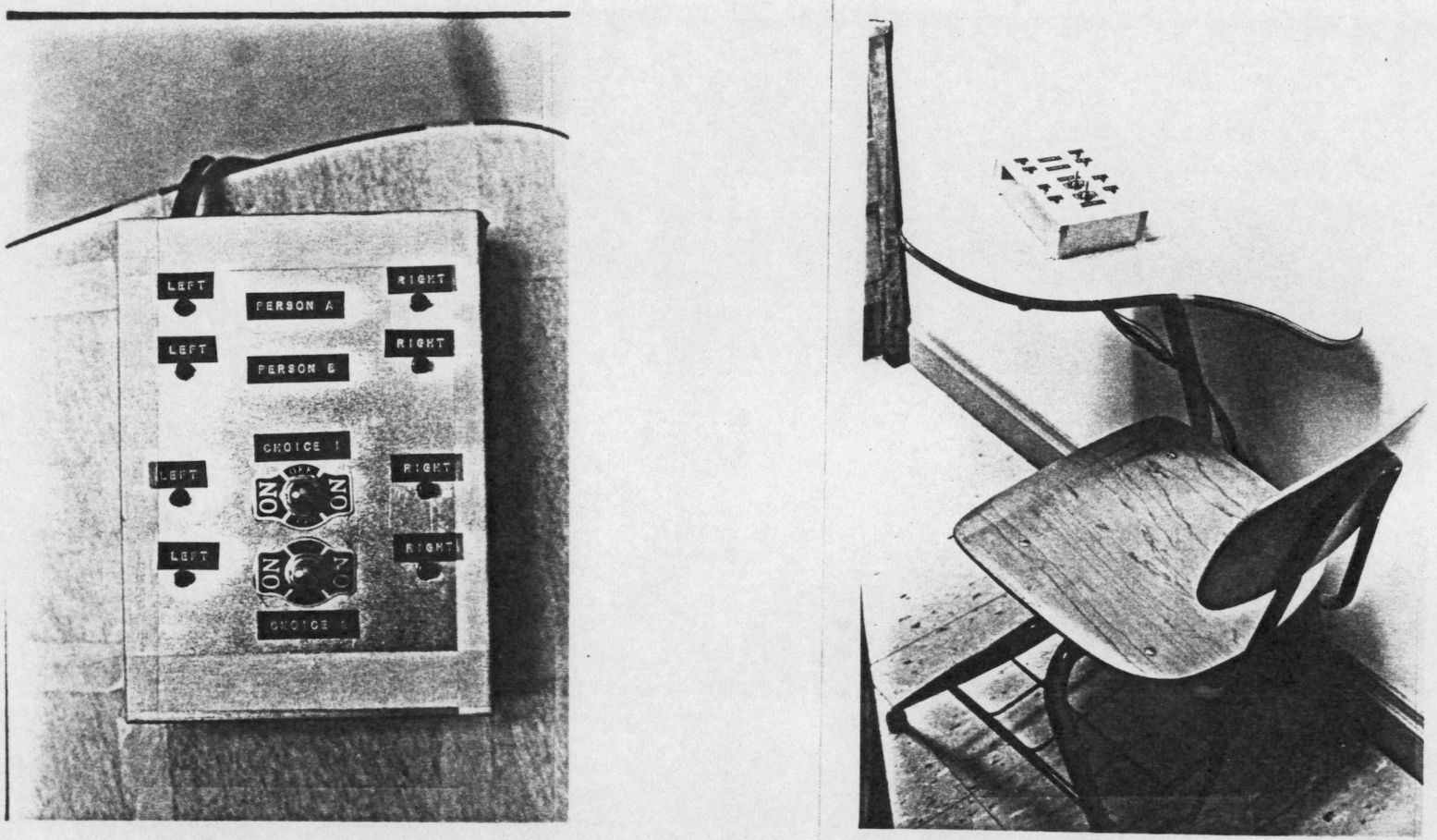


Figure 2.3 Close-up of subjects' panel-box and chair-desk used in Phase 3 of the experiment.

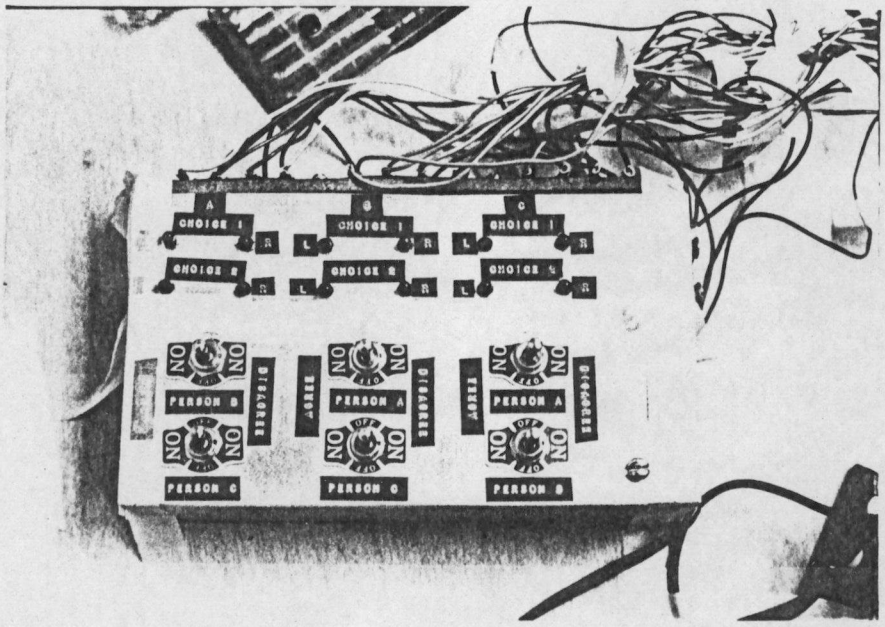


Figure 2.4 Master panel used in Phase 3 of the experiment.

responses were recorded by the E on the Data sheets as Choice 1 (see Appendix F). The E then flipped switches which indicated to each S that the other Ss did or did not agree with him/her. When the E signalled to a S that the others disagreed (whether or not they in fact did) the influence condition existed. After each S saw the choices supposedly made by the other Ss, the S was asked to again choose which side had more light area. Each S could make the same or opposite choice as the one before. The second choice was then recorded by the E on the data sheet. There were four conditions in this phase of the study. Condition 1 was composed of trials in which the S was lead to believe that both other Ss agreed with him/her. Conditions 2 and 3 involved the various combinations of disagreeing and agreeing possible in the triad. In condition 4 the S was led to believe that both other Ss disagreed with him/her. Below are the conditions:

Agree Condition 1 (6 trials)

(a) person A - B agree, C agree
(b) person B - A agree, C agree
(c) person C - A agree, B agree

Disagree Condition 2 (6 trials)

(a) person A - B agree, C disagree
(b) person B - A agree, C disagree
(c) person C - A agree, C disagree

Disagree Condition 3 (6 trials)

(a) person A - B disagree, C agree
(b) person B - A disagree, C agree
(c) person C - A disagree, B agree

Disagree Condition 4 (6 trials)

(a) person A - B disagree, C disagree
(b) person B - A disagree, C disagree
(c) person C - A disagree, B disagree

On the master panel there were switches which controlled the feedback to each S. The following decision rules were used:

Condition 1: Whether S indicated left or right, S saw lights indicating that both other Ss agreed with him/her.

Condition 2 and 3: Whether S indicate left or right, S saw lights indicating that one of the other disagreed with his/her choice.

Condition 4: Whether S indicated left or right, S saw lights indicating that both other Ss disagreed with him/her.

The following procedures were used to obtain data in Phase 3 of the experiment:

1. Ss were brought into the slide viewing room and asked, "Who is A?", then Person A was seated in chair-desk (c); "Who is B?", B was then seated in chair-desk (b); C was seated in chair-desk (a) (see Figure 2.2, page 34).

2. The slide projector and tape recorder with the prerecorded instructions were turned on and the lights turned off (see Appendix G for a transcript of the instructions).[7]
3. After all 24 slides were completed the Ss went back to their individual rooms and completed the forms they were working on if they had not yet finished them and waited for the E to come to their room.

After Phase 3 each S was debriefed. The E went to each S's room and asked three questions:

1. What did you think about that?
2. Did any part of the experiment remind you of anything?
3. Did you have any knowledge of what was going to happen in the experiment before you came to the laboratory?

After this short discussion, Ss were told that they could come by the Sociology Department and meet with the E and review the tapes and/or findings anytime after June, 1978 when the study was completed. They were then given the extra credit vouchers and allowed to leave.

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[7]These instructions are the same as used by Rosa and Mazur (1976) with slight modifications for the triad setting.

Operational Definitions

Four basic concepts are used in the preceding hypotheses which need to be operationally defined: (1) first-to-speak; (2) eye gaze aversion; (3) talking time; and (4) influence.

First-to-speak. The person who makes the first intelligible utterance addressed to the other group member(s) other than a "fill in" such as Ah or Well (obtained from video tapes).

Measure. Dyad A-B First-to-speak scored 1, other 0.
Dyad A-C " " " "
Dyad B-C " " " "

Dyad composite hierarchy ranges from 0-2.

2 = spoke first in both dyads

1 = spoke first in one dyad

0 = spoke first in neither dyad

Measure. Triad first speaker scored 3, second speaker scored 2, and third speaker scored 1.

Triad scores range from 1-3.

Eye gaze aversion. First look away that is obvious (excluding eye blinks) after initial eye contact (obtained from video tapes).

Measure. First to look away scored 0, the other person is scored 1.

Dyad composite hierarchy ranges from 0-2.

2 = maintained eye contact in both dyads

1 = maintained eye contact in one dyad

0 = maintained eye contact in neither dyad

Talking time. Measured in seconds with a stop watch (obtained from video tapes) - ranks to be assigned.

Measure. Dyad A-B Most talker scored 1, other 0.

Dyad A-C " " " "

Dyad B-C " " " "

Dyad composite hierarchy ranges from 0-2.

2 = talked most in both dyads

1 = talked most in one dyad

0 = talked most in neither dyad

Measure. Triad most talker scored 3, second scored 2, and least talker scored 1.

Triad scores range from 1-3.

Influence. The number of choices that a S seemingly changes of another S's on the slide decisions.

Measure. In each of the conditions a S received a score of 0 to 6. Comparison of these scores indicated who was most influential in the group and who was most likely to acquiesce to whom.

Conditions:		Score
2a	C's influence on A with B agreeing	0-6
2b	C's " B " A "	0-6
2c	B's " C " A "	0-6
3a	B's " A " C "	0-6
3b	A's " B " C "	0-6
3c	A's " C " B "	0-6
4a	Measure of B's influence with C on A	0-6
4b	" A's " " C on B	0-6
4c	" A's " " B on C	0-6

Possible scores = 0-6

0 = low influence

6 = high influence

Operational definition of each person's influence:

Person A's TOTAL Influence score = 3b + 3c

Person B's TOTAL Influence score = 2c + 3a

Person C's TOTAL Influence score = 2a + 2b

Conformity scores (or susceptibility to influence):

Person A = 4a

Person B = 4b

Person C = 4c

In conditions 2, 3, and 4 people received scores of 0 for maintaining their original response and 1 for changing their response.

Hypotheses

The following hypotheses were tested for dyads with data gathered by the aforementioned procedures:

A1: The dyad eye aversion hierarchy is positively correlated with the dyad first-to-speak hierarchy.

A2: The dyad eye aversion hierarchy is positively correlated with the dyad talking time hierarchy.

A3: The dyad first-to-speak hierarchy is positively correlated with the dyad talking time hierarchy.

The following hypotheses deal with the relationships between the control variable in the dyad and triad situations:

B1: The dyadic composite eye gaze aversion hierarchy is positively correlated with the triad talking time hierarchy.

B2: The dyadic composite first-to-speak hierarchy is positively correlated with the triad talking time hierarchy.

B3: The dyadic composite talking time hierarchy is positively correlated with the triad talking time hierarchy.

B4: The dyadic composite first-to-speak hierarchy is positively correlated with the triad speaking order hierarchy.

B5: The dyadic composite talking time hierarchy is positively correlated with the triad speaking order hierarchy.

B6: The dyadic composite eye gaze aversion hierarchy is positively correlated with the triad speaking order hierarchy.

The following hypotheses deal with the relationships between the control variables in the dyad and triad and their relationship to influence:

C1: The higher in the dyad eye gaze aversion hierarchy the more influence.

C2: The dyad first speaker exerts more influence than the second speaker.

C3: The dyad most talker exerts more influence than the least talker.

C4: The higher in the dyad composite eye gaze aversion hierarchy the more influence a person exerts.

C5: The higher in the triad speaking order hierarchy the more influence a person exerts.

C6: The higher in the triad talking time hierarchy the more influence a person exerts.

IV. THE PRETEST

A pretest was conducted with four sets of volunteer Ss recruited in the same manner as the Ss used in the research. There were two groups of males and two groups of females. The groups were mixed racially. The purpose of the pretest was to make any adjustments necessary in the procedures, techniques, and equipment, as well as to allow the E a chance to refine his role behavior.

As a result of the pretest the camera set-up for the triad and dyad recording was altered to allow for maximum clarity and definitiveness of eye gaze aversion on the video tapes. The discussion tasks for both the dyad and triad situations generated adequate conversation for the experiment.

The groups of Ss showed up at the laboratory at one and a half hour intervals. The entire experiment typically took one hour and ten or fifteen minutes. The interval between sessions was lengthened to two hours for the study because

the shorter interval used for the pretest groups did not allow the E sufficient time to reset the equipment and prepare for the next group.

The set-up for the slide viewing room (illustrated in Figure 2.2, page 34) used in Phase 3 of the experiment was adequate. The four agreeing and disagreeing combinations were assigned randomly to the 24 slides. On the basis of random assignment, one of the conditions in which an S is led to believe that both other Ss agree with him/her came up in the last slide. Since the purpose of this condition was to alleviate suspicion, it did not serve this purpose as the last slide. This condition was changed to slide 23 and a condition 4 moved to slide 24. In addition, on the basis of random assignment two total agree conditions came up on slides 1 and 2. Because of possible suspicion that could be aroused by total agreement in the trial run and the first two slides to be seen by the Ss the agreement condition in slide 2 was changed to slide 13 and condition 2 which was previously assigned to slide 13 was changed to slide 2.

V. RELIABILITY AND VALIDITY

Realiability

The E reviewed all twenty-six video tapes. A review of the tapes revealed that one male dyad was acquainted; therefore, that group was eliminated from the study because of the requirement that the Ss be strangers.

Three of the twenty-five video tapes utilized, two of females and one of males, were coded by a Sociology graduate student, as well as the E, in order to check the reliability of the E's coding. Of the nine codings compared, only one difference was found in the timing of talking which affected the talking time hierarchy. The E found he had made an error. To further check reliability the E randomly selected three video tapes and recoded those. He obtained the same results as in the first coding. It is assumed that the stop watch timings of talking in the dyad and triad situations which were converted to rank orders are accurate.

There were no discrepancies between the E and the other coder in the dyad first-to-speak rankings, triad or speaking order in the triad. A discrepancy was found in one eye gaze aversion code. After going over the tape a second time the other coder reversed her first decision. However, if some errors exist in eye gaze aversion measurement, from this observation of three tapes the percentage of errors should be no greater than 11 percent (or 1 out of 9).

Validity

The sample size of this study was relatively small. The Ss were volunteers from a college population. Therefore, it is not possible to generalize the findings of this research to all humans. Findings obtained in a laboratory

setting may not be indicative of behavior in other more natural settings. However, because of the exploratory nature of the study and the rigorous techniques which have to be used to video tape, these limitations are acceptable.

VI. ANALYSIS

The data are numeric and ordinal level with unknown parameters; therefore, nonparametric ordinal statistical techniques are utilized to analyze them.

For hypotheses A1 through B6 and C4 through C6 Kendall's tau_b was selected because of the small number of ranks. Spearman's rho is generally used when there is a larger number of ranks (Nie et al., 1975:289). Kendall's tau_b, which ranges from +1.0 to -1.0, is a measure of proportional reduction in error that offers a test of significance (Nie et al., 1975). The computation formula for this statistic may be found in Nie et al. (1975).

In hypotheses C1 through C3 the data are analyzed for each person's first and second dyad as well as for all dyads together. In the three dyadic combinations (A and B, B and C, and A and C) for each three person group, the persons who maintained eye contact, spoke first, and talked the most were identified. A difference of the means of influence t-test based on these rankings was conducted.

The significance level for rejecting the null hypotheses is set at .10 because of the exploratory nature of the research.[8]

[8]The .10 level of significance was originally chosen for the research. Results are reported for relationships at that level as well as at the .05 and .01 levels.

CHAPTER III

CONTROL VARIABLE INTERRELATIONSHIPS AND INFLUENCE

In this chapter results of the data analyses are reported.

General descriptive statistics are reported and then the findings related to hypotheses A1 through C6. For the hypotheses which deal with the dyad composite hierarchies, results are reported for all of the groups (experimental units) (n = 25) and for only the groups which formed hierarchies (n = 18). Since this is an exploratory study, relationships between variables for which no hypotheses were formulated are reported, also.

I. COMMUNICATION CONTROL HIERARCHIES

There were 75 dyads in the study. Control behavior in the dyads was used to establish the dyad composite hierarchies for individuals present in each experimental session. The dyad and dyad composite hierarchies were used to predict similar hierarchies in triads composed of the same individuals.

Dyads

Eye gaze aversion, first-to-speak, and talking time ranks were established for all dyads. Talking time in the

dyad ranged from 23 seconds to 2 minutes and 20 seconds (out of 3 minutes measured) for individuals.

Dyad Composites

Eye gaze aversion hierarchies could be established in 84 percent (21) of the groups. For three of the fourteen female groups and one of the eleven male groups hierarchies could not be established. That is, each person maintained eye contact in one dyadic session and averted eye gaze first in the other, yielding a ranking of 1-1-1.

First-to-speak hierarchies could be established for 88 percent (22) of the groups. For two of the female groups and one of the male groups first-to-speak hierarchies could not be established. Each of the members of those groups spoke first in one of the dyadic sessions.

Talking time hierarchies could be established for 88 percent (22) of the groups. For two of the female groups and one of the male groups talking time hierarchies could not be established. Each of the members of those groups talked the most in one of the dyadic sessions.

For seven different groups, three male and four female, hierarchies could not be established for one or more variables. Some past researchers (Strongman and Champness, 1968; Rosa and Mazur, 1976) have only analyzed data from units which formed hierarchies. In this report, data are

analyzed for both the eighteen groups which formed hierarchies and for all twenty-five groups.

Triads

Speaking order and talking time hierarchies could be established for all triads. Talking time in the triads ranged from 40 seconds to 7 minutes and 37 seconds (out of 10 minutes measured) for individuals.

II. CONTROL VARIABLES IN THE DYAD

The relationships between three types of information transmitted through the auditory and visual channels were examined in dyads (n = 75). Hypothesis A1, the dyad eye aversion hierarchy is positively correlated with the first-to-speak hierarchy, was not supported. Hypothesis A2, the dyad eye aversion hierarchy is positively correlated with the talking time hierarchy, was supported ($p < .10$). Hypothesis A3, the dyad first-to-speak hierarchy is positively correlated with the talking time hierarchy, was supported ($p < .01$). The relationships measured by Kendall's tau_b are reported in Table 3.1.

Each subject participated in two different dyadic sessions. Any individual's control behavior is contingent to some extent upon the behavior of the other participants. Thus, communication control behavior is analyzed for each

TABLE 3.1

THE RELATIONSHIP BETWEEN EYE GAZE AVERSION SPEAKING FIRST AND TALKING TIME IN THE DYAD[a]

Variable Relationship	Kendall's tau_b
Eye gaze aversion, speaking first ranks	.118
Eye gaze aversion, talking time ranks	.151*
Speaking first ranks, talking time ranks	.361***

[a] $n = 75$

*$p < .10$, one-tailed

**$p < .05$, one-tailed

***$p < .01$, one-tailed

individual's first and second dyadic encounter. These are termed Dyad 1 and Dyad 2. In addition, some degree of familiarity with the laboratory setting and research procedures developed which may have altered an individual's behavior in Dyad 2. Hypothesis A1, the dyad eye aversion hierarchy is positively correlated with the first-to-speak hierarchy, was supported for Dyad 1 ($p < .10$) but not for Dyad 2. Hypothesis A2, the dyad eye aversion hierarchy is positively correlated with the talking time hierarchy, was also supported in Dyad 1 ($p < .05$) but not in Dyad 2. Hypothesis A3, the dyad first-to-speak hierarchy is positively correlated with the talking time hierarchy, was supported in Dyad 1 ($p < .05$) and in Dyad 2 ($p < .01$). The relationships measured by Kendall's tau_b are reported in Table 3.2.

III. CONTROL VARIABLES IN THE DYAD COMPOSITE AND TRIAD

The relationships between the hierarchical rankings derived from the dyadic encounters and rankings from the triadic setting were examined (Table 3.3). The data were analyzed for all of the groups ($n = 25$), as well for only the groups which formed all three hierarchies ($n = 18$).

Hypothesis B1, the dyadic composite eye gaze aversion hierarchy is positively correlated with the triad talking time hierarchy, was not supported. There was a weak negative relationship between the variables.

TABLE 3.2

THE RELATIONSHIP BETWEEN EYE GAZE AVERSION, SPEAKING FIRST AND TALKING TIME IN DYAD 1 AND DYAD 2

Variable Relationships	Kendall's tau_b	
	DYAD 1[a]	DYAD 2
A1. Eye gaze aversion, speaking first ranks	.173*	.063
A2. Eye gaze aversion, talking time ranks	.232**	.070
A3. Speaking first, talking time ranks	.224**	.498***

[a]The unit of analysis in this table is the individual and not the dyad; therefore, there are 25 Dyad 1s and 25 Dyad 2s for a total of 50.

*p < .10, one-tailed.

**p < .05, one-tailed.

***p < .01, one-tailed.

TABLE 3.3

SUMMARY OF RELATIONSHIPS BETWEEN CONTROL HIERARCHIES FROM COMPOSITE DYAD RANKINGS AND TRIAD RANKINGS

Hierarchy Relationship	Kendall's tau_b	
	n = 25[a]	n = 18[b]
B1. Dyadic composite eye gaze aversion, triad talking time	-.056	-.074
B2. Dyadic composite first-to-speak, triad talking time	.245***	.374***
B3. Dyadic composite talking time, triad talking time	.345***	.370***
B4. Dyadic composite first-to-speak, triad speaking order	.202**	.381***
B5. Dyadic composite talking time, triad speaking order	.208**	.365***
B6. Dyadic composite eye gaze aversion, triad speaking order	.197**	.303***

[a] n = 25 refers to all groups.

[b] n = 18 refers to those groups which formed hierarchies on all three measures.

*p < .10, one-tailed

**P < .05, one-tailed

***p < .01, one-tailed

The two talking hierarchies derived from dyadic interaction were positively related to the talking hierarchies in the triads (talking time and speaking order). Hypothesis B2, the dyadic composite first-to-speak hierarchy is positively correlated with the triad talking time hierarchy, was supported ($p < .01$). Hypothesis B3, the dyadic composite talking time hierarchy is positively correlated with the triad talking time hierarchy, was supported ($p < .01$). Hypothesis B4, the dyadic composite first-to-speak hierarchy is positively correlated with the triad speaking order hierarchy, was supported ($p < .05$, $n = 25$; $p < .01$, $n = 18$). Hypothesis B5, the dyadic composite talking time hierarchy is positively correlated with the triad speaking order hierarchy, was supported ($p < .05$, $n = 25$; $p < .01$, $n = 18$). Hypothesis B6, the dyadic composite eye gaze aversion hierarchy is positively correlated with the triad speaking order hierarchy, was supported ($p < .05$, $n = 25$; $p < .01$, $n = 18$).

IV. CONTROL VARIABLES IN THE DYAD AND TRIAD AND THEIR RELATIONSHIP TO INFLUENCE

The best way to analyze the dyad influence scores was to break down the data for persons A, B, and C in each dyadic session and utilize t-tests. For example, if in Dyad A-B, person A dominated on eye gaze, then a t-test was

performed comparing the influence A exerted on B with the amount of influence B exerted on A. If B dominated, then an equivalent t-test was performed.

Hypothesis C1, the higher in the dyad eye gaze hierarchy the more influence, was supported for person B in the Dyad A-B ($t = 1.49$, $p < .10$, one-tailed) and person C in Dyad B-C ($t = 1.69$, $p < .10$, one-tailed), but was not supported for either A or C in Dyad A-C.

Hypothesis C2, the dyad first speaker will have more influence than the second speaker, was not supported for persons A, B, or C in any of the dyads.

Hypothesis C3, the dyad most talker will have more influence than the least talker, was supported for persons B in Dyad A-B ($t = 2.35$, $p < .05$ one-tailed). No support was found in Dyad B-C or in Dyad A-C.

Hypothesis C4, the higher in the dyad composite eye gaze aversion hierarchy the more influence, was not supported. Hypothesis C5, the higher in the triad speaking order the more influence, was not supported. Hypothesis C6, the higher in the triad talking time hierarchy the more influence, was not supported. The relationships measured Kendall's tau_b are reported in Table 3.4 for all groups ($n = 25$) and for only the groups formed hierarchies ($n = 18$).

TABLE 3.4

SUMMARY OF HYPOTHESES RELATING TO TOTAL INFLUENCE SCORES

Variable Relationship	Kendall's tau_b	
	n = 25[a]	n = 18[b]
C4. Dyad composite eye gaze rank, total influence	-.045	.030
C5. Speaking order in the triad, total influence	.082	.113
C6. Total talking in the triad rank, total influence	.029	-.076

[a] n = 25 refers to all groups.

[b] n = 18 refers to those groups which formed hierarchies on all three measures.

V. ADDITIONAL ANALYSIS

Susceptibility to Influence

Condition 4 of Phase 3 of the experiment created a situation in which the Ss were led to believe that both other Ss disagreed with them. This approximates, with a stimulus group of two, a part of Asch's (1951) classic conformity study. Dyad composite first-to-speak rankings, dyad composite total talking rankings, triad total talking rankings, and triad speaking order rankings were related to susceptibility to influence in condition 4. None of the relationships were statistically significant. However, as would be expected from past research, all the correlations were negative. The dyad composite eye gaze aversion hierarchy was negatively correlated with conformity and statistically significant ($p < .10$) for the groups which formed hierarchies ($n = 18$). In order to analyze the behavior of males and females each was assigned a value of 1 and 2 respectively. Sex yielded a low positive correlation with susceptibility to influence when calculated in this manner, indicating that females were slightly more likely to conform than males. The relationships measured by Kendall's tau_b are reported in Table 3.5 for all the data ($n = 25$) and for the groups which formed all three hierarchies ($n = 18$).

TABLE 3.5

RELATIONSHIPS OF SEVERAL VARIABLES
TO SUSCEPTIBILITY TO INFLUENCE

Variable Relationship	Kendall's Tau_b	
	n = 25[a]	n = 18[b]
Sex, conformity	.045	.080
Dyad composite eye gaze, conformity	-.091	-.174*
Dyad composite first-to-speak, conformity	-.087	-.100
Dyad composite total talking, conformity	-.101	-.145
Triad total talking rank, conformity	-.009	-.084
Triad speaking order rank, conformity	-.067	-.059

[a] n = 25 includes all groups.

[b] n = 18 includes those groups which formed hierarchies on all three measures.

*p < .10, one-tailed.

Further Dyad and Triad Analysis

An individual's behavior in his/her first dyadic encounter was a good predictor of behavior in his/her second dyadic encounter. Dyad 1 first-to-speak and Dyad 2 first-to-speak ranks had a positive statistically significant relationship ($p < .05$). Dyad 1 total talking rank was significantly correlated with Dyad 2 total talking rank ($p < .10$). Dyad 1 eye gaze aversion rank was not significantly correlated with Dyad 2 eye gaze aversion rank. The relationships measured by Kendall's tau_b are reported in Table 3.6.

There are several hierarchies which should be interrelated, although the relationships were not hypothesized. They should be related since the hierarchies all measure forms of channel control. The dyad composite eye gaze aversion hierarchy was positively correlated with the dyad composite talking time hierarchy ($p < .05$, $n = 25$ and $n = 18$). And, the dyad composite first-to-speak hierarchy was positively correlated with the dyad composite talking time hierarchy ($p < .05$, $n = 25$; $p < .01$, $n = 18$). The relationships measured by Kendall's tau_b are reported in Table 3.7 for all the data ($n = 25$) and for the groups which formed all three hierarchies ($n = 18$).

The relationship between two hierarchies not previously analyzed in the triad setting is also presented in Table 3.7.

TABLE 3.6

THE RELATIONSHIP BETWEEN DYAD 1 BEHAVIOR AND DYAD 2 BEHAVIOR[a]

Variable Relationship	Kendall's tau_b
Dyad 1 eye gaze, dyad 2 eye gaze	.130
Dyad 1 first-to-speak, dyad 2 first-to-speak	.237**
Dyad 1 talking rank, dyad 2 talking rank	.175*

[a] $n = 75$

*$p < .10$, one-tailed

**$p < .05$, one-tailed

TABLE 3.7

THE INTERRELATIONSHIP OF SEVERAL HIERARCHIES IN THE DYAD AND TRIAD SETTING

Variable Relationship	Kendall's tau_b	
	$n = 25^a$	$n = 18^b$
Dyad composite eye gaze, dyad composite total talking	.192**	.229**
Dyad composite first-to-speak, dyad composite total talking	.321**	.344***
Dyad composite eye gaze, dyad composite first-to-speak	.168*	.175*
Triad speaking order, triad talking order rank	.291***	.381***

[a]n = 25 includes all groups.

[b]n = 18 includes those groups which formed hierarchies on all three measures.

*p < .10, one-tailed.

**p < .05, one-tailed.

***p < .01, one-tailed.

The triad speaking order hierarchy strongly correlates with the triad talking time hierarchy ($p < .01$, $n = 25$ and $n = 18$).

The data were then analyzed separately for males and females. The data are summarized in Table 3.8. Hypotheses B1 through B6 were tested for each group. The relationships are generally in the same direction and do not vary greatly. It would appear, however that dyad composite talking time is a better predictor of triad talking time for females than for males (see hypothesis B5, Table 3.8). In contrast, it also appears that the dyad composite talking time is a better predictor of triad speaking order for males than for females. Generally, however, the data show that sex was not a significant factor in control behavior in the experimental setting.

VI. SUMMARY

The findings in this chapter indicate that there are structures that emerge in dyads and triads based on control. Further, when the structures that result from the dyadic combinations are used to form "dyadic composite hierarchies," ranks in those hierarchies correlates well with ranks in hierarchies that emerge when the same individuals interact in a triad.

TABLE 3.8

BREAKDOWN OF HYPOTHESES B1 THROUGH B6 BY SEX WITH GROUPS WITHOUT HIERARCHIES INCLUDED AND EXCLUDED[a]

Variable Relationship	Males Kendall's tau_b n = 11	Males Kendall's tau_b n = 8	Females Kendall's tau_b n = 14	Females Kendall's tau_b n = 10
B1. Eye gaze aversion, triad total talking	-.089	-.063	-.036	-.087
B2. Eye gaze aversion, triad speaking order	.266**	.411**	.143	.220*
B3. Dyad first-to-speak, triad total talk	.210*	.391**	.273**	.360**
B4. Dyad first-to-speak, triad speaking order	.207	.427**	.201*	.347**
B5. Dyad talking, triad total talking.	.166	.276*	.491***	.447***
B6. Dyad talking, triad speaking order	.299**	.563***	.136	.213*

[a]Male group with these included, n = 11; excluded n = 8. Female groups with these included, n = 14; excluded n = 10.

*p < .10, one-tailed.

**p < .05, one-tailed.

***p < .01, one-tailed.

The relationships between the control hierarchies and influence were inconclusive. Some support was found for the general hypothesis that a person who is high in a control hierarchy is also able to influence others but the support was not as great as expected.

Susceptibility to influence (conformity) was negatively correlated with several of the control hierarchies, but only the relationship with the dyad composite eye gaze aversion rank was significant ($p < .10$).

There were no significant differences between the male and female groups in the study.

Chapter IV interprets the findings and proposes directions for future research.

CHAPTER IV

DISCUSSION AND CONCLUSIONS

The research findings support the general hypothesis that larger social units develop structures similar to those in small social units, at least when the same individuals are in both units. It supports Bales' (1950, 1970) and Homans' (1950) assertions that findings from small social units are applicable to larger units. The social units utilized in this study have some unique qualities which suggest the need for additional research using different size units. And, researchers should compare the nature of the structures for units of different individuals and in various settings.

I. THE DYAD

The dyad, the smallest possible social unit, merits further exploration. Therefore, several hypotheses focused on control behavior in dyadic units. The patterns of eye gaze aversion were hierarchical (in 84 percent of the cases) supporting the Strongman and Champness (1968) findings on the emergency of structures in dyads. Previous researchers (Mazur et al., 1977) found that speaking first (latency of verbal response) was related to status in status differentiated dyads. In the present study, the Ss' external status

characteristics (sex, age, race, undergraduate status) were controlled, as much as possible, and speaking first was still strongly correlated with other control behavior in the dyads.

Several hypothesized relationships (hypotheses A1-A3) between eye gaze aversion, speaking first and total talking time in the dyads were examined. Support was not found for the proposed relationship between eye gaze aversion and speaking first in the dyad. While coding the vodeo tapes, the E noticed a tendency for some people to avert initial eye gaze as they simultaneously spoke first which may account for the lack of support. Individuals may avert gaze as they speak to avoid appearing to seek to dominate others or to be overly aggressive. Research in other cultures suggests additional meanings for this behavior, e.g., coyness or friendliness. The positive relationship proposed between eye gaze aversion rank and total talking time rank in the dyad was found. Examination of the relationship between speaking first in the dyad and total talking time rank in the dyad also yielded a statistically significant positive correlation.

Every S was involved in two dyads, each time with a different person. In only the first dyad was a S in the "recording room" for the first time. Familiarity with the setting in the laboratory after the S's first dyadic session

could have produced different behavior in the second dyadic session. Initial apprehension may have been alleviated by having been in the first session. During his first dyadic session, one S said to the other S, "I wonder when he's going to come in and do something to us." Suspicion of additional manipulation may be lessened after the first dyadic session when nothing other than video taping occurs. In addition, Ss become familiar to some extent with the physical setting of the laboratory and the obtrusive cameras, microphone and bright lights. Therefore, the data produced in the dyad sessions was additionally analyzed by examining each Ss' first and second dyadic session.

As shown in Table 3.2, page 55, the correlation between eye gaze aversion rank and speaking first rank in each S's first dyadic session is statistically significant. The relationship does not hold for second dyadic sessions. The same is true of the relationship between eye gaze aversion rank and talking time rank. There is a statistically significant relationship in the first dyadic session but not in the second session. In the initial encounter in a laboratory setting with a stranger, it appears that individuals attempt to control both the visual and auditory channels. In the second session, which may have been more relaxed, control seeking occurs through another channel or a single channel.

The positive relationship between speaking first rank and talking time rank is statistically significant in the first dyadic session and in the second dyadic session suggesting the potential importance of the auditory channel over the visual channel in the second dyadic session. This may have occurred because individuals in Dyad 1 are unfamiliar to the physical environment of the laboratory, as well as the social setting. Rapid visual data gathering about both aspects of the environment may take place in this encounter, whereas in Dyad 2 the Ss are visually familiar with the setting and may concentrate on exploring the other S in a verbal fashion.

II. DYADIC COMPOSITE HIERARCHIES AND THE TRIAD

Another set of hypotheses (B1-B6) proposed relationships between dyad composite scores (summations of behavior in dyads) and subsequent behavior in triads.

Hypothesis B1 proposed a positive relationship between the dyadic composite eye gaze hierarchy and the triad talking time hierarchy. The relationship was negative rather than positive, although not statistically significant. This finding also could be due to increased familiarity with the setting.

Eye gaze aversion may involve a struggle for control in initial interaction, but be less important when people have interacted previously, as is the case with the triad setting.

The data supported hypotheses B2 through B6 and thus the contention that the study of behavior in small social units may provide useful information about behavior in larger units such as triads.

One hypothesis which dealt with eye gaze aversion (B1) was not supported and one (B6) was supported. This inconsistency may be due to other usages of eye gaze. In Dyad 1 the Ss were probably slightly nervous or apprehensive, which may have produced a tendency to avert initial gaze quickly. As discussed in section I, there were differences in eye gaze behavior in Dyad 1 and Dyad 2. Greater familiarity with the setting and reduction of apprehension may have produced a different pattern of eye gaze usage in Dyad 2.

III. CONTROL HIERARCHIES AND INFLUENCE

Another set of hypotheses (C1-C6) examined relationships between the dyadic composite hierarchies, triad hierarchies and influence. Only a few of the relationships were statistically significant. These findings could lead to the conclusion that the hierarchies are not related to social influence. Rosa and Mazur (1976) and Mazur et al., (1977) found that several of the hierarchies were related to influence. Therefore, rather than rejecting the theoretical argument that forms of control are related to influence, other explanations for the unexpected outcome are explored.

One possible explanation involves the techniques used to create social influence, that is, the techniques might not have created a social influence condition. Past research, however (Berger, Fisek, and Conner, 1974; Mazur et al., 1977), established that these techniques created social influence with two subjects. The present study modified the technique for use with three subjects.

The expansion of the study to three subjects involved the additional problem that the subjects must differentiate each of the other Ss.

Letters were used to designate each S as he/she went through the various stages of the experiment to insure that they would identify one another with letter designations. Numerous efforts were made to insure this identification. Large letters were placed on the doors of the private rooms that the Ss went in and out of several times during the dyad recording phase. And the letters were posted on the walls behind the chairs for each dyad recording session. When moving from the triad recording room to the Phase 3 slide viewing room the E asked the subjects, "Who is A?", and "Who is B?" thus trying to further insure that they knew each other's letter. In addition, the chair-desks which were used in Phase 3 had large stenciled letters on them. Although Ss had to be aware of their own letter designations, they may not have been as aware of the other Ss letter

designations. If the Ss had difficulty associating the other Ss with the letter designation on the Phase 3 switch boxes, the effects of control upon influence could not be confirmed or disconfirmed.

There was also a problem in the conditions in which the influence was exerted on the subjects. When a S was led to believe that another S disagreed with their first response to the slide stimulus there was also another S who agreed. The agreeing S could have been more influential than the disagreeing S. The presence of one other agreeing person on susceptibility to influence has been established by Asch (1951) and many others. Thus, it was not possible to establish with certainty which of the two Ss had the most influence on the target S.

With respect to eye gaze in particular, future researchers should examine explanations in addition to control to specify the meaning of eye gaze aversion in different situations. Many of the correlations were statistically significant but still relatively low. The nervousness of the Ss as well as a tendency to explore the physical setting in their first dyad may override the predictive capacity of initial gaze aversion. The other control behaviors under examination in this study may also have been modified by the lab setting and/or the experimenter.

There also needs to be included in the model an accounting for the general attractiveness of individuals. Eye contact (length of mutual gaze) is related to liking (Argyle and Cook, 1976). Gaze aversion may also be related to attractiveness. There may be a tendency for people to avoid eye contact with unattractive people. Conversely, an individual may look longer at a person (regardless of sex) who is attractive.

IV. FURTHER ANALYSIS

A number of relationships are reported which examine susceptibility to social influence.

Only one of the relationships in the conformity situation, condition 4 of Phase 3, was statistically significant. Dyadic composite eye gaze aversion rank and conformity were negatively correlated ($tau_b = -1.74$, $n = 18$, $p < .10$). The correlations between the other variables were all in the direction expected on the basis of past research. Failure to obtain stronger statistical significance could be due to the lack of identification of other Ss by letter. Or, there may have been a "defiant subject effect" (Lamb and Alsikafi, 1978). The Ss may have been sensitized to expect group pressure in an experiment which dealt with groups. Since numerous textbooks have reviewed social influence research, some college students are aware of social influence

settings and their expected effects upon behavior. Thus, some knowledgeable students may exert their "independence" by "nonconforming" responses. Although "defiant subject" effects may be more frequent with more widely used and relatively more transparent methods such as Asch's (1951) line-judging technique, the hypotheses in a study such as this may be "guessed" by a knowledgeable subject pool. However, none of the Ss mentioned the experimental focus when debriefed by the E.

Table 3.2, page 55, reports the extent to which a behavior in the first dyad could be used to predict the same type of behavior in the second dyad. Eye gaze aversion in the Dyal 1 is not significantly related to the same behavior in Dyad 2. There is a statistically significant correlation between speaking first in the first dyad and speaking first in the second dyad. There is also a statistically significant relationship between total talking time rank in the first dyad and total talking time rank in the second dyad.

In Table 3.7, page 64, several relationships are reported, although no hypotheses were formulated about the interrelationship of those variables. There is a statistically significant positive correlation between the dyad composite eye gaze hierarchy and the dyad composite total talking time hierarchy both when groups without hierarchies are included (n = 25) and excluded (n = 18) from the analysis.

Dyad composite first-to-speak hierarchy and the dyad composite total talking time hierarchy were positively correlated ($tau_b = .344$, $p < .01$) suggesting a strong tendency for the person who speaks first to also speak the most. There is a statistically significant positive correlation between the dyad composite eye gaze hierarchy and the dyad composite first-to-speak hierarchy. And, a statistically significant positive correlation was found between rank in the triad speaking order and the triad total talking time rank. Therefore, it can be generally concluded that the dyad composite units correlate suggesting the utility of using behavior in small social units to generalize to behavior in larger social units.

In Table 3.8, page 66, hypotheses B1 through B6 are analyzed separately for male and female groups and those which formed hierarchies. There are differences between the relationships for male and female groups when the groups without hierarchies are included in the analysis but when the groups without hierarchies are excluded the differences between males and females disappear, i.e., for hypothesis B1 there is a negative but not statistically significant correlation and for hypotheses B2 through B6 there are statistically significant positive correlations. This finding suggests the need to replicate past research which found differences in control behavior for males and females.

V. GENERALIZABILITY OF FINDINGS

The limitations of exploratory research such as this do not permit generalization to the general population. College student volunteers from introductory sociology classes may not engage in the same behavior as other people would. They were utilized because of convenience and cost factors. The relatively young age of the subjects may also be a limitation. If the various control behaviors examined in the study are learned modes of conduct, then it is possible that some of the Ss had not yet learned how to use them.

The laboratory setting and the presence of video cameras, microphones, and bright lights is an atypical situation for most people and may alter their behavior. Although the research could not have been conducted in a natural setting, the laboratory setting introduces a set of conditions which limit generalization to other interactional settings.

VI. FUTURE RESEARCH

Results of this investigation of multichannel control techniques in dyads and triads and their relation to influence support many of the hypothesized relationships. The relationships require further examination under various conditions (e.g., different size groups). The techniques

used in recruiting the subjects and insuring that they be at the laboratory were highly effective (although males were less reliable about reporting to the laboratory than females). The laboratory setting provided the necessary control of extraneous factors. The experimental procedures were generally appropriate, although some modifications would be advisable in future research.

One modification would be in the procedures employed to test the influence factor. Some further method of insuring that the Ss could identify each other in the influence setting may be necessary. One solution would be to have the Ss wear "name tags" with their letters on them. In that way they could also identify the other Ss letters easily. Another obvious solution would be to use the Ss first names in the experiment and to put those names on the Phase 3 switch boxes.

In addition, future research should seriously consider more extensive debriefing to include questions about the Ss impressions of all phases of the experiment and the setting. Such data should be an asset in determining the extent to which they were biased, defiant, compliant, or contaminated, all of which could affect control behavior.

Future researchers also may wish to create "dyad composite influence hierarchies" composed of the dyadic combinations of the group being analyzed (whatever size)

rather than all the group members being present. This would alleviate the problem of having one person agree with a S while the other appears to be disagreeing.

The findings suggest that the structures that develop in the dyad generalize to structures in the triad. The next step would be to study larger groups in order to further investigate generalizability, that is, to take groups of four or five, examine all their possible dyadic combinations, form dyadic composites and then have them interact in groups of all of the members also. This would contribute to sociological understanding of the realtionship between unit size and structure.

Of particular interest to social psychologists examining control behavior from a multichannel perspective is the relationship between eye gaze aversion and speaking first in the dyad. The lack of statistical significance noted in Table 3.1, page 53, is partially accounted for in Table 3.2, page 55, which reports results for Dyad 1 and Dyad 2. This lack of statistical significance could result from a tendency for some people to simultaneously speak first and avert initial gaze. Individuals may do this in initial interaction, so they do not dominate two channels. If domination is important in an initial encounter, then they may not avert initial eye gaze as they speak first.

Another mode of analyzing eye gaze aversion might be useful. Perhaps better results could be obtained if eye

gaze aversion were measured through the encounter. It may be useful to analyze the number based on all mutual gaze contacts per person per dyadic unit, thereby measuring the use of that channel for the entire span of interaction.

The hierarchies of control examined apparently developed in a short period of time. Therefore, a next step might be to compare the control relationships, when different time units are employed. In the present study, three minutes were measured in the dyads and ten minutes in the triads. Hierarchies may develop even earlier than that. Further research should be conducted to ascertain the length of time which should be measured in units of various size.

The research investigated only a few types of information which passed through two channels. The entire scope of types of information which pass through single channels needs to be clarified. Some information can only pass through one channel and effectively transmit meaning. Specific situations may require that information pass through multiple channels in order to transmit meaning. The simultaneous use of multiple channels needs to be investigated further. Researchers might analyze how a person talks and looks at the other person simultaneously or how much the listener looks at the speaker while he/she is talking. This multichannel analysis may reveal control behavior by one individual which the other may or may not accept.

The present study attempted to control for extraneous status characteristics by having same age, sex and race groups. This is obviously an artificial setting and subsequent research should attempt to introduce status into the groups in some systematic fashion to further clarify its role in the multichannel perspective of communication.

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APPENDICES

APPENDIX A

EXTRA CREDIT EXPERIMENT CLASS _____

SIGN UP SHEET _____

DATE: _____ PLACE: ALL EXPERIMENTS WILL BE IN 401 AUSTIN PEAY BLDG (PSYCH DEPT.)

TIME	NAME	PHONE #
____	_____	_____
____	_____	_____
____	_____	_____
____	_____	_____
____	_____	_____

DATE: _____

TIME	NAME	PHONE #
____	_____	_____
____	_____	_____
____	_____	_____
____	_____	_____
____	_____	_____

DATE: _____

TIME	NAME	PHONE #
____	_____	_____
____	_____	_____
____	_____	_____
____	_____	_____
____	_____	_____

APPENDIX B

INFORMED CONSENT FORM

DEPARTMENT OF SOCIOLOGY
UNIVERSITY OF TENNESSEE
KNOXVILLE, TENNESSEE

This is to ask you to participate in a study of interaction among strangers. Hopefully the study will contribute to our understanding of the interaction patterns that emerge in group situations.

As a participant you will be asked to (1) interact in a two person situation for several minutes and (2) interact in a three person situation, both of which will be video taped. After that there will be a series of slides to view and evaluate. Your anonymity will be assured as much as possible by the use of code numbers to identify all measures. Graduate student coders will review the tapes which will be erased after the research is completed.

The entire experiment will require about an hour and you will receive extra credit in your class as designated by your instructor. The research director will be glad to answer any inquiries regarding procedures. The results will be available for your review.

You are free to withdraw your consent and to discontinue participation in the study at any time without penalty. We believe it will be a pleasant experience.

I consent to be a participant in this human behavior study.

Signature_____

Age_____

Mailing Address_____

_____

Phone Number_____

Theodore A. Lamb, Research Director
Department of Sociology
906 McClung Tower
Phone: 974-6021

also

401 Austin Peay Bldg.
Phone: 974-6060

APPENDIX C

REMINDER NOTE AND EXTRA CREDIT VOUCHER

EXTRA CREDIT
EXPERIMENT

Austin Peay Bldg.
(psych. dept.)

Date:_____

Time:_____

It is essential that you be at the lab at the time you signed up for because the experiment involves several people, all of whom must be present for the experiment to be done.

EXTRA CREDIT VOUCHER

This is to certify that _____ participated in the human behavior study for Ted Lamb and is entitled to extra credit.

APPENDIX D

SELF-DISCLOSURE QUESTIONNAIRE

This questionnaire lists a number of statements involving various types of information about yourself. Assume you were involved in a conversation with each of the individuals listed on the answer sheet. Indicate on the answer sheet which of the responses listed below (a through f) most closely indicates how you would feel about discussing this information with each person.

(a) I would be likely to mention it.
(b) I would not try to conceal it, but I would not discuss it unless the other person brought it up--because it would be irrelevant considering the relationship I have with the other person.
(c) I would not try to conceal information about it, but I would not discuss it unless the other person brought it up--because I would be unsure of how he would react.
(d) I would try to conceal the information from the other--because I would feel that he might react unfavorably towards me, if he knew.
(e) I would try to conceal the information from the other--because through him others might learn about it.
(f) I would lie about this.

1. What I dislike about religion.

2. The reasons why I do or do not go to church.

3. Common interests that I would like my marriage partner and I to have.

4. My feelings about a husband helping with the housework.

5. How often I usually go on dates.

6. My feelings if I see a man and a woman necking in public.

7. Things I like about my life.

8. How much education my parents have.

9. The kinds of clothes that I feel look best on me.

10. The kinds of diseases I have had.

11. The amount of money that I have made by working.
12. My views about borrowing money from a friend.
13. What I would do if I saw someone breaking a law.
14. My political party preferences.
15. What annoys me most in people.
16. How embarrassed I am by dirty stories.
17. Whether or not I gamble and to what extent.
18. What sports I am poor at.
19. What I dislike about making new friends.
20. Whether I am a "listener" or a "talker" in social conversations.
21. My feelings about how much independence I need.
22. The extent to which I am the kind of person who puts things off.
23. My school grades.
24. Techniques I have used to get on "the right side" of a teacher or instructor.

APPENDIX E

SELF-DISCLOSURE ANSWER SHEET

Mark a-f

	Stranger (Same Sex)	Close Friend (Opposite Sex)	Close Friend (Same Sex)
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
13.			
14.			
15.			
16.			
17.			
18.			
19.			

Stranger (Same Sex)	Close Friend (Opposite Sex)	Close Friend (Same Sex)
20.		
21.		
22.		
23.		
24.		

APPENDIX F

PHASE 3 DATA SHEET

Group_____ Date_____ Time_____ Exp._____

Person A_____ B_____ C_____

	Switches		A			B			C		
Slide 1	(A)	D	0	1	0	0	1	0	0	1	0
Cond 1	(A)	D	0	2	0	0	2	0	0	2	0
Slide 2	(A)	D	0	1	0	0	1	0	0	1	0
Cond 2	A	(D)	0	2	0	0	2	0	0	2	0
Slide 3	A	(D)	0	1	0	0	1	0	0	1	0
Cond 3	(A)	D	0	2	0	0	2	0	0	2	0
Slide 4	(A)	D	0	1	0	0	1	0	0	1	0
Cond 2	A	(D)	0	2	0	0	2	0	0	2	0
Slide 5	A	(D)	0	1	0	0	1	0	0	1	0
Cond 3	(A)	D	0	2	0	0	2	0	0	2	0
Slide 6	(A)	D	0	1	0	0	1	0	0	1	0
Cond 1	(A)	D	0	2	0	0	2	0	0	2	0
Slide 7	(A)	D	0	1	0	0	1	0	0	1	0
Cond 2	A	(D)	0	2	0	0	2	0	0	2	0
Slide 8	(A)	D	0	1	0	0	1	0	0	1	0
Cond 2	A	(D)	0	2	0	0	2	0	0	2	0
Slide 9	A	(D)	0	1	0	0	1	0	0	1	0
Cond 4	A	(D)	0	2	0	0	2	0	0	2	0
Slide 10	(A)	D	0	1	0	0	1	0	0	1	0
Cond 1	(A)	D	0	2	0	0	2	0	0	2	0
Slide 11	A	(D)	0	1	0	0	1	0	0	1	0
Cond 4	A	(D)	0	2	0	0	2	0	0	2	0
Slide 12	(A)	D	0	1	0	0	1	0	0	1	0
Cond 2	A	(D)	0	2	0	0	2	0	0	2	0
Slide 13	(A)	D	0	1	0	0	1	0	0	1	0
Cond 2	(A)	D	0	2	0	0	2	0	0	2	0

	Switches		A			B			C		
Slide 14	A	(D)	0	1	0	0	1	0	0	1	0
Cond 4	A	(D)	0	2	0	0	2	0	0	2	0
Slide 15	(A)	D	0	1	0	0	1	0	0	1	0
Cond 2	A	(D)	0	2	0	0	2	0	0	2	0
Slide 16	A	(D)	0	1	0	0	1	0	0	1	0
Cond 3	(A)	D	0	2	0	0	2	0	0	2	0
Slide 17	(A)	D	0	1	0	0	1	0	0	1	0
Cond 1	(A)	D	0	2	0	0	2	0	0	2	0
Slide 18	A	(D)	0	1	0	0	1	0	0	1	0
Cond 3	(A)	D	0	2	0	0	2	0	0	2	0
Slide 19	A	(D)	0	1	0	0	1	0	0	1	0
Cond 4	A	(D)	0	2	0	0	2	0	0	2	0
Slide 20	A	(D)	0	1	0	0	1	0	0	1	0
Cond 4	A	(D)	0	2	0	0	2	0	0	2	0
Slide 21	A	(D)	0	1	0	0	1	0	0	1	0
Cond 3	(A)	D	0	2	0	0	2	0	0	2	0
Slide 22	A	(D)	0	1	0	0	1	0	0	1	0
Cond 3	(A)	D	0	2	0	0	2	0	0	2	0
Slide 23	(A)	D	0	1	0	0	1	0	0	1	0
Cond 1	(A)	D	0	2	0	0	2	0	0	2	0
Slide 24	A	(D)	0	1	0	0	1	0	0	1	0
Cond 4	A	(D)	0	2	0	0	2	0	0	2	0

Debriefing:

APPENDIX G

PHASE 3 INSTRUCTIONS

These instructions have been prerecorded because we want to insure that each participant in the study receives exactly the same directions.

This is a study of group decision-making--of how individuals work together as a group to solve problems. Today the three of you will be working together as a team to make decisions about problems that we will give you. This is a common yet important kind of situation, sometimes referred to as a Critical Choice situation. The most important thing about a Critical Choice situation is to make the right decision. For example, when a doctor has to make a difficult diagnosis and the patient may die if he is wrong, then a good doctor will usually seek advice from others. Only then will he decide. He will not care whether he originally thought of the answer himself or was assisted by someone else in recognizing the right answer. The important thing is that he make the right decision.

Today we are interested in studying how people make decisions in Critical Choice situations when they have advice from others. Let me tell you something about the task you will be working on.

This perceptual task, which social scientists have labeled Contrast Sensitivity, has been developed in recent

years, and because of its importance is currently being used in an extensive set of studies in several parts of the country. The task involves judging contrasts in figures or objects. Today you will be judging a series of slides like this one.

(DEMO SLIDE #1 APPEARS ON SCREEN)

Each slide has two patterns, which are made of smaller black and white rectangles. One of these two patterns--either the left one or the right one--has more white area than the other. Your task is to determine which of the two patterns--the left or the right--has the greater area of white.

You may find that some of the slides are difficult to judge, as the difference in the area covered by black and white rectangles is sometimes quite small. However, previous studies have shown that some individuals are able to make correct judgements on the basis of very slight, almost intuitive cues and feelings. So this is a fairly difficult task on which individuals do differ markedly in their performances.

Since we are interested in seeing how well the three of you can work together as a team, we are going to give you the opportunity to exchange information with each other as to what you think the correct answer is before you make your final decision.

This is how it will work. First, we will present a slide on the wall. After you have studied the slide for a few seconds, we will ask each of you to make an initial choice as to which pattern contains the greater area of white, left or right. Indicate your choice on the switch box in front of you. Throw the top switch to the left if you think the left pattern has the most white area, or to the right if you think the right pattern has the most white. These switches control lights on the experimenter's panel at the desk, so he can record your choices. This is a cooperative task, so after all three of you make your choices, the experimenter will show you what the others chose by flashing one of the lights in the top two rows of your box. The top row of lights are for Persons A, B, or C as designated on your box and the second row is for the other person's decision. The left light will indicate that they chose the left pattern and of course the right light would indicate the right pattern. Once you see what the others have chosen you may want to change your initial choice. In any case, make your final choice, when I say to do so, by throwing the bottom switch to the left or right indicating, as before the left or right pattern.

Here is a trial run. Which pattern in the slide has the most white area, the left or right? If the left, throw the top switch to the left; if the right pattern throw it to the right.

Please make your decision now, throw your switch and leave it in that position. (pause)

Now the experimenter will flash the other's choices (flash agreement).

Now make your final choice, using the bottom switch. (record choices)

Reset both switches to the middle position. (reset)

Now we are ready to begin the series. There will be 24 slides in all. Some portions of patterns are repeated but each slide, taken as a whole, is unique. Remember: We are interested in seeing how well you can work together as a team and with all communication through these devices so please do not talk. You should not hesitate to change your initial choice if it helps you to make the correct final decision.

Here is slide number 1 . . . . .

For each slide/trial:

1. "Initial choice 1" (pause 10 seconds and record choices)
2. After all light, then. . ."Here are the other's responses." (pause 10 seconds; flip switches according to data sheet)
3. "Now make your second choice." (record choices)
4. "Reset switches to the middle position." (reset)
5. "Slide number ____" (change slides)

VITA

Theodore Alan Lamb was born in Tampa, Florida on July 23, 1946. He attended elementary schools in Chicago, Illinois; Detroit, Michigan; the Azores Islands; Montgomery, Alabama; and Alexandria, Virginia. He attended Hammond High School in Alexandria, Virginia and graduated from Lanier High School in Montgomery, Alabama in June, 1964. The following September he entered the University of Alabama in Tuscalossa, Alabama.

He was drafted into the U.S. Army in March, 1967 and served in the Infantry at Ft. Bragg, North Carolina; Ft. Polk, Louisiana; Pleiku, Vietnam; and Ft. Benning, Georgia. He was separated from the Army in January, 1969.

He returned to the University of Alabama and received a Bachelor of Arts degree in Sociology and Anthropology in August, 1971. He then entered the Graduate School of the University of Alabama and received a Master of Arts degree in Sociology in May, 1974.

He entered the Graduate School of the University of Tennessee, Knoxville, in September, 1974 and received the Doctor of Philosophy degree with a major in Sociology in December, 1978.

The author is a member of the American Sociological Association, the Southern Sociological Society, Phi Kappa Phi and Alpha Kappa Delta Honor Societies. Dr. Lamb will be

employed as an Assistant Professor of Sociology at Wofford College in Spartanburg, South Carolina after graduation.

He is married to the former Kathleen Brannan of Mobile, Alabama.