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ABSTRACT

FULLER, THERON KEITH. The Relationship Between Organizational Structure and the Structure of Organizational Communications: An Empirical Study in an Academic Department. Directed by: Dr. Joseph S. Himes. Pp. 88

The objectives of this study were (1) to develop a model to explain the relationships between organizational structure and the structure of individual communication, and (2) to test this model empirically in an organizational setting. The model classifies the communications structure of individuals in organizations into three types of channels: formal channels, informal channels directed toward fulfilling organizational demands and informal communication directed toward individual social and psychological needs. The amount of formal communication varies with the cybernetic needs of the organization while the two types of informal communication vary with individual autonomy within the organization.

A survey was conducted among junior and senior sociology majors and the faculty of the Sociology Department at the University of North Carolina at Greensboro. Respondents included 57 welfare students, 34 non-welfare students, and eleven faculty members.

Hypotheses regarding similarities and differences in the communications structures of the two student groups were derived from the proposition in the theoretical model. From

tests of these hypotheses, it was concluded that the theoretical model provides an accurate description of the structure of student communication within the Sociology Department.

APPROVAL PAGE

THE RELATIONSHIP BETWEEN ORGANIZATIONAL STRUCTURE
AND THE STRUCTURE OF ORGANIZATIONAL
COMMUNICATIONS: AN EMPIRICAL
STUDY IN AN ACADEMIC
DEPARTMENT

by

Theron Keith Fuller

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INTRODUCTION

Social organizations constitute one of the most important elements which make up the social web of modern societies. An individual is born in a hospital, educated in a school, works in one organization or another, and participates in union, religious, and political organizations.

Walton (1962:3) comments:

In modern society, "no man is an island" and few, if any, of his important cultural, social, economic or political needs can be satisfied without his becoming a part of, or interacting with, organizations. . . . In modern society the individual's major means of influence and impact on his environment is in association with organizations of one kind or another. To the extent that this is true, the factors that account for the total behavior of organizations and how individuals relate to them becomes a serious topic for investigation.

One important focus in the study of organizations is the investigation of those factors relating to communication. Communications are central phenomena in organizations.

As Sprott (1958:121) states:

Whether you are concerned with the institution of government or industry, with the organization of the Services or of the Church, nothing can possibly be done in a co-ordinated way without communication. Someone has to say something to someone else, face to face or through an instrument, or else he has to write something to someone else and communicate an order for transmission.

In many areas the theory of organizations is highly organized and well supported by research. However, this is

not true with regard to the theory and research concerning communication within organizations. Research relating to the way communications systems are structured and operate within organizations has been relatively neglected. As Guetzkow (1965:535) comments:

The richness of materials at the individual and group levels has induced extraploation of findings perhaps inappropriate for rigorous analysis of communications in organizations. Yet, with the dearth of studies about organizations, either from the field or laboratory, one can but join with others in speculation.

This observation, made in 1965, is still relevant to the state of the field today. One particular area where theoretical development is needed is in the relationship of the structure of an organization to the structure of communication of individuals and groups within the organization. One source of difficulty in this area is that several major models of organizational behavior and communication have been developed from different theoretical perspectives. These models differ in the way that communication within organizations is described and explained. Moreover, different models place different amounts of emphasis on the importance of organizational structure as it relates to communication within the organization.

This thesis has two major objectives. The first is to integrate several theoretical approaches in order to develop a model of the relationship between the structure of an organization and the structure of communication of

individuals within the organization. The second objective is to test the empirical utility of this model by using it to derive hypotheses regarding the structural characteristics of communication which will then be tested in a study of the communications structure of the students in an academic department.

CHAPTER I

A STRUCTURAL MODEL OF ORGANIZATIONAL COMMUNICATION

The researcher who explores any aspect of human communication is faced with a large body of theory and previous research on the subject. Communication is both a very important social phenomenon and a very complex one. For these reasons the subject has received considerable attention from a variety of behavioral perspectives. This has resulted in a large number of theories of communication and theories which give a major consideration to communication. This situation prevails in the study of communications within social organizations. The area is characterized by a number of major theoretical approaches that vary greatly in their level of abstraction, their definition of communication, and the social unit to which they apply. The multiplicity of approaches has created a problem of accumulating a body of knowledge from the large number of studies of communication within organizational settings. There is a need to combine the various theoretical positions and research into "middle-range" theories that can provide general explanations of organizational communication. Such theories can serve to integrate communications research from different theoretical approaches into propositions of organizational behavior and can also serve as foundations of further theoretical development.

channels are designated and the responsibility for the establishment and maintenance of these channels among all individuals is assigned to key members of the organization by formal regulations. The most common type of communication of this nature is hierarchical. A subordinate is required to communicate certain information to a superordinate and the superordinate has the authority to impose sanctions on the subordinate to insure that the required communication takes place.

The other two types of communication are those communication channels within the organization in addition to the formally specified ones. In the sense that any type of structure that is not part of the formal organization is defined as "informal," these are informal channels. The analysis of informal structure can be broken down into an analysis of two different types of informal communication. The first is communication directed toward satisfying individual social and psychological needs. The second is communication directed toward securing the information and feedback needed to meet the tasks and demands of the organization and that are not supplied through the formally designated channels.

The two types of informal communication occur in the following manner. When the organizational structure limits individual autonomy, interaction motivated by social needs will be high because the organization provides optimal

conditions for social group formation. Informal communication directed toward meeting the goals of the organization will be lower because the organizational structure provides goals, defines tasks, limits organizational behavior, and clearly determines the outcomes of individual actions. On the other hand, when the structure of the organization allows a large amount of individual autonomy, the above conditions will be reversed. Conditions for group formation will be minimal, causing social needs interaction to be relatively lower. The needs for information, feedback, and assistance in meeting organizational goals and demands will be higher, causing interaction directed toward meeting formal goals to be higher.

Each type of communication will be discussed in detail.

Formal Communications Structure

Any organization which sustains a set of activities over a prolonged period of time may be viewed as an information-processing system. Within such an organization, power, leadership, and decision making all rely upon the communications structure either explicitly or implicitly, since these processes would be meaningless in the absence of information. In every organization certain types of information are considered essential to its continued existence. For this reason, the structure of the organization will contain

requirements that certain types of communication be made along officially designated paths in order to insure the continued flow of information. The structure of this officially sanctioned information system is defined as the formal communications structure. In general, the more important the management of information is to the functioning of an organization, the more central the communication process, and the more extensive the formal communications structure will be. The importance of information management and the extent of the communications structure vary according to where one looks in the organization.

Hierarchical Differences in Structure

Intraorganizational differences in formal communications structure can be explained by viewing the organization as a system. In this perspective

communication is viewed as the method by which action is evoked from the parts of the system. Communication acts not only as stimuli resulting in action, but also as a control and coordination mechanism linking the decision centers in the system into a synchronized pattern (Scott, 1963:21).

Parsons (1966:9-14) describes the differences in the importance of communications within a system in terms of a cybernetic hierarchy of control. In this view, subsystems successively higher in information and lower in energy regulate other subsystems successively higher in energy and lower in information. As one moves up the organizational

hierarchy, information becomes increasingly important for purposes of control and a correspondingly greater portion of the subsystem structure is directed toward information management. Katz and Kahn (1966:223) note the varying importance of communication in the following manner:

When one walks from a factory to the adjoining head-house or office, the contrast is conspicuous. One goes from noise to quiet, from heavy electrical cables and steam pipes to slim telephone lines, from a machine dominated to a people-dominated environment. One goes, in short, from a sector of the organization in which energetic exchange is primary and information exchange secondary, to a sector where the priorities are reversed. The closer one gets to the organizational center of control and decision making, the more pronounced is the emphasis on information exchange.

With respect to differences in formal communications structure of an organization, the following proposition may be stated:

1. Other organizational factors being equal, the higher the subsystem is in the cybernetic hierarchy of the organization, the greater will be the number of formal communications channels of individuals in that subsystem.

Individual Integration and Formal Structure

In some types of situations, an individual has tasks that must be integrated into more than one subsystem of the organization. In these instances, cybernetic information and feedback must be supplied simultaneously to more than one part of the system regarding the activities of the individual. Take, for example, a machinist in a large

organization whose job it is to fill custom orders for industrial customers. He receives his assignment from one department, draws his supplies from another department, and reports billing information to a third. Each relationship contributes to the size of the formal communications structure of the machinist.

Regarding integration of the individual's activities into the cybernetic system, the following proposition may be stated:

2. For each subsystem within which an individual must integrate his organizational tasks, there will tend to be at least one formal communications channel.

Informal Communications Structure

The informal communications structure of an organization is defined as the communications channels within an organization other than the formally specified ones. The analysis of informal structure can be broken down into an analysis of two different types of informal communication. The first type is the communication directed toward securing the cybernetic information and feedback that are needed to complete organizational tasks and are not supplied through the formal communications structure. This type of communication will be called task-oriented. The second type of informal communication is that directed toward satisfying individual social and psychological needs. This will be called individual-oriented communication.

The relationship of the structure of each type of communication to the structure of the organization will be discussed in turn.

Task-Oriented Communications Structure

The informal task-oriented communications structure is closely related to the formal structure of an organization. Both types of communication are directed toward providing the cybernetic flow of information necessary to complete organizational tasks. In many instances, the distinction between the two types of communication is a definitional one depending on whether or not a particular channel has been formally specified by the organization. There may not be any differences in the characteristics of organizational behavior associated with each type of communication for individuals in a particular type of organizational setting. The differences between formal channels and task-oriented informal channels in an organization may diminish over time. Communication that begins as part of the informal structure may achieve such an importance that it becomes part of the formal structure. On the other hand, the informal communications structure may function so well in providing information and feedback that there is no need to formalize channels to insure the continued fulfillment of organizational goals. In many respects the line between the two types of communication is arbitrarily drawn.

For purposes of analysis of individual communications structure, certain basic distinctions can be made between the two types of communication. Formally specified channels will tend to be those which provide information and feedback to levels higher in the cybernetic system of the organization and which coordinate the activities of the individual with the other activities of others in the organization. The formal structure will tend to carry information that is considered important to the individual's superiors rather than information that is necessarily of importance to the individual in completing his organizational tasks.

Katz and Kahn (1966) describe differences in the functions of communications structure in their analysis of hierarchical communication. They delineate vertical communication into upward and downward components. Downward communication has five elements: (1) job instruction, in which a subordinate is told what to do; (2) the rationale for the task and its relationship to the rest of the organization; (3) information regarding practices and procedures within the organization; (4) feedback to the subordinate regarding his performance; and (5) ideology, communication in which the organization attempts to indoctrinate the subordinate into accepting the organization's goals (1966:239-242). In contrast to the organizationally-oriented nature of downward communication, upward communication consists of communication of importance to the individual. In the view of Katz and Kahn

Communication up the line takes many forms. It can be reduced, however, to what the person says (1) about himself, his performance, and his problems, (2) about others and their problems, (3) about organizational practices and policies, and (4) about what needs to be done and how it can be done (1966:245).

Because formal channels must serve multiple purposes, they will be limited in the amount of information that the individual can utilize in performing his organizational assignments. These channels will tend to inform the individual what tasks should be performed rather than providing specific information on how particular tasks can be accomplished.

On the other hand, if informal task-oriented channels are established, their primary function will be to provide information to the individual on how he can complete his assignments. These communication channels will be oriented primarily toward the needs of the individual rather than the needs of those in higher levels of the organization. The need for informal task-oriented channels is a function of two factors. The first factor is the amount of information the individual needs in order to carry out his organizational assignments. The second is the capacity of formal channels to provide the type of information needed. Both of these factors vary directly with the complexity of organizational tasks. If an assignment is routine or a work process is mechanical, very little information is needed and formal channels will be sufficient to meet the communication

needs of the individual. As assignments increase in complexity, the need for information will increase. At the same time, the information-gathering process becomes more complex so that the problem of specifying a formal communications channel for every possible contingency becomes increasingly more difficult. Under these conditions the task-oriented communications structure of the individual becomes more extensive.

The effects of mechanization and task complexity on communications structure have been noted by several writers. In a study of a textile mill, Simpson (1959) asserts that vertical communication is often inversely proportional to horizontal communication within a particular hierarchical level. He states that "a critical variable in the direction of communication is apparently the degree of mechanization of the work process" (1959:188). For example, the traditional assembly line "reduces the need for close supervision (vertical communication), since instead of the foreman the machines set the work pace" (1959:196). It is assumed that horizontal communication would increase. On the other hand, low mechanization would produce high vertical communication due to closer supervision. In this case, foremen would communicate more with their supervisors. Similarly, Udy (1965:700) has formulated the proposition that, "other things being equal, the absolute amount of vertical communication is a function of the degree of mechanization of the process." A

related proposition of Udy's states that "under conditions of constant time pressure, the greater the number of technically possible ways to do the work (flexibility), and the less the operationality of subgoals, the greater the absolute tendance toward horizontal communication (1965:700). He stresses that these two propositions refer only to absolute amounts of communication and that it is "not necessarily the case that horizontal and vertical communication be mutually exclusive" (1965:700).

Since the amount of formality varies in a non-deterministic manner from organization to organization, the relationship between formal communications structure and task-oriented communciations structure must be made clear. It is assumed in this model that, for a given organization, different tasks of equal complexity require the same amount of information for their completion. Similarly, it is assumed that equal information needs will result in communications structures of equal size. Thus, the relationships between task complexity, information needs, and communications structure will tend to remain the same regardless of whether or not the channels needed to supply task-related information have been formalized. These relationships can be stated in two logically equivalent propositions:

3. At the same hierarchical level, for tasks of a given complexity, the total number of formal channels and task-oriented channels will tend to be of the same magnitude.

4. At the same hierarchical level, for tasks of a given complexity, the larger the number of formal channels, the smaller the number of task-oriented channels.

Implicit in these propositions is the assumption that the greater the complexity of a task, the more cybernetic information it will require, and the greater will be the extent of the communications structure needed to obtain this information. Therefore, if the size of the formal communications structure is held constant, the task-oriented communications structure will tend to vary with the complexity of the task. Udy's second proposition quoted above can be paraphrased to state the relationship between formal communications structure, task complexity, and task-oriented communications structure in still another form:

5. For a formal communications structure of a given extent, the greater the complexity of individual tasks, the greater the tendency toward task-oriented communications.

Individual-Oriented Communications Structure

The subjects of informal interaction within organizations and behavior motivated by social and psychological needs have received extensive treatment in the literature on complex organizations. Fulfillment of social needs is a very strong motivational force, and studies such as those by Rose (1945), Wood (1956), Litwak (1968), Roethlisberger and Dickson (1939), and Berk (1965) have demonstrated that some social-needs interaction exists within an organization no

matter what conditions are created by the formal structure. Indeed, psychological and sociological theory emphasizes that the individual must gratify his basic psychological and social needs before he can turn his attention to the demands of the organization (see Maslow, 1943, and Argyris, 1960). Argyris (1960:27-157) asserts that informal interaction arises because there is a lack of congruency between the needs of healthy individuals and the demands of the formal organization, which results in frustration, failure, short time perspective, and conflict. Members of the organization then react to the formal organization by creating informal activities, or adaptive behavior, which maintain self-integration and simultaneously facilitate integration with the formal organization. This adaptive behavior has a cumulative effect. It feeds back into the organization, and reinforces itself.

Selznick (1948) asserts that certain organizational needs of individuals are frustrated or blocked, that is, they cannot be fulfilled within the approved avenues of the operation of the formal organization. These needs give rise to an informal structure based on personal relationships within the organization. He hypothesizes that: (1) Every organization creates an informal structure; (2) In every organization, the goals of the organization are modified (abandoned, deflected, or elaborated) by processes within

it; (3) The process of modification is effected through the informal structure.

Barnard (1938) asserts that controlled and autonomous behavior coexist within organizations. He states that this is a "zone of indifference" in which persons are prepared to accept orders, and beyond which they are prone to oppose orders (pp. 167 ff.).

The relationship between organizational structure and individual-oriented communications structure is explained by Homans' systems theory (Homans, 1950; Riecken and Homans, 1954) and his exchange theory (Homans, 1961). Homans (1950: 24-131) argues that a description of human behavior can be contained in three types of statements. First, there are activities, referring to movements and actions such as writing, driving a car, walking, and other things people do to or with nonhuman objects, or with other people when their reaction or reciprocal behavior is ignored. Second, there are sentiments, referring to feelings, attitudes, and beliefs which constitute the things an individual subjectively perceives. And third, there is interaction, the basic characteristic of which is behavior directed toward another person when his reaction or reciprocal behavior is taken into account. Interaction, sentiment, and activity are dynamically related so that a change in one will lead to a change in the others. Thus, the behavior of members of a group must be considered as a social system and not as discrete behaviors unrelated to each other.

This social system is constituted of two parts:

(1) an external system, the relations among interaction, activity, and sentiment which are imposed on a group by forces external to it; (2) an internal system, the relations among interaction, activity, and sentiment which are spontaneously elaborated and standardized by members of the group. The relative dominance of the two systems may vary, which leads Homans to develop the concept of autonomy, referring to the degree to which the members of a group are free to develop an internal system. A group with high autonomy would be likely to have little structure imposed by the external system. A group with low autonomy would be likely to have much structure imposed by the external system. In the former case, an internal system must develop quite elaborately if there is to be a social system in operation at all. In the latter case, an internal system may be only weakly developed but the group may still function effectively since the external system explicitly controls organizational behavior.

The relationship between the internal system and the social system is explained by Homans' Exchange Theory (Homans, 1961). This theory asserts that two or more individuals interacting are engaged in a socio-psychological transaction in which valuable commodities are exchanged. The units of exchange in social interaction are those actions that, for one reason or another, individuals find rewarding.

An individual will tend to repeat behavior for which he has been rewarded in the past. But behavior also involves costs. Therefore, an individual will produce behavior until the cost of the last unit of action is just equal to the last unit of reward.

In an organizational situation where internal structure is extensive and autonomy is low, positive sentiments are likely to be extensive since the values, goals, and tasks of group members are similar. Mutual positive sentiments both increase rewards and reduce costs and thus cause interaction to be high. If the group members are placed in close physical proximity as a result of the extensive internal structure, then sentiments and interaction should be further increased since there is more personal contact and therefore more occasions where interaction can be carried out at low cost to the individuals involved. Since the external and internal structures of a group are directly related, and the internal structure of the group, autonomy of the individual, and interaction within the group are directly related, then external structure, autonomy, and interaction are transitively related.

Homans' definition of interaction includes communication, because in communicating, a person takes into account the reactions of other persons. Therefore, with respect to the individual-oriented communications structure of individuals, the following proposition may be stated:

6. Other things being equal, the more extensive the external structure imposed on an individual by an organization, the lower his autonomy and the more extensive his individual-oriented communications structure.

The utility of a theoretical model lies both in its capacity to explain social phenomena in an orderly fashion and in its capacity to provide an efficient means of exploring and testing social reality. For this reason, the empirical applicability of the theoretical model was assessed by testing hypotheses derived from its propositions in a survey of the structural aspects of communication in a particular organizational setting.

The organization chosen for study was the Department of Sociology at the University of North Carolina at Greensboro. The Sociology Department administers two programs for undergraduate students majoring in sociology. The first program requires that students must meet the requirements for the degree of Bachelor of Arts as defined by the University. The second program is a concentration in social welfare for undergraduates who are interested in a career in social welfare. Students entering this concentration must meet the same requirements as other sociology majors, and, in addition, are required to take designated sociology and social welfare courses within the Sociology Department, and specific courses in other departments such as Economics and

CHAPTER II

METHODOLOGY

The utility of a theoretical model lies both in its capacity to explain social phenomena in an orderly fashion and in its capacity to provide an efficient means of exploring and testing social reality. For this reason, the empirical applicability of the theoretical model was examined by testing hypotheses derived from its propositions in a survey of the structural aspects of communication in a particular organizational setting.

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Psychology, and complete a social welfare field work assignment.¹

There are several reasons why the Sociology Department at UNC-G provides a useful setting for the examination of the relationship between the structure of an organization and the communication structure within the organization. First, the formal organization of the department is clearly defined. This makes it relatively easy to distinguish between the formal and informal structures within the organization. Second, the roles of "faculty member" and "student" provide a distinct, yet simple hierarchical structure with definite differences in status and authority between the two roles. This two-level hierarchy provides an opportunity to study both vertical and formal communication in a situation that is relatively uncomplicated to observe, but which is empirically appropriate to the study. Finally, the Sociology Department provides a useful setting because the two undergraduate programs offer two subgroups in similar circumstances whose members have different amounts of autonomy in decision-making concerning their course work. Those students in the social welfare concentration are subject to more control in the objectives they set for themselves, the courses they may take, and the freedom they have in the sequencing and scheduling of courses. And, because social

¹The exact requirements can be found in the 1971-72 Bulletin of the University of North Carolina at Greensboro.

welfare majors are generally required to take the same courses at the same time and to share field work experiences in the same agencies, the organizational structure places these students in close physical proximity with relatively more opportunities to interact with one another than are given non-welfare majors. At the same time, students in both groups take many of the same courses under the same professors, often at the same time. Both groups are subject to many similar influences within the department, thus providing some amount of control for the study.

This study examines the differences and similarities in the communications structure of students in the welfare and non-welfare programs which might be attributable to differences in the organizational structures of the two groups. The observable differences in such organizational variables as amount of autonomy given the two groups and the number of cybernetic subsystems with which individuals must integrate their activities, along with the relatively uncomplicated organizational communications structure provide a means of empirically testing propositions in the theoretical model of individual communications structure. It was decided to limit the student population of the study to junior and senior undergraduates. This was done because the university does not require a student to declare a major with an academic department until his junior year of study. The University Registrar's Office maintains a list by

period of two weeks. Each interview lasted approximately thirty minutes.

The faculty of the Sociology Department was also surveyed by means of a questionnaire to help provide a more complete picture of the communications structure of students. A copy of this questionnaire is shown in Appendix A. Several faculty respondents requested, and were given, explanations regarding the nature of the study, the purpose of the questionnaire, and interpretations of the questions on the questionnaire. Ten of eleven faculty members given questionnaires responded.

General Characteristics of the Student Sample

An examination of the personal information reported on the student questionnaires shows that approximately 59 percent of the respondents are welfare majors, approximately 86 percent are female, and 75 percent are single. The mean number of hours of sociology attempted by all respondents is 28.21, which reflects the advanced undergraduate standing of these students. The average grade-point average is 2.71 out of a possible 4.00, with welfare majors slightly above the mean and non-welfare majors slightly below the mean. A more detailed breakdown of selected characteristics of student respondents is given in the tables in Appendix B.

Analysis of Data

In this study the communications channel was used as the basic unit of analysis. A communications channel is operationally defined as a normative relationship reported by a respondent in which he had communicated, or would communicate with another person in order to obtain a given type of information. For purposes of hypothesis testing, communication channels were first classified into six categories. Then the numbers of channels in each category were obtained for each student. The totals in each category represent the number of different channels respondents see as available to them in order to meet a given type of communications need. They can be used as indices of the extent of the individual communications structures for particular types of communication.

The categories used were as follows:

1) Total Channels - This category represents the overall communications structure of the individual student within the Sociology Department. It consists of the total number of all different communications channels reported by the student.

2) Reciprocal Channels - These channels represent reciprocal communications relationships among students and between students and faculty. A channel is included in this category if a communications relationship between two

respondents was reported by each of them for any type of communication.

3) Organization-Related Channels - These are channels that are used by the student to obtain the information necessary to carry out the tasks assigned to him by the department. The channels included in this category were those reported in response to the following questions: "With whom have you or would you communicate to get an official statement of the Sociology Department's regulations and policies?" and "With whom have you or would you communicate if you needed advice on whether or not you should take a particular course?" These questions were designed to elicit responses regarding the informal, task-oriented communications structure. However, every student named the faculty member or members with whom he was required to have a formal communications channel in response to at least one of the above questions. Therefore, the number of channels in this category for each respondent represents the communications structure directed toward meeting the demands of the organization imposed on him, whether formally specified or informally established.

4) Individual-Oriented Channels - A communications channel was counted in this category if it was named in response to the questions: "With whom have you or would you communicate if you needed a friendly, sympathetic listener just for getting something off your chest?", "With whom

have you or would you communicate if you needed someone to give informal 'hints' or information about the way the Sociology Department is run?" and "With whom have you or would you communicate if you needed to talk about your future plans and the direction you should take after you leave UNC-G?" Two of these questions represent situations when communications regarding individual needs or goals is sought. The question regarding informal hints about the way the department is run represents those situations when the student seeks information in order to understand and/or improve his personal situation within the organization. These questions measure situations when communication regarding individual needs or goals is needed, and thus, this category represents the informal individual-oriented communication structure of the students.

5) Vertical Channels - This category includes all relationships students reported with faculty members and secretaries in the departmental office, regardless of the purpose of the communications channel. Different types of channels with the same person were counted as one vertical channel. The decision to classify communications with secretaries as vertical was made because students indicated in interviews that the secretaries are viewed as representing the Sociology Department or the faculty.

6) Horizontal Channels - Channels included in this category are those relationships that students reported

with their fellow students, regardless of the purpose of the communication. As with vertical communication, two or more communications channels with the same person were counted as a single horizontal channel.

Analysis of the Data by Multiple Linear Regression

Some of the hypotheses in the study concerning relationship between organizational structure and communications structure were tested by means of multiple linear regression models. Multiple regression provides a means of controlling for spurious relationships between variables. Each of the regression models uses one of the communication indices as a dependent variable and the same set of respondent attributes as independent variables. The general model is

$$Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \beta_5 X_5 + \beta_6 X_6 + \beta_7 X_7 + \beta_8 X_8 + \beta_9 X_9 + \beta_{10} X_{10} + \beta_{11} X_{11} + \epsilon$$

where

Y = communication index

X₁ = age

X₂ = dummy variable for sex

X₃ = dummy variables for marital status

X₄ = dummy variables for population of place of residence

X₅ = social class score based on Hollingshead's Two Factor Index of Social Position

X_6 = dummy variable for teacher certification status

X_7 = number of hours of sociology

X_8 = dummy variable for transfer student status

X_9 = overall grade-point average

X_{10} = grade-point average in sociology

X_{11} = dummy variable for welfare or non-welfare program

The variable program is the major independent variable of interest in these models. The other variables are included in order to provide some measure of control over spurious relationships that might influence communication patterns within the organization. For example, in many social situations sex is a major cultural determinant of the type of interaction that occurs. Thus, female students might feel some reluctance in initiating communication with male professors in certain types of situations, and vice-versa. In a similar manner, individual characteristics such as marital status, the length of time the student has been in the sociology department, grade-point average, and cultural characteristics such as social class, religion, and rural or urban background might either facilitate or retard the amount of communication that takes place among students and among students and professors.

In all statistical hypotheses, an alpha level of 0.05 was used as a rejection criterion. Because of a missing value of population of place of residence for one respondent, this observation was not included in the regression analyses.

Each regression model is based on 90 observations instead of the 91 in the sample.

CHAPTER III

TESTS OF THE THEORETICAL MODEL

Differences in the Communications Structures of Welfare and Non-Welfare Majors

Before hypotheses regarding propositions in the theoretical were tested, it was decided to determine if the differences in the organizational structures of welfare and non-welfare majors caused any differences in the communication structures of the two groups. If no general differences in the communications structures exist, then there is no reason to test hypotheses regarding specific differences in structure. One means of making a comparison of the general structures is to compare the relationships between the relative extent of various types of channels for individuals in the two groups. If the relationships between the various types of communication are different for welfare and non-welfare students, then it can be logically concluded that the communication structures are different.

A comparison of the relationships between the structure of various types of communication was made by conducting a factor analysis using the indices of vertical, horizontal, organization-related, and individual-oriented communication as variables and the respondents in the welfare and

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A comparison of the relationships between the structure of various types of communication was made by conducting a factor analysis using the indices of vertical, horizontal, organization-related, and individual-oriented communication as variables and the respondents in the welfare and

non-welfare groups as separate samples.¹ These indices are not independent of one another since both organization-related communication and individual-oriented communication may be in either a vertical or horizontal direction under the proper circumstances. The structure underlying the magnitudes of each of the indices can be described by principal components. If the latent roots of both samples are similar, then the general communications structures are similar. If there are gross differences in the latent roots of the two groups, this will indicate differences in underlying structure.

The factor analysis for the welfare program sample is shown in Table 2. The variation in the four communications indices can be completely explained by two principal components. The first component accounts for approximately 59 percent of the variance, and the second component accounts for approximately 41 percent of the variance. The two components can be interpreted as describing the vertical and horizontal communications structure respectively, since each variable is loaded near 1.0 for one component and near 0.0 for the other component. The first, or "vertical" component places a high loading (.814) on organization-related communication and a moderate loading (.652) on individual-oriented

¹The index for reciprocal communication was originally included in the factor analysis, but was removed because it caused a near singularity in the covariance matrix of the welfare major sample.

Table 1. Correlation Matrix of Communications Indices for the Welfare Program Sample.

	Organization- Related	Individual- Oriented	Vertical	Horizontal
Organization- Related	1.000	.521	.660	.341
Individual- Oriented		1.000	.563	.514
Vertical			1.000	-0.044
Horizontal				1.000

Table 2. Principal Components of Communications Indices for the Welfare Sample.

	Factor 1	Factor 2
Organization- Related	.814	.297
Individual- Oriented	.652	.589
Vertical	.958	-0.109
Horizontal	.031	.977
Percent Variation Explained	58.87	41.13

communication. This indicates that both types of communication have a strong vertical component. The second, or "horizontal" component places a moderate loading (.589) on individual-oriented communication and a low loading (.297) on organization-related communication. This indicates that horizontal communication is, in the main, related to social and psychological needs. The vertical component explains only a small amount more of the variance than does the horizontal component. This indicates that each element has a distinct latent root and that each root has relatively the same importance in the communications structure of the welfare majors.

The factor analysis for the non-welfare sample is shown in Table 4. In this case a single component explains 100 percent of the variation. This means that all of the variation in the communication indices of the non-welfare majors can be explained by a single latent root. This component gives the highest loadings to vertical and individual-oriented communications (.861 and .853), a slightly lower loading to organization-related communication (.757), and the lowest loading to horizontal communication (.532). The relative sizes of the vertical and horizontal loadings (.861 and .532) indicate that vertical communication is somewhat more important than horizontal communication in the communications structures of non-welfare majors. It can also be inferred from the existence of a single latent root

Table 3. Correlation Matrix of Communications Matrices for the Non-welfare Program Sample.

	Organization- Related	Individual- Oriented	Vertical	Horizontal
Organization- Related	1.000	.339	.618	.340
Individual- Oriented		1.000	.740	.445
Vertical			1.000	.079
Horizontal				1.000

Table 4. Principal Components of the Communications Indices for the Non-welfare Sample.

	Factor 1
Organization- Related	.757
Individual- Oriented	.853
Vertical	.861
Horizontal	.532
Percent Variation Explained	100.00

that both horizontal and vertical channels are used in the same manner and to relatively the same extent for both organization-related and individual-oriented communication by non-welfare majors.

Since the factor analyses of the welfare and non-welfare majors produced such radically different principal components, it can be reasonably concluded that the communications structures of the two groups which underlie the values of the communications indices of the two student groups are different. Therefore, hypotheses regarding differences in the various types of communication due to differences in organization structure can be tested.

Propositions Regarding Formal Communications Structure

Students in the Sociology Department have a relatively simple formal communications structure. Both welfare and non-welfare majors are assigned a faculty advisor who is responsible for helping the student plan his course of study, and who must approve the student's class schedule each semester, and provides a formal communications channel for the transmission of cybernetic information between the student and levels higher up in the hierarchical system of the organization. In addition to the departmental advisor, welfare majors are assigned to one of the two faculty members in this program to help the student coordinate his field work and other welfare-related activities. Thus the formal communications structure is one communications channel for

non-welfare majors, and two communications channels for welfare majors.

There are several reasons for this simple communications structure. First, the structure of the Sociology Department gives very little autonomy to any of the sociology majors. Students are at the bottom of the organizational hierarchy. The major decisions they must make, such as what courses to take and how many hours of coursework to register for must be made only once a semester. And these decisions must be made within narrow limits. The second reason is that crucial decisions must be made by students only infrequently and students supply very little information that is considered necessary for the functioning of higher subsystems. This means that the cybernetic information and control structure linking students to the organization can be simple and still operate effectively.

Finally, the organizational structure of the Sociology Department is relatively simple. The hierarchy is flat, consisting of basically two levels, that of student and that of faculty members. Welfare majors must integrate their activities within two subsystems within the department, one for the welfare program and one for the non-welfare program. Non-welfare majors must integrate their activities within only one departmental subsystem, that of the non-welfare program. This simplicity of organizational structure is reflected in the simplicity of the formal communications

structure. Most welfare majors have two formal channels,² while non-welfare majors have one formal channel.

This data regarding the formal communications structures of the welfare and non-welfare major provides empirical support for the second proposition in the theoretical mode. This proposition asserts that there will tend to be at least one formal channel for each subsystem within which a member of the organization must integrate his activities. The proposition accurately describes the formal communications structures of the two student groups. Welfare majors act within two program areas and tend to have two formal channels within the Sociology Department. Non-welfare majors act exclusively within one program area and have one formal channel.

Because the study concentrated on a single hierarchical level in the organizational structure, proposition 1 in the theoretical model could not be directly tested. This proposition states that the number of formal channels of individuals will tend to increase as one goes higher in the cybernetic system of the organization. However, this

²The two faculty members in the social welfare program act as advisors in the non-welfare program as well as acting as advisors in the welfare program. In this dual role they serve as the single advisor for both programs for twenty of the 57 welfare majors in the sample. Analytically, these twenty students can be viewed as having two channels, one to each subsystem, although both channels are empirically only a single relationship.

proposition can be indirectly verified by noting that the students in the sample have a total of 125 formal communications channels. This amounts to approximately 1.4 formal channels per student. On the other hand, the fourteen faculty members who were named as advisors to these students also have the same 128 formal communications channels, which amounts to 8.9 channels per faculty member. Thus, without knowing anything further about the communications structures of the faculty members, it can be seen that there is a tendency for faculty members to have a more complex and extensive formal communications than do students. It can be concluded that the situation in the Sociology Department conforms to the relationship specified in proposition 1.

Propositions Regarding Informal, Task-Oriented
Communications Structure

After a careful comparison of the organization-related activities of the welfare and non-welfare majors, it was concluded that both groups generally have tasks of similar complexity and encounter similar problems in attempting to meet the objectives of their respective programs. This conclusion was supported by responses from students on the questionnaires and in interviews. As has already been discussed, students in both groups are given relatively little autonomy and must make decisions within narrow limits. The number and types of alternatives open to each group in completing their respective tasks tend to be

similar. This similarity means that individual differences among students such as academic performance and financial situation cause more variation in communications structure than does the relative complexity of the tasks of the two groups.

If the two groups have tasks of equal complexity, then the total number of formal channels and task-oriented channels will tend to be of the same for both groups according to proposition 3. The total number of channels for these two types of communications is the index for organization-related communications by definition. A test of a hypothesis of equality of the organization-related communications channels for the welfare and non-welfare samples provides a test of proposition 3. Such a hypothesis is: The mean number of organization-related communications channels in the welfare sample is the same as the mean number of organization-related communications channels in the non-welfare sample. This null hypothesis was tested against the alternate hypothesis that the mean number of organization-related channels is not the same for the two groups by means of the multiple linear regression model already discussed.

For the two samples $\bar{Y}_{\text{non-welf.}} = 1.8382$

$\bar{Y}_{\text{welfare}} = 2.4903$

The analysis of variance for this regression is shown in Table 5. The F test for the regression sum of squares is significant at the probability level of 0.0737, which is less

Table 5. Analysis of Variance: Organization-Related Communication as the Dependent Variable.

Source	DF	Sum of Squares	Mean Square	F Value	Prob.	F
Regression	18	41.51076610	2.30615367	1.63664	0.0737	
Error	71	100.04478945	1.40908154			
Corrected Total	89	141.55555556				

$$R^2 = 0.29324717$$

$$\bar{y}_{\text{formal goals}} = 3.22222$$

$$\text{Std. Dev.} = 1.87047$$

than the 0.05 criterion of rejection. This is a test of the B values in the model being significantly greater than zero, so it must be concluded that no estimated B value is significant. Thus, the null hypothesis is not rejected and it is concluded that there is no difference in the mean number of communication channels directed toward organization-related communication in the welfare and non-welfare subgroups.

Since no significant difference was found in the mean amounts of organization-related communication, it is concluded that proposition 3 provides an accurate description of the relationships between formal communications structure, task complexity, and task-oriented communication. The similarity of both the formal communications structures and the task-related communications structures is such that propositions 4 and 5 cannot be tested with the data for the two groups. The breakdown of the two types communication for the two groups is as follows: Welfare majors have approximately 1.63 formal communications channels per student, while non-welfare majors have 1.00 formal channels per student. For task-oriented channels, welfare majors have approximately .86 channels per student, while non-welfare majors have .83 channels per student.

Propositions Regarding Individual-Oriented
Communications Structure

If the theoretical model is accurate, there should be some major differences between the two student groups in the

extent of communication directed toward individual needs. Although both groups are given little autonomy, the structure of the welfare program imposes a structure on welfare majors which, in relation to the structure of the non-welfare majors more explicitly defines individual roles and gives less autonomy to the welfare majors. In limiting the autonomy of the welfare group, the extensive organizational structure provides a situation where the goals, tasks, and values of group members will tend to be very similar, thus providing the conditions that are conducive to mutual interaction as described by the Homans models. This means that relative to the non-welfare group, the lower autonomy of the welfare majors should tend to cause individual-oriented communication to be higher, as described by proposition 6. The differences in the individual-oriented communications of the two samples was tested by means of the multiple linear regression model.

The null hypothesis is $H_0: \bar{Y}_{\text{welfare}} = \bar{Y}_{\text{non-welfare}}$.

The alternate hypothesis is $H_A: \bar{Y}_{\text{welfare}} > \bar{Y}_{\text{non-welfare}}$

since $\bar{Y}_{\text{welfare}} = 4.1132$

$\bar{Y}_{\text{non-welfare}} = 3.2432$

The analysis of variance for the regression is shown in Table 6. It can be seen that the F test for the sum of squares due to program has a probability of significance of 0.0271. The null hypothesis is therefore rejected and it is concluded the mean number of individual-oriented channels is greater in

Table 6. Analysis of Variance: Individual-Oriented Communication as the Dependent Variable.

Source	DF	Sum of Squares	Mean Square	F Value	Prob.	F
Regression	18	89.68363527	4.98242418	2.58329	0.0027	
Age	1	0.42469697		0.22020	0.6454	
Sex	1	0.26452230		0.13715	0.7134	
Marital Status	3	5.46876339		0.94515	0.5747	
Population	6	29.97378959		2.59014	0.0248	
Social Class	1	1.19863777		0.62147	0.5610	
Teacher Cert.	1	3.34203791		1.73278	0.1893	
Hours Soc.	1	3.73818676		1.93818	0.1647	
Transfer Status	1	1.85785342		0.96326	0.6691	
GPA Overall	1	7.82699921		4.05815	0.0450	
GPA Sociology	1	1.78478624		0.92538	0.6589	
Program	1	9.60265384		4.97879	0.0271	
Error	71	136.93858695	1.92871249			
Corrected Total	89	226.62222222				

$R^2 = 0.39574069$

$\bar{Y} = 3.75556$

Std. Dev. = 1.38878094

the welfare sample. This is the result predicted by proposition 6 regarding the relationship between autonomy and individual-oriented communication.

Horizontal and Symmetric Communication

The theoretical model asserts that low autonomy increases contact and creates conditions favorable to the establishment of primary social relationships. This means that communication structures characteristic of primary group interaction should be more extensive in the student group with the greater formal structure imposed on it. This assumption leads to the next two hypotheses. Regarding horizontal communication: The mean number of horizontal communication channels will be greater in the welfare subgroup than in the non-welfare subgroup. Regarding symmetric communication: The mean number of reciprocal communication channels will be greater in the welfare subgroup than in the non-welfare sub-group.

The hypothesis regarding horizontal communication was tested by using the regression model. The means for the two groups are

$$\bar{Y}_{\text{welfare}} = 3.4528$$

$$\bar{Y}_{\text{non-welfare}} = 2.3243$$

Thus, the two test hypotheses are $H_0: \bar{Y}_{\text{welfare}} = \bar{Y}_{\text{non-welfare}}$ against $H_A: \bar{Y}_{\text{welfare}} > \bar{Y}_{\text{non-welfare}}$. The analysis of variance for the model is shown in Table 7. It can be seen that the null hypothesis can be rejected. It can be concluded,

Table 7. Analysis of Variance: Horizontal Communication as the Dependent Variable.

Source	DF	Sum of Squares	Mean Square	F Value	Prob.	F
Regression	18	74.78312957	4.15461831	2.07430	0.0157	
Age	1	0.28235456		0.14097	0.7098	
Sex	1	3.98907252		1.99165	0.1590	
Marital Status	3	5.74999756		0.95695	0.5804	
Population	6	18.23884319		1.51770	0.1842	
Social Class	1	1.71578654		0.85665	0.6395	
Teacher Cert.	1.	5.57394395		2.78294	0.0958	
Hours Soc.	1	0.19518833		0.09745	0.7541	
Transfer Status	1	3.94095940		1.96763	0.1615	
GPA Overall	1	4.39552670		2.19458	0.1391	
GPA Sociology	1	4.11939143		2.05672	0.1523	
Program	1	23.61709967		11.79146	0.0014	
Error	71	142.20575932	2.00289802			
Corrected Total	89	216.98888889				

$$R^2 = 0.34464036$$

$$\bar{y}_{\text{horizontal}} = 2.98889$$

$$\text{Std. Dev.} = 1.41523780$$

therefore, that horizontal communication channels are more extensive in the welfare subgroup. In the test of the hypothesis regarding reciprocal communication the null hypothesis is $H_0: \bar{Y}_{\text{welfare}} = \bar{Y}_{\text{non-welfare}}$ and the alternate hypothesis is $H_A: \bar{Y}_{\text{welfare}} \neq \bar{Y}_{\text{non-welfare}}$ since the means of the groups are

$$\bar{Y}_{\text{welfare}} = 2.000$$

$$\bar{Y}_{\text{non-welfare}} = 1.2703$$

The analysis of variance for the model is shown in Table 8. From the significant F values for the regression sum of squares and for the sum of squares for the variable "program," it can be seen that the null hypothesis can be rejected and it is concluded that the mean number of reciprocal channels is greater in the welfare subgroup.

Summary of Findings From Tests of Propositions

The findings from tests of hypotheses regarding the propositions in the theoretical model generally confirm its utility in providing an accurate description of the relationship between organizational structure and communications structure. The formal communications channels were found to be greater in the welfare student sample because this group must integrate its activities within two organizational subsystems, while non-welfare majors must integrate their activities within only one subsystem. It was concluded that the number of organization-related and task-oriented communications channels were not significantly different for the two samples which was predicted since each group had tasks of

Table 8. Analysis of Variance: Reciprocal Communication as the Dependent Variable.

Source	DF	Sum of Squares	Mean Square	F Value	Prob.	F
Regression	18	42.36834034	2.34379669	2.51188	0.0034	
Age	1	0.00515646		0.00550	0.9392	
Sex	1	0.05062073		0.05402	0.8118	
Marital Status	3	10.31969102		3.67092	0.0160	
Population	6	10.93082813		1.94416	0.0848	
Social Class	1	0.13367779		0.14266	0.7083	
Teacher Cert.	1	0.00002386		0.00003	0.9916	
Hours Soc.	1	1.19463964		1.27487	0.2617	
Transfer Status	1	0.32542438		0.34728	0.5645	
GPA Overall	1	1.19360876		1.27377	0.2619	
GPA Sociology	1	0.21600169		0.23051	0.6380	
Program	1	7.19441177		7.67760	0.0071	
Error	71	66.53165966	0.93706563			
Corrected Total	89	108.90000000				

$R^2 = 0.38905730$

$\bar{Y}_{\text{symmetric}} = 1.70000$

Std. Dev. = 0.96802150

similar complexity. The major differences in the communications structures of the two groups were found in the individual-oriented communications structures of the two groups. This was due to the greater structure imposed on the welfare majors, creating conditions conducive to primary group formation. Horizontal and reciprocal channels were also found to be more extensive in the welfare sample due to the increased opportunities for primary interaction.

The findings from the tests of hypotheses are generally consistent with the relationships postulated in the theoretical model. Because of limitations in the study, three of the propositions in the model could not be tested. However, in general, the theoretical model provides a means of accurately and parsimoniously describing the communications structure of students within the Sociology Department and of predicting the differences and similarities in communications structure that are the result of differences and similarities in organizational structure.

Findings From Interviews³

Validation of Questionnaire Responses

The first purpose of the interviews was to validate responses made on the questionnaires, especially to those questions regarding the communications structure. Students were asked to name the persons within the Sociology

³A copy of the interview schedule can be found in Appendix A.

Department with whom they communicated in each of the situations described in the questionnaire. Each student was probed to find out how often he communicated with each person he named, under what circumstances communication took place, what types of information were transferred, and what value the student placed on each relationship he named. Responses from the interviews were then compared with corresponding responses from the questionnaires. The amount of agreement between the two responses was very satisfactory. There were only two cases when the lists of communications channels given by students in interviews did not agree with the lists given on the corresponding questionnaires. In one case, a non-welfare major failed to name the office secretaries as a source of information about departmental requirements in the interview, which he had done on the questionnaire. In the other case, a welfare major named two students in the interview as a source of "informal hints about the way the department is run," and indicated that she had discussed her career plans with a visiting faculty member who had been in the Sociology Department the previous year. These persons had not been named on the respondent's questionnaire. The amount of agreement between the interview and questionnaire responses was considered to be an indication that the data provided was an adequate representation of the way students viewed their communication structure and that the questionnaire used was a valid measure of communication.

Manifest and Latent Communications Channels

Another finding from the interviews is that students tended to report channels that had actually been used, rather than potential channels which might be used. When students were presented with a situation that they had not faced, or when they had not communicated with anyone within the department in a given situation, the response tended to be that they did not know with whom they would communicate, that they would communicate with someone outside the department, or that they would not communicate with anyone. There were only three instances reported where students named persons with whom they had not actually communicated. Two non-welfare majors named fellow students with whom they would communicate regarding career plans, and one welfare major named a faculty member with whom she would communicate regarding elective courses that she wanted to take.

The Relative Importance of Communications Channels

The interviews revealed that students consider certain communications channels as much more important than others and use these channels with a frequency that reflects their importance. Some channels are used frequently, while other channels are used infrequently or have only been used once during the time the student has been in the department. Three of the students related incidents when they obtained information from a particular faculty member once, but had not used the communication channel again. In one case, a senior

had talked to professors in charge of courses about whether or not to take the courses. With all respondents, student channels were used more frequently than faculty channels, which reflects both the hierarchical nature of the student communications structure and the social-group nature of student interaction.

Multipurpose Channels

Nine of the ten students interviewed named at least one fellow student or faculty member who was considered to be a friend, who met the informal social needs of the student and who also provided information regarding the formal demands of the department. All five of the social welfare majors listed at least one faculty member and at least one fellow student with whom they felt they were close and could discuss personal plans and problems and from whom they could obtain advice regarding their course of study. Three of the five non-welfare majors named at least one faculty member and at least one fellow student with whom they had a similar relationship, and one non-welfare major named one fellow student. The remaining non-welfare major named one faculty member with whom she communicated regarding course requirements and one fellow student who was a channel for social needs communication.

One way students utilize the faculty member with whom they have a primary relationship is to discuss course schedules and departmental requirements before taking any formal

action on them. Four students related that they would "sound out" their faculty-member friend about their course schedule for a semester and then seek formal approval for the schedule from their assigned faculty advisor.

Personality and Communications Channels

The personality of faculty members has much to do with the establishment of primary relationships with students. Three professors in particular are sought out by students in both informal and formal matters and each is held in high esteem by a majority of the students. Eight of the ten interviewees named one or more of these persons as one with whom the student sees himself as having a primary relationship. These faculty members are seen as friendly, sympathetic listeners, and interested in students and their problems and plans. In addition to interview comments, over half of the questionnaires contained favorable comments concerning these three faculty members. Typical comments are: "Professor X treats you like a person and not just a student."

"Professor Y is never too busy to talk to you when you need to see him."

"When I have a problem I go see Prof. Z because he always helps if he can."

Group Identification

The social welfare majors tend to see themselves as a group distinct from the rest of the Sociology Department. This is due in part to the way the department is organized,

since some aspects of the social welfare program are, in practice, administered independently of the rest of the organization, but it also indicates a group structure that has developed around a similarity of interests and activities on the part of the social welfare majors. The welfare students who were interviewed tended to see taking some of the sociology courses such as statistics as bureaucratic tasks imposed on them by the Sociology Department, which had to be taken in order to complete the requirements of the social welfare program. During the interviews, courses were clearly distinguished as either "welfare" or "sociology" in comments such as "I discuss my sociology courses some, but most of my communication with teachers is about welfare courses," and "I only talk about my sociology courses with my advisor when I have to, but I talk to Miss Mossman and Mrs. Stephens a lot about the welfare courses."

Interaction Outside the Organizational Setting

Personal and social factors outside the organization have an effect on organizational communication also. The black student interviewed said that his original communication within the department had been directed toward the black professor in the department because he felt that he would have more in common with this faculty member. Communication channels with other faculty members were developed, but the original channel was still used to some degree.

In some respects, university students live within a larger organizational setting. They live in dormitories, eat in university cafeterias, and are controlled to a considerable degree by university regulations as long as they are on campus. This means that student interaction is strongly influenced by the University structure outside the Sociology Department. Some of the ways that this structure and other factors influence communication among sociology majors were indicated in the interviews. One student said that she and another sociology major were roommates before either had decided to major in sociology. Another student said that she had become a friend with two other sociology majors because all three ate in the same cafeteria, used the same laundry, and saw each other in class and in the library. Two other students had attended the same high school at the same time and were acquainted with one another, although they were not friends. They became friends when both were in the same introductory sociology class.

CHAPTER IV
SUMMARY AND IMPLICATIONS FOR FURTHER RESEARCH

Summary

The major objectives of this thesis were (1) to develop a theoretical model of the relationships between organizational structure and the structure of communications of individuals within the organization, and (2) to test this model empirically in a study of communications within an organizational setting. The development of a theoretical model was prompted by the need to integrate theory and research regarding organizational communications into a more coherent body. A model was developed that considers two types of communications structures within organizations. Communication is formal if it follows an officially designated channel and informal otherwise. Informal communication was further classified into communication related to organizational tasks and communication related to individual social and psychological needs. Formal communication will vary directly with the cybernetic need for information within the particular systemic level of the organization and with the complexity of the tasks of the individual. Informal communication related to tasks varies with the extent of the formal communications structure and the complexity of the tasks of the individual. Informal communications structure varies

with the amount of autonomy given the individual by the structure of the organization and the number of opportunities individuals have to form primary group relationships.

A survey of the communications structures of junior and senior sociology majors was conducted in the Sociology Department of the University of North Carolina at Greensboro. Responses from 91 student questionnaires and eleven faculty questionnaires provided the data for the study. Hypotheses regarding relationships between organizational structure and differences and similarities in the extent of communications structure among welfare and non-welfare majors were derived from propositions in the theoretical model and were tested statistically. This was done as a means of testing the empirical applicability of the theoretical model. It was concluded that the theoretical model provides an empirically accurate description of the communication structure of students within the Sociology Department.

Conclusions

Many areas of complex organizations theory are characterized by a number of conflicting theories with little empirical evidence with which to determine the ones with the greatest explanatory value. This is true of the area of communications within complex organizations. Organizational communications theory is also characterized by generalizations from small group theory without empirical evidence

that such generalizations are valid. This study was conducted to provide empirical support in both areas.

This study makes two contributions to complex organizations theory. First, it provides a model of organizational communication that resolves the conflict between two major theoretical positions as they explain the relationship between organizational structure and individual communication within the organization. Second, it provides an empirical test of the model. This test shows that it can be of some utility in predicting and explaining the relative importance of certain types of communication in a highly structured organizational situation. Moreover, the study was conducted in such a manner that the findings can be generalized to other hierarchical organizations where activity is highly structured. The second contribution is that it provides a quantitative picture of the structural aspects of communication within a particular organization, in contrast to many studies which make broad generalizations from impressionistic data, or from no data at all.

Implications for Further Research

The theoretical model developed in this thesis concentrated on the differences in the communications structures of individuals within organizations. There is also considerable discussion in the literature regarding differences in the communications structure of individuals between organizations that are due to differences in the type of organization

and to external influences on the organization. A set of propositions is presented here that can provide a basis for further theoretical development and research in the area of organizational communications.

Propositions Regarding Differences
Between Organizations

Differences between organizational systems and subsystems also tend to cause differences in the importance of information and the nature of the formal communications structure. Willensky (1967:10) suggests that four factors determine the importance of intelligence or communication for an organizational system. These are:

- (1) the degree of conflict or competition with the external environment . . .;
- (2) the degree of dependence on internal support and unity;
- (3) the degree to which internal operations and external environment are believed to be rationalized, that is, characterized by predictable uniformities and therefore subject to planned influence;
- and affecting all of these, (4) the size and structure of the organization, its heterogeneity of membership and diversity of goals, its centrality of authority.

In a review of organizational studies, Udy (1965:690) formulates the proposition that "The more complex the technology and/or the greater the amount of pressure exerted on the organization from the social setting, the greater the emphasis on administration." He also states that "The larger the size of the organization, the greater the number of subgroups in it, hence, the greater the over-all emphasis

on formal and impersonal rules and specificity of roles" (p. 693). Udy concludes that as an organization becomes larger ". . . interaction can no longer be operative as an over-all integrating force. . . and the resulting adaptation takes the form of increasingly formal modes of integration" (p. 693).

Other organizational theorists present similar conclusions. For example: Blau (1970), in a field study of 53 employment security agencies, found that increasing size generates structured differentiation in organizations along various dimensions at decelerating rates. In the study Blau makes two assumptions: first, differentiation makes an organization more complex; second, complex structures engender problems of communication and coordination. Caplow (1957) holds that the interaction of an organized group is always patterned to some extent by the size of the group. By using the criterion of interaction possibilities, one can distinguish groups as small, medium, large, and giant groups, each with distinctive interaction characteristics. Others such as Meyer (1968) and Hall and Tittle (1968) hold that size and degree of bureaucratization are directly related without directly referring to communication.

The relationships delineated above may be summarized in propositions about formal organizational structure.

These are:

1. The greater the amount of external pressure exerted on an organizational system, the greater the formal communications structure of that system.
2. The larger and/or more complex an organization, the more extensive the formal organization structure will be as a means of control and coordinator of individuals.
3. The more complex the technology of the organization, the greater the tendency towards formal communications structure.

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STUDENT QUESTIONNAIRE

APPENDIX A

QUESTIONNAIRES AND INTERVIEW SCHEDULE

USED IN THIS STUDY

You can be of much help by completing and returning this questionnaire. Please answer all questions as honestly and candidly as possible. All information will be treated confidentially and will only be reported in statistical form.

STUDENT QUESTIONNAIRE

Opportunities to communicate with the faculty and others within the University can be an important part of the educational process. This study, conducted by a graduate student in sociology (Theron Fuller) for a Master's thesis, is designed to measure the type and amount of communication within the Sociology Department and to see how it affects you as a student.

You can be of much help by completing and returning this questionnaire. Please answer all questions as honestly and candidly as possible. All information will be treated confidentially and will only be reported in statistical form.

1. What is your father's educational level?

___ 1. Completed less than seven years of school.

___ 2. Completed ninth grade

___ 3. Completed tenth or eleventh grade

___ 4. Completed high school

___ 5. Completed at least one year of college, technical or business school

___ 6. Graduated from college

___ 7. Completed graduate or technical degree

2. What is your father's occupation?

3. Please give a brief description of the place where your father works, giving such information as approximately how many employees there are, the type of business or type of job, and the type of work your father does.

I. PERSONAL BACKGROUND INFORMATION

A. Age _____; B. _____; C. Marital Status _____;

D. Religion or Religious Preference _____;

E. What is the population of your home town?

___ 1. I live(d) on a farm ___ 5. Less than 10,000

___ 2. Less than 1,000 ___ 6. Less than 20,000

___ 3. Less than 2,000 ___ 7. 20,000 or more

___ 4. Less than 5,000

F. What is your father's educational level?

___ 1. Completed less than seven years of school

___ 2. Completed ninth grade

___ 3. Completed tenth or eleventh grade

___ 4. Completed high school

___ 5. Completed at least one year of college, technical
or business school

___ 6. Graduated from college

___ 7. Completed graduate or technical degree

G. What is your father's occupation? _____

H. Please give a brief description of the place where your
father works, giving such information as approximately
how many employees there are, the type of business or
firm it is, and the type of work your father does.

II. ACADEMIC BACKGROUND INFORMATION

- A. What is your major? _____
- B. What is your minor? _____
- C. Are you getting a teacher's certificate? ___yes; ___no
- D. How many hours of sociology have you attempted?
(include hours you are taking this semester.) _____
- E. Are you a transfer student? ___yes; ___no

If so, how many total hours did you complete before coming to UNC-G? _____

How many hours of sociology did you complete before coming to UNC-G? _____

- F. Please name the professors you have had for sociology courses.

- III. In each of the five cases that follow (lettered A,B,C, D and E), please give the names of all faculty members, staff members, and fellow students with whom you have or would communicate in each of the situations described. A space is included in each case for any comments, explanations, or observations you might wish to make.

WITH WHOM HAVE YOU OR WOULD YOU COMMUNICATE

- A. . . . to get an official statement of the Sociology Department's regulations or policies _____

COMMENTS _____

B. . . . if you needed advice on whether or not you should take a particular course _____

C. . . . if you needed a friendly, sympathetic listener just for getting something off your chest _____

COMMENTS _____

D. . . . if you needed someone to give informal "hints" or information about the way the Sociology Department is run _____

E. . . . if you needed to talk about your future plans and the direction you should take after you leave UNC-G _____

COMMENTS _____

IV. Are there any other situations when you would communicate with someone (faculty, staff, fellow students) within the Sociology Department? If so, please give a brief description of the situation and list all the persons with whom you would communicate. _____

- V. Read each of the following statements carefully and circle the phrase that best expresses your feelings about the statement.
- A. My sociology courses are like a hobby to me.
Strongly agree agree undecided disagree strongly disagree
- B. My sociology courses are usually interesting enough to keep me from getting bored.
Strongly agree agree undecided disagree strongly disagree
- C. It seems that my friends are more interested in their classes than I am.
Strongly agree agree undecided disagree strongly disagree
- D. I consider my sociology courses rather unpleasant.
Strongly agree agree undecided disagree strongly disagree
- E. I enjoy my classes more than my leisure time.
Strongly agree agree undecided disagree strongly disagree
- F. I am often bored with my sociology courses.
Strongly agree agree undecided disagree strongly disagree
- G. I feel fairly well satisfied with my sociology courses.
Strongly agree agree undecided disagree strongly disagree
- H. Most of the time I have to force myself to go to my sociology classes.
Strongly agree agree undecided disagree strongly disagree
- I. I am satisfied with my major for the time being.
Strongly agree agree undecided disagree strongly disagree
- J. I feel that my major is no more interesting than others I could take.
Strongly agree agree undecided disagree strongly disagree
- K. I definitely dislike my sociology courses.
Strongly agree agree undecided disagree strongly disagree
- L. I feel that I am happier in my choice of major than most other people.
Strongly agree agree undecided disagree strongly disagree
- M. Most days I am enthusiastic about my sociology classes.
Strongly agree agree undecided disagree strongly disagree

- N. Each day of classes seems like it will never end.
Strongly agree agree undecided disagree strongly disagree
- O. I like my major better than the average student does.
Strongly agree agree undecided disagree strongly disagree
- P. My sociology courses are pretty uninteresting.
Strongly agree agree undecided disagree strongly disagree
- Q. I find real enjoyment in my course work.
Strongly agree agree undecided disagree strongly disagree
- R. I am disappointed that I ever took this major.
Strongly agree agree undecided disagree strongly disagree
- VI. What is your approximate overall grade-point average? _____
- VII. What is your approximate grade-point average in sociology? _____
- VIII. Please use this page to give any comments you might have regarding communication within the Sociology Department.

FACULTY QUESTIONNAIRE

I am requesting your cooperation in a study of communication patterns among students and faculty in the Department of Sociology, which is the subject of my thesis.

You can be of much help by completing and returning this questionnaire at your earliest convenience. All data in this study will be analyzed, described, and reported in anonymous/statistical terms.

Copies of my thesis proposal and study procedures are available upon request, and I will be glad to discuss any aspect of this study with you at any convenient time.

Please complete this questionnaire, seal it in the attached envelope, and return it to me personally or leave it in the graduate assistant box in the office. I would appreciate your completing and returning the questionnaire on or before Friday, April 21. Thanks.

- I. On the following two pages are lists of juniors and seniors who are majoring in sociology. Please circle the number by the name of each student with whom you see yourself as informally communicating. For the purpose of this study, communication is defined as those relationships with students and your peers that you, the respondent, perceive as communication.
- II. Do you discuss any of your students on an informal basis with any of the other members of the Sociology-Anthropology faculty? yes; no

If so, please list the names of those faculty members.

III. Comments: _____

(Comments may be continued on back of questionnaire.)

STUDENT INTERVIEW SCHEDULE

I'm conducting a research project on communication within the sociology department here. I would like to get some information about your own experiences. I have several questions that I would like to discuss with you.

1. Which sociology students do you talk to?
2. What sort of things do you discuss with (list each student named)?
3. How did you get started in your relationships with (list each student named above)?
4. Which professors in the sociology department do you talk to?
5. What kind of things do you discuss with (name of professor listed above)?
6. How did you get started in your relationship with professor _____?
7. How do you decide which classes to take each semester?
8. Have you ever discussed what you plan to do after you graduate with anyone in the department?
9. Who would you talk to if you needed information on formal requirements of the sociology department or the university, such as what courses you must take in order to graduate, etc.?
10. Are there any other situations when you have discussed something with someone within the department that we haven't talked about so far?

Table 3. Distribution of Senior Sociology Majors at the University of North Carolina at Greensboro by Program and Age, 1972.

APPENDIX B
SELECTED CHARACTERISTICS
OF STUDENT RESPONDENTS

Age	Welfare		Non-Welfare		Total	
	N	X	N	X	N	X
16	13	34.07	3	8.12	16	17.58
17	22	40.74	14	37.84	36	39.56
18	12	22.22	7	18.92	19	20.86
19	3	5.56	2	5.41	5	5.45
20	0	0.00	3	8.12	3	3.30
21	2	3.70	3	8.12	5	5.45
22+	2	3.70	5	13.51	7	7.69
Total	54	99.99	27	100.00	81	99.99

Table 1. Distribution of Junior and Senior Sociology Majors at the University of North Carolina at Greensboro by Program and Age, 1972.

Age	<u>Welfare</u>		<u>Non-Welfare</u>		<u>Total</u>	
	N	%	N	%	N	%
20	13	24.07	3	8.12	16	17.58
21	22	40.74	14	37.84	36	39.56
22	12	22.22	7	18.92	19	20.88
23	3	5.56	2	5.41	5	5.49
24	0	0.00	3	8.12	3	3.30
25	2	3.70	3	8.12	5	5.49
26+	2	3.70	5	13.51	7	7.69
Total	54	99.99	37	100.04	91	99.99

Table 2. Distribution of Junior and Senior Sociology Majors at the University of North Carolina at Greensboro by Program and Sex, 1972.

Sex	<u>Welfare</u>		<u>Non-Welfare</u>		<u>Total</u>	
	N	%	N	%	N	%
Male	5	9.26	8	21.62	13	14.28
Female	49	90.74	29	78.38	78	85.71
Total	54	100.00	37	100.00	91	99.99

Table 3. Distribution of Junior and Senior Sociology Majors at the University of North Carolina at Greensboro by Program and Marital Status, 1972.

Marital Status	Welfare		Non-Welfare		Total	
	N	%	N	%	N	%
Single	42	77.78	26	70.27	68	74.73
Married	11	20.37	10	27.02	21	23.08
Divorced or Separated	1	1.85	1	2.70	2	2.20
Total	54	100.00	37	99.99	91	100.01

Table 4. Distribution of Junior and Senior Sociology Majors at the University of North Carolina at Greensboro by Program and Religious Preference, 1972.

Religious Preference	<u>Welfare</u>		<u>Non-Welfare</u>		<u>Total</u>	
	N	%	N	%	N	%
Baptist	14	25.93	5	13.51	19	20.88
Methodist	8	14.81	7	18.92	15	16.48
Presbyterian	8	14.81	3	8.12	11	12.09
Episcopal	1	1.85	2	5.41	3	3.30
Other Protestant Denominations	8	14.81	7	18.92	15	16.48
Protestant (no Denomination Specified)	1	1.85	3	8.12	4	4.40
Catholic	5	9.26	2	5.41	7	7.69
Jewish	1	1.85	1	2.70	2	2.20
No Religious Preference	8	14.81	7	18.92	15	16.48
Total	54	99.98	37	100.03	91	100.00

Table 5. Distribution of Junior and Senior Sociology Majors at the University of North Carolina at Greensboro by Program and Population of Place of Residence, 1972.

Population of Place of Residence	<u>Welfare</u>		<u>Non-Welfare</u>		<u>Total</u>	
	N	%	N	%	N	%
Farm or						
Rural Area	3	5.56	5	13.51	8	8.79
Less than 1,000	1	1.85	3	8.11	4	4.40
1,000 - 1,999	3	5.56	2	5.41	5	5.49
2,000 - 4,999	6	11.11	2	5.41	8	8.79
5,000 - 9,999	6	11.11	4	10.81	10	10.99
10,000 - 19,999	4	7.41	3	8.11	7	7.69
20,000 or more	30	55.56	18	48.65	48	52.75
No Response	1	1.85	0	0.00	1	1.10
<hr/>						
Total	54	100.01	37	100.01	91	100.00

Table 6. Distribution of Junior and Senior Sociology Majors at the University of North Carolina at Greensboro by Program and Teacher's Certificate Status, 1972.

Teacher's Certificate Status	<u>Welfare</u>		<u>Non-Welfare</u>		<u>Total</u>	
	N	%	N	%	N	%
Receiving Teacher's Certificate	2	3.70	4	10.81	6	6.59
Not Receiving Teacher's Certificate	52	96.30	33	89.19	85	93.41
Total	54	100.00	37	100.00	91	100.00

Table 7. Distribution of Junior and Senior Sociology Majors at the University of North Carolina at Greensboro by Program and Transfer Student Status, 1972.

	<u>Welfare</u>		<u>Non-Welfare</u>		<u>Total</u>	
	N	%	N	%	N	%
Transfer Student	13	24.07	18	48.65	31	34.07
Non-Transfer Student	41	75.93	19	51.35	60	65.93
Total	54	100.00	37	100.00	91	100.00

Table 8. Distribution of Junior and Senior Sociology Majors at the University of North Carolina at Greensboro by Program and Number of Hours of Sociology Attempted, 1972.

Hours of Sociology	<u>Welfare</u>		<u>Non-Welfare</u>		<u>Total</u>	
	N	%	N	%	N	%
Less than 20	4	7.41	10	27.03	14	15.38
20 - 24	14	25.93	5	13.51	19	20.88
25 - 29	6	11.11	3	8.11	9	9.89
30 - 35	14	25.93	7	18.92	21	23.08
36 - 40	15	27.78	11	29.73	26	28.57
41+	1	1.85	1	2.70	2	2.20
Total	54	100.01	37	100.00	91	100.00

Table 9. Distribution of Junior and Senior Sociology Majors at the University of North Carolina at Greensboro by Program and Overall Grade-Point Average, 1972.

Overall Grade-Point Average	<u>Welfare</u>		<u>Non-Welfare</u>		<u>Total</u>	
	N	%	N	%	N	%
Less than 2.0	0	0.00	4	10.81	4	4.40
2.0 - 2.5	20	37.04	19	51.35	39	42.86
2.6 - 3.0	26	48.15	10	27.03	36	39.56
3.1+	8	14.81	4	10.81	12	13.19
Total	54	100.00	37	100.00	91	100.01

Table 10. Distribution of Junior and Senior Sociology Majors at the University of North Carolina at Greensboro by Program and Grade-Point Average in Sociology, 1972.

Grade-Point Average in Sociology	<u>Welfare</u>		<u>Non-Welfare</u>		<u>Total</u>	
	N	%	N	%	N	%
Less than 2.0	0	0.00	1	2.70	1	1.10
2.0 - 2.5	11	20.37	7	18.91	18	19.78
2.6 - 3.0	34	62.96	22	59.46	56	61.54
3.1+	9	16.67	7	18.92	16	17.58
Total	54	100.00	37	99.99	91	100.00