THE RELATIONSHIPS AMONG ORGANIZATIONAL
COMMUNICATION STRUCTURES AND
LEARNING OUTCOMES IN COLLEGE
LEVEL BASIC COMMUNICATION
COURSES

DISTRIBUTION

Presented to the Graduate Council of the
North Texas State University in Partial
Fulfillment of the Requirements

For the Degree of

DOCTOR OF PHILOSOPHY

By

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Denton, Texas
December, 1982
Cook, John A. The Relationships Among Organizational Communication Structures and Learning Outcomes in College Level Basic Communication Courses. Doctor of Philosophy (College Teaching), August, 1982, 112 pp., 8 tables, bibliography, 61 titles.

Based on linear models, this study demonstrated that the psychological and social structures of the classroom, viewed as a naturalistic human system, impact learning outcomes.

To operationalize learning outcomes, final grades in the course and a subject self report scale tapping perceptions of utility of material taught were used.

The social and psychological structures of the classroom-as-a-human-system were operationalized through the following variables: the degree of social integration of each student, based on network analytic procedures; communication apprehension of students; dimensions of perceived credibility of instructors; dimensions of interpersonal attraction to instructors; perceived satisfaction with task demands of the course; and adjusted orientation to communication, based on communication apprehension scores and network data.

Data were obtained from five sections of a multi-section communication course of a large state institution of higher
learning in the southwestern region of the United States. Differences in sex were not found.

Data were analyzed using regression and canonical correlation analyses. While all scales were reliable, three scales had restricted ranges, were negatively skewed, and were leptokurtic. Despite the lack of normality, sufficient confirmation was obtained for relationships posited. The predictor variables accounted for 59.8% of the variance in perceived utility of material taught. The canonical correlation between the predictor variables and the criterion variables was .768. Hence, it was found that a strong relationship exists between the interactive structures of a classroom system and learning outcomes.

The complex regression model to predict final grade was not statistically significant. This was attributed to the fact that 91% of the subjects in this sample received an "A" or a "B" in the course. Recommendations were made to provide more stringent behavioral objectives to more reliably evaluate skills.

The admission of the author is that, while these mathematical models did represent effectively a static prediction of dynamic processes, future research should be focused upon changes over time.
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CHAPTER I

INTRODUCTION

Many colleges and university students are required to enroll in a basic communication course. Gibson, et al. (1980) in a survey of 554 junior colleges, colleges, and universities found that 53% of colleges of education, 50.3% of colleges of business, and 45% of colleges of arts and science required a basic speech course of their majors. Furthermore, Gibson, et al. said that 95% of respondents reported enrollments in communication courses growing at a rate equal to or greater than their institution enrollments, and 62% believed the course to be a heavy financial contributor to departmental and institutional support. Despite the fact that a communication course is considered to be an integral part of students' educational experiences, little is known about what communication variables operate to effect students' abilities to succeed in communication classes.

Although several attempts have been made to predict success in basic communication courses, no generic variables have been isolated which account for a substantial amount of variance in communication learning outcomes. Standard academic predictors such as Scholastic Aptitude
Test (SAT) scores do not account for a significant amount of variance in final grade prediction (Judd & Smith, 1969), nor do personality factors (Burgoon, 1971; Judd & Smith, 1969). Despite the failure of these attempts, it seems logical to assume that operative communication factors do consistently determine academic success in this high communication demand college classroom setting.

Statement of the Problem

Those factors which best determine success in the basic communication course have not been identified. Consequently, this study was designed to determine what communication variables and structures are most likely to predict learning outcomes in the basic communication course.

Purpose

The proposed investigation attempted to develop mathematical models, utilizing communication variables selected from organizational communication theory, to predict students' final grades and perceived utility of material taught in a basic course in communication.

Hypotheses and Research Question

In examining the nature of success in a communication course, certain relationships were expected to emerge. These relationships are hypothesized as follows.
Psychological Structure: Hypotheses

H₁: There is a nonlinear relationship between each of four dimensions of perceived teacher credibility; competence, composure, extroversion, and sociability as measured by the test of source credibility of basic communication instructors and (a) final grade in a communication course, and (b) perceived utility of material learned in a basic communication course as measured by the speech learning utility scale (SLUS).

H₂: There is a positive linear relationship between perceived teacher character as measured by the test of source credibility of basic communication instructors and (a) final grade in a communication course, and (b) perceived utility of material learned in a basic communication course as measured by SLUS.

H₃: There is a positive linear relationship between each of three dimensions of interpersonal attraction; physical, social, and task attraction as measured by the scale for interpersonal attraction and (a) final grade in a communication course, and (b) perceived utility of material learned in a basic communication course as measured by SLUS.

H₄: There is a negative linear relationship between the communication apprehension of students as measured by the Personal Report of Communication Apprehension College (PRCA College) and (a) final grade in a communication course and (b) perceived utility of material learned in a basic communication course as measured by SLUS.

H₅: There is a positive linear relationship between perceived course satisfaction and (a) final grade in a communication course and (b) perceived utility of material learned in a basic communication course as measured by SLUS.

Social Structure: Hypothesis

H₆: There is a positive linear relationship between each individual student's social integration in the social network of the class as determined by the social network program CATIJ and (a) final grade in communication course and (b) perceived utility of material learned in a basic communication course as measured by SLUS.
Research Question: Summary Model

R: Do the psychological and social structures of a communication classroom combined with the interactive effects of those structures and perceptions of a course satisfaction predict learning outcomes in a college course in communication fundamentals?

Definition of Terms

Each of the predictor and criterion variables under investigation were operationalized according to developed instruments and procedures described below.

(1) Oral communication apprehension was defined as subjects' scores on the Personal Report of Communication Apprehension (PRCA) (McCroskey, 1970). Ten 5 interval Likert type items were used as a short form of the test to protect against test fatigue. The scale in this form has a reported internal reliability of .89.

(2) Credibility of the teacher was defined as subject's scores on a five dimensional scale for source credibility of basic communication instructors developed by McCroskey, Holdridge, and Toomb (1974). The five dimension were competence, composure, character, sociability, and extroversion. The scale consisted of 20 5 interval semantic differential items. This scale was a short form used as a protection against test fatigue. Each dimension of the scale has a reported internal reliability of "above .80" (Hurt & Tiegen, 1977).
(3) Interpersonal attraction to the teacher was defined as subjects' scores on a 3 dimensional scale developed by McCroskey and McCain (1979). The three dimensions are social, physical, and task attractions. The scale consists of 16 5 interval Likert type items which constitute a shortened form as a protection against test fatigue. Each dimension in this form has a reported reliability of above .80 (Falcione, McCroskey, & Daly, 1977).

(4) Degree of social integration (DSI) was defined by a network analysis procedure called CATIJ developed by Bernard and Killworth (1973). Data were gathered using a card sort method to indicate communication links. Through this data collection vehicle, subject i indicates preference links to subject j. The i-j linkages show "routes" through which communication passes, mutual links, and subgroup patterns (Bernard & Killworth, 1973). Minimal distance matrices are generated based on the notion that i-j linkages are at a minimum when the fewest possible intermediary communication links are described. The degree to which an average member is integrated in the system is defined as the individual's connectedness within the network.

The formula for indexing individual connectedness is a ratio measure.
Individual Connectedness = \frac{\text{Number of 1st and 2nd Choices}}{N-1}

First and second order choices are defined below and were obtained through the network program CATIJ. The denominator of the ratio was used to reduce the artificial effects of network size (Rogers & Kincaid, 1981).

(5) The adjusted communication apprehension score (AOC) was defined as PRCA X (1-DSI). This variable was designed to take into account the impact of social integration on subjects' communication apprehension. This unique approach to effects of social integration on communication apprehension was based upon research reported by Hurt, Scott, and McCroskey (1978) and Hurt and Preiss (1978). Results of these researches have indicated that although communication apprehensives experienced anxieties about interacting, they nonetheless had the same desires to interact as did non-apprehensive persons. Hurt and Preiss also reported that although the communication apprehensive subjects had a lesser degree of desired social integration that did communication non-apprehensive subjects, none of the communication apprehensive subjects were completely non-integrated into the system as McCroskey (1977) had suggested that they would be. Thus this formula was designed to account for the effects of desired social integration on subjects' PRCA score. For example, two students might have the same
PRCA score of 50 yet one's apprehension leads to less integration. If student A has a PRCA score of 50 and an individual connectedness ratio of .70, his/her AOC would be adjusted thus: $50 \times (1 - .70) = 15$. Student B might be much less integrated with an individual connectedness ratio of .30. His/her AOC would be higher: $50 \times (1 - .30) = 35$.

(6) Course satisfaction was defined as subject's scores on a 5 interval Likert type scale for job satisfaction (Hurt & Tiegen, 1977) adapted to relate to coursework. The original scale (Smith, Kendall, & Hulin, 1969) included five dimensions: satisfaction with own work, supervisor, pay, promotion, coworkers. The one dimension of satisfaction with own work was employed for this study (adapted). The four 5 interval Likert type items have a reported internal reliability of .81 (Hurt & Tiegen, 1977).

(7) Student perception of learning utility for the course was defined from the three dimensional learning outcome tests developed by Hurt and Muse (1982) adapted for communication learning. The thirteen items which constitute the utility dimension are a 5 interval Likert type scale with a reported reliability of .83 (Hurt & Muse, 1982).
(8) Final grade was a standard cumulative measure of all performances assigned by individual instructors. Grades were converted to a 5 point measure such that A = 5.0, B = 4.0, C = 3.0, D = 2.0, and F = 1.0.

(9) Significant statistics were based on the .05 level of significance (p < .05).

(10) "Speech communication fundamentals course" was defined as a basic college course in interpersonal, small group, and public communication taught at a large state institution of higher learning in the southwestern United States, with a maximum enrollment per section of 24 students.

Significance of the Study

The proposed study focused on elements of communication in the classroom. The nature of development of a structure in a system was viewed as the critical aspect of final outcome. To date, however, only two studies (Bernstein, 1978; Hurt & Preiss, 1978) have been done which investigate the intervening effects of network variables on system outcomes; and only Hurt and Preiss (1978) dealt with classroom communication structures (Rogers & Kincaid, 1981). Thus, this study provided the opportunity to systematically increase understanding of the meditational effects of classroom communication networks on selected learning variables. Furthermore, while the classroom
effects of oral communication apprehension are well documented, the structural interaction effect has not been considered. By extending the mediational effects of structure through the adjusted orientation to communication, this study sought to amend conclusions drawn about communication apprehensives in the classroom. The outcome prediction model may have secondary implications for other settings than the speech communication course simply because communication occurs in all classroom environments.

Such a descriptive model will be an element of theory building for college teaching in high communication demand settings. Such theory building may also give teachers direction for enhancing the classroom communication climate so as to maximize student learning outcomes. The truism herein applied is quite simple: communication effects learning (Hurt, Scott, & McCroskey, 1978).

Limitations

The possibility of subject mortality existed due to the length of the questionnaire and time required for the network card sort, as well as the unreliability of class attendance policies.

The issue of generalizability is somewhat dubious because not all speech fundamentals courses include all of the following elements (although most do). However, these speech classes were chosen because
1. Communication variables were present;

2. Grades were determined the same way for every section of this multisection course;

3. These classes were accessible.

Basic Assumptions

It was assumed that since confidentiality was assured, students would give honest perceptions of the environment.

It was also believed that the effects of physical environment could be controlled by collecting data only from five sections of this course which met in one room. The room was light green in color, measured 42' by 43'6'', had windows on the east side, and consisted of twelve metal tables with chairs arranged in three rows.

Organization of the Study

The study was organized as follows.

Chapter I includes the Introduction, Statement of the Problem, Hypotheses and Research Question, Purpose of the Study, Definition of Terms, Significance of the Study, Limitations, Basic Assumptions and Organization of the Study.

Chapter II is a Synthesis of Related Literature, examining Previous Predictive Models and an Organizational and Instructional Communication perspective.

Chapter III deals with Methodology of the Study.
Chapter IV deals with Data Analyses.

Chapter V is a Discussion of Findings.

Summary

This study examined the relationship between classroom psychological and social structures and learning outcomes in a basic college communication course. The study was considered justifiable because previous research has found the prediction of learning outcomes in such a course difficult to achieve and because these same structural communication variables were believed to effect learning in all courses of instruction.
CHAPTER BIBLIOGRAPHY


Judd, L. R., & Smith, C., Predicting success in the basic college speech course. The Speech Teacher, 1969, 18, 13-17.


McCroskey, J. D., Holdridge, W. E., & Toomb, J. R., An instrument for measuring the source credibility of basic speech communication instructors. The Speech Teacher, 1974, 23, 25-33


CHAPTER II

SYNTHESIS OF RELATED LITERATURE

London (1964) in his communication attitude survey of American colleges concluded among other things that

(1) A first course in communication should be offered by all institutions of higher education in the United States, and

(2) A first course in communication should be required for all students seeking a bachelor's degree in all institutions of higher education in the United States.

Implicit in these excerpts from London's conclusions is the recognized value of communication as a vital part of higher education and as a viable part of any professional preparation.

Despite the above professional convictions, the 1970's have seen quite some controversy regarding the value of the basic course in communication. Continued enrollment success and increased course offering, however, indicate that most professionals still recognize the value of communication training. Every five years the Speech Communication Association, a professional society of secondary and higher education teachers of speech, conducts a survey of the basic course in communication at junior
colleges, colleges, and universities. The most recent report, published in the January, 1980, issue of *Communication Education* indicated the vitality that the basic communication course enjoys. Gibson and others (1980) found, based on 554 survey responses that: the basic course was growing and healthy, was viewed in many institutions as significant, and covered a wide variety of communication areas. The subject areas covered included communication theory, public speaking, small group communication, and interpersonal communication (Gibson, et al., 1980). A plurality of 40.3% of respondents worked in departments having a basic communication course which offered a combination of these areas.

Given speech communication's recognized value and growth, one would expect consensus among the experts as to what the basic course should produce. Clearly, communication knowledge and skills would be a part of professional preparation. Nevertheless, there is some disagreement as to how to predict what variables contribute to success in a basic speech communication course. Conville (1976) noted two problematic areas of concern regarding academic success in a basic communication course. Specifically, Conville noted that (1) substantial predictor variables of success have not been isolated and (2) theoretic explanations for results of predictive models have not
been developed. These observations are well confirmed by professional research literature.

**Previous Predictive Models**

Judd and Smith (1969), in an attempt to predict success in the basic college communication course, correlated final grades with eighteen California Psychological Inventory (CPI) personality variables, Scholastic Aptitude Text (SAT) verbal scores, SAT math scores, and grades from high school quarterly grade reports. Of the CPI variables, only flexibility yielded a significant correlation \( r = -0.42, p < 0.05 \). For SAT verbal scores, the Pearson product moment correlation \( r \) was 0.07, for SAT math, \( r \) was 0.45. There were problems, however, in the data reported by Judd and Smith. First, the regression model only accounted for 25% of the cumulative variance, casting some doubt on the power of the model; and second, the sample was quite small \( n = 31 \), resulting in an unstable matrix which restricted the generalizability of the models.

Hall (1970) used three performance variables and eight instructor-reported evaluation items to predict final exam and final course grade. The only significant effect obtained was the correlation between SAT verbal scores and final exam grades \( r = 0.35, n = 86 \). The variance accounted for was negligible \( r^2 = 0.12 \).
Burgoon (1971) studied the willingness to manipulate others (Machiavellianism) as related to final speech communication grade. Burgoon found that Machiavellianism was a significant single predictor in a course in dyadic and small group communication ($r = .40, n = 207$), but was not related to success in a public speaking course ($r = .09, n = 134$).

Hayes and Morganstern (1977) generated a series of nine noncognitive variables including demographics such as age, sex, and year in school as well as speech anxiety and speech experience as predictors. These predictors were used in a forward stepwise regression with the final grade in the course as the criterion. The regression model accounted for an accumulated variance of only 12% in predicting final grade.

While each of the four models discussed above describes some aspect of communication achievement, little variance to date has been accounted for by academic and personality factors. Nor are high school grade point averages a significant predictor (Judd & Smith, 1969). Interestingly, little or no emphasis has been accorded communication variables in predicting academic success in a communication course. The neglect is anomalous in view of that which is being studied. Certainly the potential exists to engage the use of operative communication variables to analyze success
in a communication course. For reasons discussed below, it is believed that the appropriate perspective was offered from the area of study known as organizational communication.

Organizational Communication

The field of human communication is among the most broad of academic disciplines. Encompassed are such fields of research as interpersonal communication, mass communication, health communication, instructional communication, information systems, and communication theory. One eclectic discipline studied under this broad area of human communication is the study of organizational communication. Organizational communication is the study of communication and the structural context in which it occurs (Hurt, 1978). Traditionally the focus of organizational communication has been business and industry. In other words, most organizational communication research relates to employee-superior relationships and other aspects of communicating in a business setting (cf., Fisher, 1981; Goldhaber, 1979; Rogers and Rogers, 1976). However, a much broader spectrum of study of communication in structural contexts is deemed appropriate by some organizational communication scholars. The broader view holds that organizational communication is the study of any human system, where a human system is any group of people associated for some purpose (cf., Hurt
& Cook, 1979a, Rogers & Shoemaker, 1971). That purpose might be work, security, collective productivity, or learning.

The belief of communication scholars is that human systems tend to be self-organizing (Berlo, 1977). In other words, when humans form a group, formally and/or informally, a structure evolves. Further, as the group encounters problems or needs, the structure of the human system organizes a response unit (Clark, 1968; Zaltman, Duncan, & Holbeck, 1971); hence, new communication structures are continually evolving.

Organizational communication structures have been studied through differing levels of analysis, including the differences in individuals, communication links between/among individuals, and the subsequent formal and informal organizational structures which develop (Aiken & Hage, 1966; Aldrich & Herke, 1977; Goldhaber, Yates, Porter & Lesniak, 1978; Hage & Aiken, 1969; Hurt, Joseph & Cook, 1977; Richetto, 1977; Rogers & Rogers, 1976). Of course, for empirical grounds, any atomistic addition to existing knowledge is of some use, but a descriptive model containing a broad explication would be most useful.

Hurt (1978) offered such an encompassing perspective. His research suggested a triad of "structures" in the context of organizational communication. There is, of
course, the **physical structure**: "the material components of and the spacial location of subunits within human organizations" (Hurt, 1978, p. 4). Secondly, there is a **social structure**: "the formal composition of subgroups or units within an organization which govern horizontal and vertical communication flow" (Hurt, 1978, p. 4). Finally, there is a **psychological structure** to an organization: "consistent patterns of perception" among individuals and subunits of the human system which mediate individual responses to, and productivity within, the system (Hurt, 1978; Inkson, Hickson, & Pugh, 1967; Hurt & Tiegen, 1977; Hall, 1963). Figure 1 illustrates the dynamics of the posited structure. The concept is that members of an organization bring to the system a structure which then evolves in response to the behaviors which are a part of any system organized for some purpose. The result is that all the patterns of perception which mediate responses in combination and interaction with the subgroup composition and spacial location interdependently affect one another (see Figure 1).

While there is an impact from physical structure, this aspect is de-emphasized in light of other structures in the triad. Conceding direct effects of proximity on contact with others, it would seem the communication links and the perceived structure of the system (social and
Fig. 1—Hurt's Structural Interaction Model of Organizational Communication. (Source: Hurt, 1978, p. 10)
psychological structures, respectively) probably have a more powerful impact on communication behavior. In any event, this triadic structure offers a more broadly based perspective for organizational communication study as the study of a unified purposive group.

Organizational and Instructional Communication: A Perspective

The study of communication in the classroom and the study of structured communication are intimately related. From the aforementioned broad perspective of organizational communication as a purposive human system, a classroom fits the definition. While the social structure is rarely complex in terms of formal subunits, a hierarchy exists. Furthermore, students and teachers bring with them and develop patterns of perception and orientations to communication demands which do in fact mediate responses to productivity requirements imposed by the system. It stands to reason that in a classroom which demands a great deal of interaction, communication structures would form; perceptions of the instructor as an information source would evolve, as would a social network; and resultant affect associated with this work environment would also develop. Hence, just as it is with any purposive system, so it is with a classroom. Communication elicits and is elicited by developing relationships and perceived relationships.
From this theoretic perspective one can see the appropriateness of the application of an organizational communication model. This model is most applicable in a high communication demand setting. In other words, the greater the quantum amount of communication required in a class, the more applicable the model would logically be. Each of these applicable structures and variables described in the model will be amplified below.

**Specific Elements of the Organizational Communication Model**

Based on the work of Hurt and Tiegen (1977; 1978) and observations as to which variables seem operative in the classroom (Hurt, Scott, & McCroskey, 1978), certain variables were chosen to describe the psychological structure of the classroom organization. Using the methodology developed by Bernard and Killworth (1973), a network analytic technique was selected to define classroom social structures. The broad research question is thus phrased:

**R:** Do the psychological and social structures of a speech communication classroom combined with the interactive effects of those structures and perceptions of course satisfaction predict learning outcomes in a college course in speech communication fundamentals?

**Psychological Structure**

Orientation to communication. One of the single most significant types of orientation to communication in instructional communication research has been found to
be communication apprehension. Oral communication apprehension is a learned, generalized fear or anxiety associated with real or anticipated communication events (McCroskey, 1977). Oral communication apprehension has been shown to substantially affect success in organizations (Scott, McCroskey, & Sheahan, 1976), but the classroom effects are also well known. McCroskey (1975) found, based on data collected from nearly twenty thousand college students, that 20% of the people in university student populations suffer from high degrees of oral communication apprehension. This high oral communication apprehension can interfere with functioning in an academic environment.

McCroskey and Andersen (1976) found high communication apprehensives scored significantly lower than low communication apprehensives on the composite, social science subscore, science subscore, mathematics subscore, and English subscore of the American College Test (ACT). In the same study high communication apprehensives averaged one-half a grade point lower on a four point scale than low apprehensives. Furthermore, McCroskey and Andersen (1976) noted that low and moderate communication apprehensives preferred small classes while high communication apprehensives preferred mass lecture classes.

High communication apprehensives also sought help from available tutors less often (Scott, Yates, & Wheeless,
1975). McCroskey and Sheahan (1976) found that college students had a more negative attitude toward school if they were highly apprehensive about communication. The same pattern was found for junior high students (Hurt & Preiss, 1978).

The negative learning effect has been well documented as it relates to communication apprehension (Scott & Wheeless, 1978), and thus oral communication apprehension is an eminently appropriate variable. If communication apprehension is low, learning outcomes should logically be high.

Orientation to communication is but one aspect of the psychological structure. Since teachers serve as information sources in classrooms, the way in which that information source is perceived by students has a significant impact upon information flow.

Perceptions of teachers as an information source. Certain person perception variables, when operative, tend to increase the likelihood that the sending and receiving of messages will be successful. These perceptions, called credibility and interpersonal attraction, were therefore incorporated into the study of the psychological structure of communication classrooms.

Organizational researchers have found that the credibility of information sources is extremely important to
human interaction, particularly in a superior-subordinate relationship. Perceived credibility of supervisor has been found to increase satisfaction in human systems (Falcione, 1973, 1974a, 1974b, 1975). Credibility is a perception which elicits trust, belief, and confidence, and thus people tend to rely more on information from a credible source. Analogous to this organizational communication perspective, a teacher as an information source, if credibly perceived, would evoke more information seeking by students (Hurt, Scott, & McCroskey, 1978). There are five dimensions of credibility used in contemporary communication research: competence, composure, or emotional stability; sociability, a friendliness dimension; character, or perceived reliability of the message source; and extroversion, a dynamism dimension (McCroskey, Holdridge, & Toomb, 1974; McCroskey, Jenson, & Valencia, 1973). The amount of credibility of a supervisor is a multidimensional expression of trust. The greater the generic credibility, the greater the receptivity to communication (Scott & Powers, 1978). There are, however, qualifications to this general effect of credibility and receptivity. Each of the five dimensions of credibility may be considered a continuum. At the extreme end of each continuum, receptivity to teacher interaction may decline, subsequently input and output will decrease (Hurt, Scott, & McCroskey,
in press). This proposed inverted parabolic function works as follows. In the case of competence, an extremely incompetent information source will not be well received; yet, if a teacher were perceived as too competent, students might also tend to avoid interaction. The same might be said of composure. A teacher who is lacking in composure may reduce students' receptivity, but an extremely composed teacher would be seen as cold or impersonal and thus negatively impact receptivity. A teacher who is not perceived as sociable would be poorly received, but if too sociable, students may look on the teacher as a peer and thus reduce interaction effectiveness in the classroom. The case could also be made for the extroversion dimension. A teacher without dynamism would not be well received, but it is also believed that one can be too dynamic (Wheeless, 1982). It is presumed that the character dimension of credibility is linearly related to positive outcomes since it seems unlikely that one could be too reliable.

Members of a human system also often develop interpersonal bonds with a supervisor. This attraction develops as a result of communication exchange (Falcione, McCroskey, & Daly, 1977) and, conversely, the amount of communication exchanges are strongly related to attraction (Bercheid & Walster, 1969). Since interaction with classroom
teachers is predictive of success in class (McCauley, Bruiniks, & Kennedy, 1976; Hurt & Cook, 1979b), the "functional and entity relations" (Locke, 1976) between students and teachers become a mediating factor. Therefore, interpersonal attraction to teachers facilitates the communication climate. The most common conceptualization of attraction is a triad of attraction constructs: physical attraction, or the perceived physical characteristics which enhance bonding; social attraction, or an affective response to a person in a variety of social settings; and task attraction, or desire to perform required work with a person.

Both the five dimensions of credibility and the three dimensions of attraction have been deemed appropriate predictor variables defining the psychological structures of classrooms because of their positive impact on interaction. These perceptions and the orientation to communication also affect students' tendencies to interact with one another as well as with the teacher.

Social structure. The social structure of an organization has been defined above. Alternatively social structure has also been defined as "the arrangement of the differentiated individuals that can be recognized in the patterned communication flows in a system" (Rogers & Kincaid, 1981, p. 346). Herein, one examines the degree
of association or perceived communication "distances" among members of a human system. This social structure is defined by communication roles and developing relationships which indicate how much a part of the system an individual may be. In a high communication demand setting, an individual would have to be well integrated into the communication patterns to maximize rewards from the system (in the case of a classroom, learning). Network analysis is most commonly used to study such social structures (Rogers & Kincaid, 1981), and its use has been discussed in Chapter III.

Given that psychological and social structures mediate communication flow in classrooms, organizational communication behaviors and consequences of these behaviors result from the psychological-social structural interaction. One such organizational communication behavior variable shall be called "adjusted orientation to communication" (AOC); the other is a consequence of organizational communication behaviors called "course satisfaction."

**Resultant Structure Interaction Variables**

**AOC.** Oral communication apprehension frequently results in an avoidance of interaction. However, when persons become a part of social structures, and they are integrated to some degree or another in such structures, communication is affected by this degree of their
integration. Thus, the raw PRCA score must be reduced to adjust for the impact of social integration. A detailed explanation of this mathematical model has been defined above.

**Course satisfaction.** Positive patterns of perception of the teacher as an information source, combined with low anxiety about communicating, high integration into the social system, and the resultant AOC should all logically lead to positive affect associated with being a part of a class. The analog to satisfaction with the class in the organizational communication literature is a perception *en toto* of the task demands of the work environment. This element of organizational satisfaction reflects the feelings toward required work of a purposive human system (Hurt & Tiegen, 1977; McCroskey, Daly, & Falcione, 1977; Smith, Kendall, & Hulin, 1969). Given this similarity between organizational communication and instructional communication, adapting job satisfaction to a course satisfaction construct is a simple way to incorporate this variable as a viable factor in predicting performance.

To predict performance, it was also necessary to operationalize performance criteria. Hence, the criterion variables were defined as follows.
**Criterion Variables**

**Learning outcomes.** In previous studies, the most often used yardstick for learning outcomes in a communication course was, quite obviously, final grade in the course. This seems appropriate in light of the fact that final grades were the only traditional outcome measure available to these researchers. Although Hall (1970) included final exam grades as well as final grades, he could find no significant correlations with these indexes. In a study by Hurt and Muse (1982), a second possible outcome measure was used. The particular scale to which the above refers was a simple Likert type scale of items which represent anticipated utility of knowledge of, or positive affect associated with, learning the material taught in the course. This learning utility scale was designed for foreign language learning. It was proven reliable (internal reliability measures ranged from .83 to .93 in the study for this three dimensional scale) and has been shown to have criterion related validity (Hurt & Muse, 1982). The scale was easily adapted to communication learning utility by replacing key phrases (e.g., "foreign language basic course" becomes "basic communication course").

The adaptation of foreign language learning to communication learning outcomes was appropriate because
Hurt and Muse (1982) noted the link between communication variables and foreign language and because frequently foreign language classes have oral demands, just as communication classes do.

The use of this adapted learning utility measure and final grades were chosen as the dual index of learning outcomes.

Descriptive model. From the explication above, a clear delineation of the predictive organizational communication model has been developed. The psychological and social structures of college communication classrooms leads to certain interaction effects, all of which in turn are predictive of learning outcomes measured by the learning utility scale and final grade (see Figure 2).

Summary

While the value of a basic speech communication course at the college level is recognized, previous means of predicting learning outcomes have produced little success. This study defined communication classrooms as purposive human systems by utilizing organizational communication models to predict communication learning outcome. The organizational communication variables studied were the psychological structure and social structure of classes and the results of the interaction of these structures.
### Psychological Structure Variables

<table>
<thead>
<tr>
<th>Psychological Structure Variables</th>
<th>Social Structure</th>
<th>Resultant Structural Interaction Variables</th>
<th>Learning Outcomes</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Communication Apprehension</strong></td>
<td>+Degree of Social Integration in the Communication Network Structure</td>
<td>+AOC and +Course Satisfaction</td>
<td>SLUS and Final Grade</td>
</tr>
<tr>
<td><strong>Teacher Attraction</strong> (3 Dimensions)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Teacher Credibility</strong> (4 Dimensions)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>+Teacher Character</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*Sign denotes hypothesized direction of relationship to each learning outcome.

**Is representative of nonlinear relationship to each outcome.**

---

**Fig. 2—Summary Statement of Hypothesized Relationships in Order of Occurrence.**
The learning outcomes were final grade in basic communication courses and the perceived utility of the material taught.
CHAPTER BIBLIOGRAPHY


Judd, L. R. & Smith, C. Predicting success in the basic college speech course. The Speech Teacher, 1969, 18, 13-17.


CHAPTER III

METHODOLOGY OF THE STUDY

The purpose of this study was to utilize communication constructs as predictors of learning outcomes in college communication course. In order to complete the study, three data sets were collected, merged, and analyzed.

Data Collection Procedures

The three data sets were collected in different ways according to procedures recommended in previous studies.

First Data Set

Questionnaire data were collected for all self-report measures. A copy of the questionnaire used appears in the Appendix. These questionnaires were distributed during the last ten days of the semester. In all cases, because in-class time was short, the students were asked to complete the questionnaires at home and return them the next class meeting.

Each questionnaire requested that the students fill out the instrument and assured confidentiality. Demographics requested included student number, gender, and classification (freshman, sophomore, junior, senior,
other). The first item on the questionnaire asked students to indicate on a dichotomous scale whether they had had a communication course in the past. Next, students indicated the degree of difficulty of the course on two 5 interval Likert type items. These items were followed by the standardized scales to measure SLUS, communication apprehension, interpersonal attraction, credibility, and course satisfaction. Thirteen Likert items were used to tap the speech learning utility perceptions. Although the speech learning utility scale is labeled SLUS in the Appendix copy, no scale labels were on the original questionnaires. The next ten Likert type items comprised the measure for communication apprehension, adapted from the 20 item Personal Report of Communication Apprehension for College Students (PRCA). The PRCA College was followed by sixteen Likert items designed to measure interpersonal attraction of teachers. The first five items constituted the social attraction dimension, the next six represented a measure of physical attraction, and the last five were items designed to tap the task attraction dimension. Each dimension of attraction is labeled in the Appendix copy. Next on the questionnaire were the twenty semantic differential items used to measure the credibility of the instructors. The five dimensions of perceived teacher credibility appeared in the following sequence: competence,
character, sociability, composure, and extroversion. The
dimensions have been labeled in the Appendix copy. The
last four items on the questionnaire were the Likert
items used to measure satisfaction with course work.
Items were numbered based upon the card column(s) each
item would occupy on an 80 column IBM card. Some items
were negatively worded to enhance reliability and were
later recoded to invert the items' values so that high
scores represented either a high degree of the variable
being measured or a positive affect.

Second Data Set

Because the network analytic card sort procedure
was considered more complex than the paper and pencil
questionnaires, this procedure was done in class under
the direct supervision of the researcher. This data was
also collected during the last ten class days. A class
roll was obtained from each teacher. Then a network card
set was prepared for each subject and the class instruc-
tor. The subjects were each assigned a three digit number.
Thus, for each card set the subjects found one card
representing each member of the class and the instructor.
The three digit number sequence began with the teacher
coded as number 001, and then the class roll was alpha-
betized and numbered from 002 through nn. All subjects
received a stack of cards representing the members of
that class. Each card contained a subject's three digit number, subject name, and student number. The teacher card for each set had only the instructor's name and the number 001. Both students and instructors reported this data.

Subjects were asked to sort the cards into four stacks. Each stack represented a different amount of communication interaction about the task aspects of the basic course in which they were enrolled. Stack I represented those people to whom the subjects talked "a lot" about the course. Stack II represented those people to whom the subject spoke "some" about the course. Stack III represented those people to whom the subject talked "hardly any" about the course. Stack IV represented those people to whom the subject talked "very little or not at all" about the course. The labels of the four stacks were taken from Bernard and Killworth (1977). Subjects then rank ordered the cards in each stack from most to least. The result was a rank ordering of the amount of interaction each subject had with every other student and/or instructor in the class. Although these four individual stacks have no value in terms of the CATCH network analytic procedure, they make it easier for each subject to discriminate among other members of the class when generating the totally ranked system.
(Bernard & Killworth, 1977). Following completion of the ranking procedure, subjects then recorded their rankings of the three digit numbers on their own name cards. These records were then transferred to IBM computer cards for analysis by the CATIJ network analysis program. Each class was analyzed separately. In order to generate the number of first and second row choices made by each individual subject used in the social integration ratio discussed in Chapter I, the CATIJ network analysis program initially generates a minimal distance matrix (MINIJ).

As was pointed out above, MINIJ defines the shortest information routes between any two unique pairs of elements in a system under analysis. The "length" of an information distance between two such elements is defined in terms of the number of intermediaries which separate the two elements, and the number of these intermediaries is also used to define what is referred to as a "row choice." Thus a first row choice exists between elements A and B when A interacts with B with no intermediaries. A second row choice exists between elements A and B when A interacts with B through one intermediary, and so forth. Thus, a row choice is defined by M-1 where M equals the number of elements in the interactive group under investigation. In the present study, the numerator of the social integration ratio (the DSI score) was defined as the sum of the
first and second row choices made by each individual student in the classes under investigation. Second row choices were included in the numerator following a recommendation by Rogers and Kincaid (1981) who argued that total element connectedness must include links with other elements which contain no more than a single intermediary (Rogers & Kincaid, 1981). These first and second row choices and the n-1 denominator were recorded for each student by his/her student number and punched on IBM computer cards for processing.

Third Data Set

Photocopies of final grades listed by student number were obtained by each instructor and letter grades were assigned a numerical value based on a five point scale such that A = 5, B = 4, C = 3, D = 2, and F = 1. Grade values and student numbers comprised the third data set, and these were punched onto the IBM computer cards used to record first and second row choices of the second data set.

Merge of Data Files

The two data files were sorted on the basis of student numbers and merged using the computer. The final merged data file was missing twenty-two subjects due to failure to
complete the questionnaires and failures to record student numbers.

Population Sampled

The data were collected from a selected sample of students from a southwestern state university with an enrollment of approximately thirty-four thousand. The communication fundamentals course from which the sample was taken is required of business majors, although others could enroll in the course as an elective. The course was equivalent to communication courses offered at many higher education institutions.

Students came from backgrounds ranging from metropolitan to rural sites and were accepted to the university based on minimum Scholastic Aptitude Test (SAT) scores and ranking in high school class. The SAT test score-ranking minimums are indicated below.

<table>
<thead>
<tr>
<th>Standing in High School Class</th>
<th>Minimum SAT Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Highest Quarter</td>
<td>800</td>
</tr>
<tr>
<td>Second Quarter</td>
<td>900</td>
</tr>
<tr>
<td>Third Quarter</td>
<td>1000</td>
</tr>
<tr>
<td>Fourth Quarter</td>
<td>1100</td>
</tr>
</tbody>
</table>

(Source: Undergraduate catalog for this institution, 1979-1980)

Each semester this multisection course enrolls approximately 1000 students.
Sample

The selected sample was based on location in one particular classroom in order to control for the physical environment. The sample of five randomly selected sections in one given classroom provided access to 103 subjects, but due to data mortality in the file merge (as discussed previously), the final sample size used was 81.

The assignment to sections for the chosen classroom was based on scheduling logistics and considered a random element.

The five different teachers ranged in rank from lecturer (M.A. degree) to instructor (Ph.D. or post-masters course work).

Statistical Analysis Summary

Computer processing at North Texas State University, Denton, Texas, was completed using the Statistical Package for the Social Sciences (Nie et al., 1975). The following statistical techniques were used in the study.

1. Descriptive Statistics

A. Using the SPSS subprogram FREQUENCIES, calculations of means and standard deviations, frequency distributions, and minimum and maximum values for demographic data from the questionnaire were obtained.
B. Using the SPSS subprogram CONDESCRIPTIVE, calculations of means and standard deviations and minimum and maximum values for all predictor and criterion variables employed in the study were also obtained.

2. Inferential Statistics

A. A factor analysis of the criterion variable SLUS was performed using the SPSS subprogram FACTOR. It was determined that SLUS was a unidimensional construct.

B. Reliability estimates for each appropriate interval data scale were obtained from internal reliability calculations using odd-even correlations.

C. Hypothesis one through six (H₁ - H₆) involved relationships between single predictors and each of the two criterion variables, grade and SLUS. Thus, a series of simple regressions were generated using the SPSS subprogram REGRESSION. A Pearson product-moment correlation matrix was also generated from the same subprogram, and two regressions for each predictor variable were generated. The predictor variables were PRCA, social attraction, physical attraction, task attraction.
competence, character, sociability, composure, extroversion, course work satisfaction, and degree of social integration.

D. To examine the relationships suggested by the research question, two stepwise regression models (one for each criterion variable) and a canonical correlation were performed using SPSS subprograms REGRESSION and CANCORR, respectively. In addition to all predictor variables listed above, these models included the AOC variable discussed in Chapter II.

These data analysis results will be summarized in Chapter IV.

Summary

To test predictive model investigated in this study, questionnaires were distributed for self report data. Students responded to demographic items and Likert and semantic differential scales to measure ease of course material, speech learning utility, communication apprehension, interpersonal attraction of teachers, credibility of teachers, and satisfaction with course work. For the network analysis data, students rank-ordered cards representing class members and instructors, based upon quantity of communication about task demands of the course. Network data were subjected to the CATIJ network program and
resultant numbers necessary to calculate individual connectedness ratios were recorded on master rosters. Final grades were collected from copies of instructor grade reports and recorded on the network rosters. Questionnaire data were punched on computer cards and network and grade data were punched on computer cards. The files were merged, and 81 subjects had complete records. These data were then examined in terms of descriptive statistics, simple regressions, hierarchical stepwise regressions, and a canonical correlation analysis.

CHAPTER IV

ANALYSES OF THE DATA

The intent of this study was to develop mathematical models comprised of communication variables selected from organizational communication, which were used to predict students' final grades and perceived utility of material taught in a basic college course in communication. The organization of analyses used in this study is listed in the following manner:

1. Summary of descriptive data from the sampled population;
2. Factor analysis used to determine the dimensional structure of the criterion variable SLUS;
3. Internal reliability coefficients from odd-even correlations for each interval level scale;
4. Simple regression models for each predictor variable to test its hypothesized relationship to each criterion variable;
5. Stepwise regressions for each criterion variable with all predictor variables;
6. Canonical correlation model using both criterion variables, associated with all predictor variables.
Descriptive Statistics

The sample was comprised of 81 subjects. Twenty-nine subjects were males (36%), and 52 were females (64%). Since there were more females and since all five instructors were male, a series of one-way analyses of variance were performed using sex as the independent variable, and each of the other variables discussed in this study as a dependent variable. No significant sex effects were obtained for any of the remaining variables. Although the sex effect for perceived physical attraction of instructors did approach significance (p = .06), it did not meet the minimum significance criterion (p < .05). Thus, sex of students and instructors was not considered a meaningful variable. A table of these one-way analyses of variance appears in the Appendix.

Within this sample of college students, 37% were freshmen (n = 30), 51% were sophomores (n = 41), 11% were juniors (n = 9), and one was a senior (1%). Twenty-one of the subjects (26%) indicated they had had a communication class before. The remaining 60 subjects indicated no previous communication courses. Classification in school (freshman, sophomore, junior, senior) was considered of relatively insignificant concern since 88% were freshmen or sophomores.
Descriptive statistics were derived on other variables, but were not considered relevant to the discussion here, with the exception of the criterion variables, SLUS and final grade, and the predictor variable physical attraction. Physical attraction had a theoretical midpoint of 17, but the mean was 19.2. The minimum and maximum values were also restrictive as were descriptive statistics (minimum = 10, maximum = 23, skewness = -.813, kurtosis = 1.681). Both criterion variables lacked normality. For the 13 item SLUS scale, the distribution of scores was negatively skewed and leptokurtic (skewness = -.702, kurtosis = 1.407). The mean score of SLUS scale was 48.85, and since the theoretical midpoint of a thirteen item, five-internal scale is 39, the obtained SLUS scores tended to be higher than average. Although the theoretical range of SLUS is 52 (minimum = 13, maximum = 65), the actual range for this sample was 37, with a minimum score of 24 and a maximum score of 61. The restricted range was expected to have some impact on prediction.

Even more restrictive was the range of the distribution of final grades. Ninety-one per cent of the subjects (n = 74) received an "A" or a "B." Obviously grades were far from normally distributed as well (skewness = -.518, kurtosis = .876). The negative skewing of grade data and its restrictive range had a decided effect on
on prediction outcomes, and this will be discussed in Chapter V. A table of frequency distribution and descriptive statistics (based on a five point scale for grades) is shown below.

<table>
<thead>
<tr>
<th>Grade</th>
<th>Frequency</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>26</td>
<td>32</td>
</tr>
<tr>
<td>B</td>
<td>48</td>
<td>59</td>
</tr>
<tr>
<td>C</td>
<td>6</td>
<td>7</td>
</tr>
<tr>
<td>D</td>
<td>1</td>
<td>1</td>
</tr>
</tbody>
</table>

Median 4.198  Skewness -0.518
Mean 4.222  Kurtosis 0.876

Clearly, a case of grade inflation is seen in this sample. In informal discussion with two of the instructors, the researcher was informed that this grade distribution is representative of grades assigned for all sections of this course. The department chairman has cautioned all instructors this school year that next year he expects to see a wider dispersion of grades.

The department chair's admonishments were of little assistance, however, since a restricted range of criterion
variable can artifactually decrease the effect size of simple and multiple correlations. Attempts were made in post hoc analyses to transform the grade distribution, and this will be discussed later in this chapter under the discussion of the hierarchical regression model used to predict the grade criterion variable.

The next step in statistical analysis prior to hypothesis testing, was a factor analysis to determine the dimensionality of the SLUS scale.

Factor Analysis of SLUS

The speech learning utility scale (SLUS) was adapted from the language learning outcomes measure designed by Hurt and Muse (1982). Since the original scale was three dimensional, it was decided to test the dimensionality of the new scale utilizing the SPSS subprogram FACTOR. A principal components factor analysis was performed using varimax rotation, with no specific numbers of factors requested.

Through application of the scree procedure (Cattell, 1964), the resultant eigenvalues from the first factor analysis revealed a two factor best solution. When the data were again submitted to a two factor procedure, it was discovered that all positively worded items had a prime loading on factor 1 of the rotated matrix, while
negatively worded items loaded on factor 2. Consequently, the second factor was deemed an artifact of the wording of the items, and the SLUS scale was considered unidimensional. This conclusion was important since a multidimensional scale would effectively increase the number of criterion variables. Since SLUS had only one dimension, there were only two criterion variables tested using the various regression models. A table indicating factor loadings of the two factor solution for the rotated matrix is shown on the next page.

An examination of the two factor solution and the items associated with each factor clearly justifies treating SLUS as unidimensional.

The next step in the analysis, prior to hypothesis testing, was to check the internal reliability of the scales used.

Internal Reliability

The scales used in this study have all been found in previous research to have acceptable levels of reliability. This information has been reported in Chapter I. Nevertheless, the reliability of each of the scales used in this study was again checked prior to their use in subsequent analyses. Odd-even correlations for each scale are shown in Table III.
### TABLE II

**FACTOR ANALYSIS OF SLUS ITEMS USING PRINCIPAL COMPONENTS ANALYSIS FOR A TWO FACTOR SOLUTION**

<table>
<thead>
<tr>
<th>Item</th>
<th>Factor 1</th>
<th>Factor 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. I expect to do very well in a speech communication course.</td>
<td>0.637</td>
<td>-0.203</td>
</tr>
<tr>
<td>2. I do not expect to get a very good grade in this speech</td>
<td>-0.228</td>
<td>0.611</td>
</tr>
<tr>
<td>communication course.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. I expect it will be easy for me to perform all kinds of</td>
<td>0.455</td>
<td>0.105</td>
</tr>
<tr>
<td>communication activities.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4. I expect my overall level of achievement of speech skills to be</td>
<td>-0.079</td>
<td>0.515</td>
</tr>
<tr>
<td>low.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5. The idea of getting help from a speech teacher in this class</td>
<td>-0.089</td>
<td>0.553</td>
</tr>
<tr>
<td>scares me.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>6. I would enjoy taking more than one communication course.</td>
<td>0.705</td>
<td>-0.239</td>
</tr>
<tr>
<td>7. If it were possible for me to do so, I would avoid taking a speech</td>
<td>-0.295</td>
<td>0.578</td>
</tr>
<tr>
<td>course.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>8. I would enjoy using my understanding of communication in a</td>
<td>0.538</td>
<td>-0.005</td>
</tr>
<tr>
<td>variety of settings.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>9. I think a speech communication course will have a very positive</td>
<td>0.827</td>
<td>-0.067</td>
</tr>
<tr>
<td>effect on my life.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>10. I think a course in communication will be very practical for</td>
<td>0.911</td>
<td>-0.042</td>
</tr>
<tr>
<td>me.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Item</td>
<td>Factor 1</td>
<td>Factor 2</td>
</tr>
<tr>
<td>----------------------------------------------------------------------</td>
<td>----------</td>
<td>----------</td>
</tr>
<tr>
<td>11. I really need a course in communication.</td>
<td>.569</td>
<td>.118</td>
</tr>
<tr>
<td>12. I would like a job in which I can use my knowledge of speech communication.</td>
<td>.607</td>
<td>-.047</td>
</tr>
<tr>
<td>13. Human communication is the most vital activity in our lives.</td>
<td>.387</td>
<td>.493</td>
</tr>
</tbody>
</table>

* Negatively worded items (prime factor loadings are underscored).
TABLE III

ODD-EVEN CORRELATIONS FOR RELIABILITY CHECK ON SCALES USED IN THIS STUDY

<table>
<thead>
<tr>
<th>Scale</th>
<th>Correlation</th>
<th>Scale</th>
<th>Correlation</th>
</tr>
</thead>
<tbody>
<tr>
<td>PRCA</td>
<td>.91</td>
<td>Character</td>
<td>.83</td>
</tr>
<tr>
<td>Social Attraction</td>
<td>.85</td>
<td>Sociability</td>
<td>.83</td>
</tr>
<tr>
<td>Physical Attraction</td>
<td>.87</td>
<td>Extroversion</td>
<td>.83</td>
</tr>
<tr>
<td>Task Attraction</td>
<td>.83</td>
<td>Course Satisfaction</td>
<td>.89</td>
</tr>
<tr>
<td>Competence</td>
<td>.86</td>
<td>SLUS</td>
<td>.80</td>
</tr>
</tbody>
</table>

All correlations are significant (p < .001).

The composure dimension of teacher credibility consisted of only three items. Hence, an item-total correlation was performed which indicated that each item had an item-total correlation exceeding .81. The reliability estimates ranged from .80 to .91 for each of these scales. In the case of variables tested, these levels were sufficient to minimize error variance, since all were greater than or equal to .80. The degree of social integration (DSI) variable was based upon computations yielded from the CATIJ program. Since the individual connectedness ratios were based upon one score per subject, no internal reliability estimate was possible. The
admission of network analysts is that there is a certain degree of error or "noise" in network techniques. Furthermore, repeated measurements are fairly rare (because of network linkage flux), so repeated measure reliability is not used as an index of network reliability. Conceding that reliability is an issue of some ambivalence, the repeated use of this technique in research is taken as justification for use in this study (c.f. Rogers & Kincaid, 1981; Hurt & Preiss, 1978; Bernard & Killworth, 1977). While final grades were computed by the instructors from oral performance and written exam grades, with each type of grade contributing equally to the final total, there was no standardized departmental test, nor were behavioral objectives standardized for performance grades. Thus interrater reliability cannot be determined. Final grades were nonetheless used, as explained in Chapter II, because they have been a widely used index for learning outcomes in previous research (Hall, 1970; Judd & Smith, 1969; Hayes & Morganstern, 1977; Burgoon, 1971). It should also be noted, with regard to the grade index, that this measure is a viable criterion variable in a study such as this one. The present study sought to examine, in a naturalistic setting, what communication variables were predictive of learning outcomes. Consequently, the use of final grades was considered appropriate for such a study.
The next section has been devoted to reporting the results of the simple regression tests for the first six hypotheses.

Simple Regression Models

To test hypotheses 1 through 6, it was necessary to perform a simple regression onto each criterion variable. Prior to analyzing the prediction of each criterion, another factor had to be considered. Course easiness was believed to be a factor, given the high grades received by the majority of students. Easiness of the course may have thus affected outcomes. A Pearson product moment correlation analysis revealed that for ease and final grade there was a correlation of .13. The Pearson r for ease and SLUS was .21. To control for the ease factor, the criterion variables were multiplied by \((1 - r^2)\), thus grade was multiplied by .98, and SLUS was multiplied by .96. All results hereafter were based on the modified criterion variable values such that variance accounted for by ease was "taken out." The six hypotheses tests are discussed as follows, and all statistically significant regression models are shown in Table V.
<table>
<thead>
<tr>
<th></th>
<th>Grade</th>
<th>PRCA</th>
<th>Physical Attract.</th>
<th>Social Attract.</th>
<th>Task Attract.</th>
<th>Competence</th>
<th>Sociability</th>
<th>Composure</th>
<th>Extroversion</th>
<th>Character</th>
<th>DSI</th>
<th>Course Satisfaction</th>
<th>AOC</th>
</tr>
</thead>
<tbody>
<tr>
<td>SLUS</td>
<td>.21</td>
<td>-.24</td>
<td>.18</td>
<td>.42</td>
<td>.29</td>
<td>.52</td>
<td>.60</td>
<td>.20</td>
<td>.35</td>
<td>.08</td>
<td>.07</td>
<td>.37</td>
<td>-.21</td>
</tr>
<tr>
<td>Grade</td>
<td>-.21</td>
<td>.01</td>
<td>.24</td>
<td>.07</td>
<td>.10</td>
<td>.15</td>
<td>.13</td>
<td>.07</td>
<td>.22</td>
<td>.05</td>
<td>.14</td>
<td>-.14</td>
<td></td>
</tr>
<tr>
<td>PRCA</td>
<td>-.05</td>
<td>-.14</td>
<td>.04</td>
<td>.09</td>
<td>.09</td>
<td>.13</td>
<td>-.08</td>
<td>.01</td>
<td>.01</td>
<td>.51</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Physical Attraction</td>
<td>.46</td>
<td>.59</td>
<td>.45</td>
<td>.46</td>
<td>.29</td>
<td>.56</td>
<td>.18</td>
<td>-.04</td>
<td>.41</td>
<td>.01</td>
<td></td>
<td></td>
<td></td>
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<tr>
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<td>.67</td>
<td>.17</td>
<td>.21</td>
<td>.52</td>
<td>.10</td>
<td>.61</td>
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<td>.49</td>
<td>.28</td>
<td>.34</td>
<td>.31</td>
<td>.20</td>
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<td>.38</td>
<td>.29</td>
<td>-.07</td>
<td>.53</td>
<td>.09</td>
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<td></td>
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<td></td>
</tr>
<tr>
<td>Sociability</td>
<td>.39</td>
<td>.27</td>
<td>.51</td>
<td>.06</td>
<td>.57</td>
<td>.09</td>
<td></td>
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</tr>
<tr>
<td>Composure</td>
<td>.25</td>
<td>.17</td>
<td>.14</td>
<td>.23</td>
<td>.06</td>
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<tr>
<td>Extroversion</td>
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<td></td>
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<td>-.83</td>
</tr>
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<td>DSI</td>
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<td></td>
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<td>Course Satisfaction</td>
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<tr>
<td>AOC</td>
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<td></td>
<td></td>
<td></td>
<td></td>
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</tr>
</tbody>
</table>

**TABLE IV**

**PEARSON PRODUCT MOMENT CORRELATIONS FOR ALL VARIABLES IN THE MODEL**
Hypothesis One

Hypothesis one ($H_1$) posited a nonlinear relationship between each of the four dimensions of teacher credibility, and each of the two criterion variables. To examine the posited relationships for each predictor variable, two simple regressions were generated; one using SLUS as a criterion variable and one using final grade. Since the expected relationship was an inverse-parabolic function, the predictor variables were each squared and eight simple regressions were calculated.

None of the nonlinear regression models were significant. As a post hoc analysis, simple linear regression models were calculated for each of the criterion variables. This was done to determine how to enter these 4 predictor variables into the complex regression equation. Significant linear relationships were found for three of the four credibility dimensions used to predict SLUS, while the grade criterion variable had no statistically significant relationship with any of the predictor variables in hypothesis one. In the case of SLUS, competence, sociability, and extroversion had $r^2$ values of .27, .16, and .12, respectively. While none of the three predictor variables accounted for an extremely high degree of criterion variance, this was not altogether unexpected for single-variable prediction. While an inverse parabolic
function was posited to be theoretically justifiable (see Chapter II), these data did not support the arguments used to justify nonlinearity. It is possible that a wider dispersion of criterion variable scores would confirm the nonlinearity hypothesis by increasing the power of the regression model; however, since the squared predictor values were not significantly related to either criterion variable, hypothesis one (H₁) was not confirmed.

Hypothesis Two

Hypothesis two posited a positive linear relationship between perceived teacher character and each of the two criterion variables. Consequently, two simple regression models were generated using character as the predictor variable. While the relationship between SLUS and character was in the expected direction, the model did not meet the minimum F criterion for significance. The final grade model, however, was significant (r² = .05, F = 4.096). Again the cumulative variance accounted for was small. Thus hypothesis two (H₂) was partially confirmed.

Hypothesis Three

The third hypothesis suggested a positive linear relationship between each of the three dimensions of interpersonal attraction and each of the criterion variables. Six simple regression models were generated. All
relationships were positive but only three were statistically significant. Grade was significantly related to social attraction \( r^2 = .06, F = 4.662 \), SLUS was significantly related to social attraction \( r^2 = .18, F = 17.273 \), and SLUS was significantly related to task attraction \( r^2 = .08, F = 7.323 \). Again, as with hypothesis two, there is partial confirmation for the relationships posited. Interpersonal attraction does seem predictive to some degree of learning outcomes.

**Hypothesis Four**

Hypothesis 4 posited a negative linear relationship between PRCA and each of the criterion variables. Two simple regressions were generated and both were found to be significant. PRCA was negatively associated with grade \( \text{Beta} = -.309, r^2 = .09, F = 8.250 \). PRCA was also negatively related to SLUS \( \text{Beta} = -.243, r^2 = .06, F = 4.974 \). In the case of communication apprehension as measured by PRCA, a negative relationship to each criterion variable was confirmed, thus providing complete confirmation of hypothesis four.

**Hypothesis Five**

Hypothesis 5 stated that there would be a positive linear relationship between course satisfaction and each of the criterion variables. Two simple regressions were
generated. While both relationships were positive, only the SLUS with course satisfaction regression model was significant \( r^2 = .08, F = 14.159 \). Thus, hypothesis 5 was partially confirmed.

**Hypothesis Six**

The sixth and final hypothesis posited a positive linear relationship between the degree of social integration (DSI) and each of the two criterion variables. Two simple regression models were generated. While each relationship was positive, neither regression was found to be significant. Thus, there was no confirmation of hypothesis six.

A summary of the Pearson product moment correlations is shown in Table IV, and the results of the above regression models are shown in Table V for all statistically significant models.

Of the ten regression models which met the minimal significance criterion, seven involved the SLUS variable, while only three involved the grade criterion.

**Summary of Tests of the Hypotheses**

The individual relationships posited in these six hypotheses were based upon theory and previous research, as explicated in Chapter II. The partial or complete confirmation of hypotheses two through five conforms to some degree to expected outcomes. The lack of confirmation
### TABLE V

**SIMPLE LINEAR REGRESSION MODELS**

**MEETING MINIMUM F CRITERION**

<table>
<thead>
<tr>
<th>Criterion Variable</th>
<th>Predictor Variable</th>
<th>Beta</th>
<th>$r^2$</th>
<th>F test</th>
</tr>
</thead>
<tbody>
<tr>
<td>SLUS</td>
<td>competence</td>
<td>.522</td>
<td>.27</td>
<td>29.121</td>
</tr>
<tr>
<td>SLUS</td>
<td>sociability</td>
<td>.398</td>
<td>.16</td>
<td>14.908</td>
</tr>
<tr>
<td>SLUS</td>
<td>extroversion</td>
<td>.346</td>
<td>.12</td>
<td>10.760</td>
</tr>
<tr>
<td>Grade</td>
<td>character</td>
<td>.222</td>
<td>.05</td>
<td>4.096</td>
</tr>
<tr>
<td>Grade</td>
<td>social attraction</td>
<td>.236</td>
<td>.06</td>
<td>4.662</td>
</tr>
<tr>
<td>SLUS</td>
<td>social attraction</td>
<td>.291</td>
<td>.08</td>
<td>7.323</td>
</tr>
<tr>
<td>Grade</td>
<td>PRCA</td>
<td>-.309</td>
<td>.09</td>
<td>8.520</td>
</tr>
<tr>
<td>SLUS</td>
<td>PRCA</td>
<td>-.243</td>
<td>.06</td>
<td>4.974</td>
</tr>
<tr>
<td>SLUS</td>
<td>course satisfaction</td>
<td>.441</td>
<td>.08</td>
<td>14.159</td>
</tr>
</tbody>
</table>
for hypothesis one (H₁) has been explained in terms of the restricted range of the SLUS and final grade distributions. Hypothesis six was a surprising disappointment. Since hypothesis six was the only hypothesis dealing with the social structure of the class, certain inferences must be made with regard to the network and learning outcomes. These inferences will be discussed in Chapter V.

Clearly seen in the post hoc findings was the impact of the psychological structure of the classroom on learning outcomes. Of the three dimensions of interpersonal attraction and the five dimensions of credibility, only the composure element of credibility and the physical attraction dimension of the attraction scales were not significant predictors of some learning outcome. Hence, one should conclude that the perceptions of teacher as a credible and attractive information source have some effect on variance in learning outcomes in the communication courses sampled in this study. As noted above, it was not surprising that the total variance accounted for by any single predictor in the post hoc regression analyses was a maximum of 27%. These variables are theoretically to be used in combination to predict the learning outcomes. This is obvious from the discussion in Chapter II on the interactive structure of the classroom as a human system. The effects of psychological structure were borne out in
single variable prediction in the case of person perceptions. Single variable prediction was also successful for the communication apprehension variable, PRCA. PRCA has been shown to affect learning outcomes in previous research (McCroskey & Andersen, 1976; Hurt & Muse, 1982), and it is quite logical for communication apprehension to negatively affect learning in a communication course. Since hypothesis six was the only social structure relationship available, it must be conceded that for these data the individual connectedness ratio was not linearly related to these learning outcomes criteria. This finding does not disconfirm the impact of social structure or system outcomes, however. It will be seen that the degree of social integration does have an effect for the multivariate model. The discussion is now directed to the research question which posits a relationship between the predictors and both criterion variables.

Investigation of Research Question

The research question asked whether the psychological and social structures of communication classrooms and their resultant interactive effects predict learning outcomes in a basic college course in communication fundamentals.

Three statistical models were generated to examine the relationship between the structural predictor variables
entered based upon the time when those variables should theoretically become a part of the system. Finally, to examine the effect of all predictors in linear combination as predictive of the learning outcomes in combination, a canonical correlation model was generated.

**Stepwise Regression Models**

For the hierarchical regression models, a controlled stepwise entry was necessary. Thus, the variables were entered in clusters based on the sequence in which they would theoretically occur. PRCA was entered first, the perceptions of credibility and attraction were entered in stepwise fashion as the second variable, the degree of social integration (DSI) was entered third, with the resultant interaction variables, course satisfaction and adjusted PRCA scores (AOC) entered in stepwise fashion as the fourth variable set. It should be noted that, following the failure to confirm hypothesis 1, only linear relationships were assumed for all hierarchical regression models. Results are shown in Table VI for the hierarchical model testing the final grade criterion variable and Table VII for the SLUS criterion variable.

The F test for the grade model was .935. The tabled value for F with 12 and 68 degrees of freedom is 3.02. Hence, the regression model predicting final grades was not significant. Furthermore, with all variables in the
### TABLE VI

**REGRESSION MODEL FOR GRADE USING ALL PREDICTORS**

<table>
<thead>
<tr>
<th>Independent Variable</th>
<th>Beta</th>
<th>$R^2$ change</th>
<th>Cumulative $R^2$</th>
<th>$F$</th>
</tr>
</thead>
<tbody>
<tr>
<td>PRCA</td>
<td>-.381</td>
<td>.044</td>
<td>.044</td>
<td>1.036</td>
</tr>
<tr>
<td>Physical Attraction</td>
<td>-.188</td>
<td>.000</td>
<td>.044</td>
<td>1.208</td>
</tr>
<tr>
<td>Social Attraction</td>
<td>.258</td>
<td>.056</td>
<td>.099</td>
<td>1.621</td>
</tr>
<tr>
<td>Task Attraction</td>
<td>-.042</td>
<td>.000</td>
<td>.099</td>
<td>.066</td>
</tr>
<tr>
<td>Competence</td>
<td>.040</td>
<td>.005</td>
<td>.105</td>
<td>.043</td>
</tr>
<tr>
<td>Sociability</td>
<td>-.044</td>
<td>.001</td>
<td>.105</td>
<td>.040</td>
</tr>
<tr>
<td>Character</td>
<td>.131</td>
<td>.009</td>
<td>.114</td>
<td>.822</td>
</tr>
<tr>
<td>Composure</td>
<td>.142</td>
<td>.020</td>
<td>.133</td>
<td>1.140</td>
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<td>Extroversion</td>
<td>.102</td>
<td>.003</td>
<td>.137</td>
<td>.446</td>
</tr>
<tr>
<td>DSI</td>
<td>.352</td>
<td>.000</td>
<td>.137</td>
<td>.343</td>
</tr>
<tr>
<td>AOC</td>
<td>.402</td>
<td>.003</td>
<td>.140</td>
<td>.333</td>
</tr>
<tr>
<td>Course Satisfaction</td>
<td>-.056</td>
<td>.001</td>
<td>.141</td>
<td>.110</td>
</tr>
</tbody>
</table>

$F$ for overall model $= .935$  \( df = 12, 68 \)
equation, the cumulative variance accounted for would only be 14% if the model were significant. Table VII shows the summary of the regression model for SLUS with predictors entered in the same sequence.

The regression model predicting the criterion variable SLUS was significant. The F test yielded a value of 8.103. The cumulative variance accounted for was 58.9%. Thus, prediction was achieved using organizational communication variables as the predictor variables when perceptions of the utility of communication courses, as measured by SLUS, constituted the criterion variable. The lack of predictability for grade as an index of learning was explained by the maldistribution of grades. It is believed that this set of predictor variables does impact the classroom system, but the criterion variable does not provide a useful statistical gauge for linear prediction.

It was noted that grades were not normally distributed. Since normal distribution is important to prediction, the linear models for the final grade criterion are all suspect. Attempts were made in post hoc analysis to transform the grade distribution. Grades were converted to Z scores; converted to natural logarithms; converted to logarithms, base 10; converted by sine, arctangent, cosine, and square root functions. Grades were also weighted by instructor. Here the instructors (section numbers) were regressed on
TABLE VII

REGRESSION MODEL FOR SLUS USING ALL PREDICTORS

<table>
<thead>
<tr>
<th>Independent Variable</th>
<th>Beta</th>
<th>R² change</th>
<th>Cumulative R²</th>
<th>F</th>
</tr>
</thead>
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<td>.059</td>
<td>.057</td>
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<td>.155</td>
<td>.214</td>
<td>2.513</td>
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<td>Physical Attraction</td>
<td>-.343</td>
<td>.000</td>
<td>.214</td>
<td>8.409</td>
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<tr>
<td>Task Attraction</td>
<td>.097</td>
<td>.011</td>
<td>.225</td>
<td>.727</td>
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<tr>
<td>Character</td>
<td>-.333</td>
<td>.055</td>
<td>.280</td>
<td>9.657</td>
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<td>Competence</td>
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<td>.192</td>
<td>.472</td>
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<td>Sociability</td>
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<td>.001</td>
<td>.473</td>
<td>.005</td>
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<tr>
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<td>.118</td>
<td>.030</td>
<td>.503</td>
<td>1.090</td>
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<tr>
<td>Composure</td>
<td>.032</td>
<td>.000</td>
<td>.503</td>
<td>.047</td>
</tr>
<tr>
<td>DSI</td>
<td>-.654</td>
<td>.000</td>
<td>.503</td>
<td>1.926</td>
</tr>
<tr>
<td>Course Satisfaction</td>
<td>.468</td>
<td>.086</td>
<td>.589</td>
<td>14.159</td>
</tr>
<tr>
<td>AOC</td>
<td>-.710</td>
<td>.000</td>
<td>.589</td>
<td>1.744</td>
</tr>
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</table>

F for overall model = 8.10  df = 12, 68
to final grades as dummy variables. The resultant Beta weights were utilized to weight grades assigned by instructors.

Each transformation was tested using the hierarchical model variables in the equation. No greater prediction was achieved using any of the transformed grade distributions.

The final analytic procedure used to test the relationships investigated by the research question was a canonical correlation. The canonical correlation model used in this study related the linear combination of structural predictor variables to the linear combination of criterion variables. The results are shown in Table VIII. The canonical correlation model revealed that there was a relationship between the criterion variables and the predictor variables when treated as linear systems. The canonical correlation coefficient between the two variable sets was $0.768 (R^2 = .59)$.

An examination of the canonical coefficients for the variables in each canonical variate set indicates that SLUS maximizes the variance accounted for in the first set of criterion variables (coefficient = .991), which AOC, DSI, course satisfaction, perceived teacher competence, perceived teacher character, and perceived sociability of teacher are the predictors which have the highest
<table>
<thead>
<tr>
<th>Canonical Correlation</th>
<th>Chi-Square</th>
<th>df</th>
<th>p</th>
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<td>.768</td>
<td>73.154</td>
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<td>.000</td>
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Coefficients for Dependent Canonical Variables

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<td>.991</td>
<td>.041</td>
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Coefficient for Independent Canonical Variables

<table>
<thead>
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<th>PRCA</th>
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<th>Social Attraction</th>
<th>Task Attraction</th>
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<tbody>
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<td>.059</td>
<td>-.454</td>
<td>.300</td>
<td>.123</td>
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</table>

<table>
<thead>
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<th>Competence</th>
<th>Sociability</th>
<th>Character</th>
<th>Composure</th>
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<tbody>
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<td>.473</td>
<td>.017</td>
<td>-.397</td>
<td>.034</td>
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</table>

<table>
<thead>
<tr>
<th>Extroversion</th>
<th>DSI</th>
<th>Course Satisfaction</th>
<th>AOC</th>
</tr>
</thead>
<tbody>
<tr>
<td>.147</td>
<td>-.726</td>
<td>.566</td>
<td>.801</td>
</tr>
</tbody>
</table>
coefficients for the second variable set. It is interesting to note that AOC, DSI, and course satisfaction were significant contributors to the variance in this model.

It was noted in Chapter II that these variables theoretically emerge from the interaction of structures in a human system. It is believed that this canonical correlation model provides further substantiation for the concept of a classroom-as-a-human-system. The implications of the research question analyses will be discussed in Chapter V.

SUMMARY

All data were examined in terms of descriptive statistics. Since females outnumbered males, a series of one-way analyses of variance were performed using set as the independent variable and each variable in the study as dependent variable. No set differences were found. The descriptive data also revealed that both criterion variables were negatively skewed. It was noted that both criterion had a narrow range as well.

To test hypotheses one through six, a series of simple regressions were performed. Ten of the twenty-two regressions met the minimum F criterion for significance providing partial or complete confirmation of $H_2$ through $H_5$. Hypotheses one and six were not confirmed.
The regression model for grade was not significant. The regression model for SLUS, however, was significant with the structural predictor variables accounting for 58.9% of the cumulative variance in SLUS. The canonical correlation was significant. The correlation between predictors and criterion variables was .768. The implications for these findings will be discussed in Chapter V.
CHAPTER BIBLIOGRAPHY


CHAPTER V

DISCUSSION OF FINDINGS

Since the intent of this study was to generate organizational communication models predicting learning outcomes in a basic college communication course, this final chapter analyzes the implications of the models generated. The organization of this discussion chapter is based upon the sequence of hypotheses and the research question tested and then focuses upon some general observations.

Course Difficulty

Because of recommendations made when this study was proposed, the possibility of the ease of the course having an effect was considered. By accounting for the ease of the course through the \((1 - r^2) \times\) criterion variable formula, that factor was controlled for. Since this study was designed to examine learning outcomes, the control of the difficulty variable became critical prior to hypothesis testing.

Hypothesis One

In the case of the first hypothesis, there was no confirmation for the inverse parabolic functions posited,
although a post hoc analysis using linear regression models did result in a significant model for dimensions of credibility predicting SLUS. However, given the moderate skewness and leptokurtosis of the SLUS variable, interpretation of these three significant models is difficult. Nevertheless the three credibility dimensions (competence, sociability, and extroversion) make some logical sense when used to predict the perceived affective utility of a course. Given the distribution of the criterion variables, this logical consistency is encouraging to note. First, if a course is to be useful to a student in some meaningful way, it is apparent that the instructor of a course ought to be perceived as reasonably competent. Second, since the items of the unidimensional SLUS measure reflect affect associated with this utility, then the relationship of the sociability and extroversion dimensions of credibility to SLUS becomes more obvious. Both of these dimensions are designed to tap perceptions based upon interpersonal style and verbal behavior respectively. As Hurt, Scott, and McCroskey (1978) have alluded to, these dimensions of teacher credibility are important predictors of affective learning.

The failure to confirm the hypothesis dealing with the nonlinear relationship of four of the teacher credibility dimensions with the criterion variables is
disappointing. However, the failure to confirm these subhypotheses should not be taken to indicate that the original hypothesis is false. Not only can the restricted range of the criterion variables result in an artifactually reduced correlation coefficient, they can also make it extremely difficult to fit an inverted parabolic line to a limited number of data points. Thus, given the unsuccessful attempts to adjust the distribution of the criterion variable final grade, it is entirely possible that the decisions not to reject these null subhypotheses were actually Type II errors. Because the argument supporting the nonlinearity of the relationships between these dimensions of teacher credibility and final grades is so thoroughly consistent with previous instructional communication research, there remains an obvious and compelling need to retest the subhypotheses with final grade distributions which are accurate and reliable indicators of students' achievements in communication courses.

Hypothesis Two

Hypothesis 2 was partially confirmed. The character dimension of teacher credibility was found to be significantly related to final grade but not to SLUS. The reasons for the failure to confirm the second subhypothesis are not altogether clear. It is possible, of course, that the perceived reliability of instructor may, in reality,
have nothing whatsoever to do with the perceived affective utility of a communication course. That is to say, as long as students believe that teachers are sufficiently competent to transmit information which students believe will be helpful to them, and when as in the case of the courses sampled here, that information relates to skill development, then teacher character may, in fact, be a moot point. It is interesting to note that previous credibility research utilizing the character dimension of teacher credibility has not distinguished between skills attainment and cognitive development (cf. Hurt & Sawyer, 1982a). Although it is difficult to determine the exact likelihood of making a Type II error, the failure to confirm this subhypothesis may indicate a need to discriminate between skills and cognitive learning in subsequent research.

Hurt, Scott, and McCroskey (1978) have indicated that the character dimension of teacher credibility can be a useful predictor of student achievement. Unfortunately, the only indicator of student achievement made available to the researcher was final grades, and the unsatisfactory nature of the distribution of that variable has been discussed above. Given the problems of a restricted range of the final grade distribution, it is entirely possible that the minimal effect size attributed to the character
dimension of teacher credibility \( r^2 = .05 \) was, again, artifactually reduced. Ironically, however, this small effect size augers well for the power of that variable as a predictor of final grades in communication courses. Thus it can be argued that the perceived reliability and honesty of teachers should not be overlooked or taken lightly when assessing the influences of students' judgments on communication instruction. Communication instructors should be significantly concerned with those interpersonal behaviors which impact perceptions of teacher character. Such behaviors include consistency of grading and testing policies, a willingness to admit to errors and misunderstandings, as well as a real and demonstrated concern for the well-being of students (Hurt, Scott, & McCroskey, 1982).

Hypothesis Three

The third hypothesis was again, only partially confirmed. Only teachers' social and task attractiveness emerged as significant predictor variables. Social attraction was predictive of both final grade and SLUS, and task attractiveness was only predictive of SLUS. Physical attraction was not found to be a significant predictor of either criterion variable. It is somewhat surprising due to the restricted ranges of the physical attraction and
SLUS and final grade variables that a significant relationship was not obtained. Whenever two variables of restricted ranges are related, the resulting correlation coefficient is usually artifactually increased since it is mathematically simpler to match the limited number of data points. In effect, had a significant correlation been obtained, it is very likely that the rejection of the task attraction null subhypotheses might have been Type I errors. Thus, given the failure to obtain the relationships hypothesized in the context of the restricted distribution of scores, it appears likely that physical attraction of the instructors was unrelated to final grades and SLUS.

The magnitude of relationship of social attraction and grades was again quite small ($r^2 = .06$), but not inconsistent with the manner in which the courses sampled were taught nor with the reported ease of the courses sampled. This significant regression model considered in the context of perceived ease of course and the distribution of final grade implies a suspicious lack of rigor demanded of the students. Thus, the task attractiveness of the instructors is unimportant to students and nonpredictive of final grades. On the other hand, the more the students perceived the teachers as being socially attractive, the more likely they were to interact with them regarding course-related matters. This conclusion is consistent with instructional
communication findings (Hurt, Scott, & McCroskey, 1978). In addition, indirect evidence for this claim was obtained from part of the network analytic procedure. The percentage of first and second row choices made of each of the teachers by the students in each of their classes ranged from 55% to 100%, indicating a high desire by the students to interact relatively directly with those instructors. Ergo, when a communication course is judged to be relatively easy, social attraction becomes a more important predictor of final grades than does the more logical task attraction variable. Again, instructional communication research has not adequately controlled for course difficulty when investigating the task and social dimensions of teachers' interpersonal attractiveness.

Both the social and task attractiveness of the instructors were predictive of SLUS. As was pointed out above, when considering the relationship of competence to SLUS, it seems very likely that students would relate how task attractive they perceived instructors to be with the perceived utility of the course. If students perceive the instructors to be persons with whom they would like to work on course-related tasks and sufficiently competent to help them achieve those tasks, the significant regression model using task attraction is not surprising.
Equally unsurprising, then, is the significant regression model relating social attraction and SLUS. Since so much of the SLUS measure contained items whose semantic content appeared to tap some sort of affective utility, then social attraction, designed to tap judgements of how much someone would like to informally interact with another person, ought to clearly be associated with the affective content of SLUS. As in the case of the sociability dimension of credibility (a gross estimate of the interpersonal orientation of an information source), the significant regression model of social attraction and SLUS is consistent with instructional communication research. The relatively minimal effect sizes of these three significant models can again be related to the restricted ranges of the distributions of the variables being investigated.

Hypothesis Four

Both subhypotheses of hypothesis four were confirmed. Communication apprehension was linearly and negatively related to final grade and SLUS. The power of the communication apprehension construct is reinforced again, given the restricted variability of the final grade and SLUS distributions. This is not the first time that communication apprehension has been powerful enough to detect
variation in final grade distributions. Hurt and Preiss (1978), using scores on the middle-school version of PRCA were able to account for variance in final grade distributions even though such distributions were "notoriously unreliable."

The negative value of the obtained Beta weights in both regression models fits nicely into the results of previous research relating communication apprehension to a variety of learning variables. As these data indicate, as students' levels of communication apprehension increase, their final grades and their perceptions of the utility of the material learned decrease. Obviously, students who are high communication apprehensives would find little utility in learning a skill which they attempt to avoid and this is, unfortunately, a substantial contributor to their final grades. Because of this effect, this study reinforces the position taken by Hurt and Preiss who argued that appropriate communication behavior should never be an object of punishment in a classroom, but should rather be reinforced and encouraged in order to facilitate student learning.

Hypothesis Five

Hypothesis five was partially confirmed. Course satisfaction was linearly and positively related only to
SLUS and not to final grade. The significant regression model obtained confirms the old shibboleth that "satisfied students enjoy learning." In effect, this significant regression model begins to demonstrate that as course satisfaction increases, so also does the perceived utility of the course. When students are "happier" with the course, it seems likely that they will be more willing to utilize the skills and information taught in the course. While such a claim is encouraging, it must nonetheless be tempered by the minimal effect size obtained in this study ($r^2 = .08$). Once again, it seems likely that the relatively restricted range of the SLUS variable may have diminished its magnitude of relationship with course satisfaction.

In the case of the inability of course satisfaction to predict final grades, it is only possible to speculate that the maldistribution of final grades may have again resulted in a Type II error.

Hypothesis Six

Hypothesis six, which predicted a positive linear relationship between degree of social integration (DSI) and final grades and SLUS, was not confirmed. This outcome was extremely disappointing. As in all the instances discussed previously, however, it cannot be determined if
a Type II error was made. Nonetheless, it is also possible that DSI is predictive of classroom consequences only when it is treated as a sub-element of the total classroom system. Although the data reported in this study cannot adequately address this issue, future research should investigate the structural relationships among classroom systems, and the ways in which those structures effect student learning.

Research Question

Two types of analyses were done to investigate the research question. In the first case, hierarchical regressions were performed, using the variables discussed above to predict final grades and SLUS, respectively. Only the regression model predicting SLUS was significant. Of the psychological structure predictor variables, only perceived teacher physical attractiveness, social attractiveness, character and competence made significant contributions to the model. Excluding the SLUS distribution problem, it is nevertheless encouraging to note that the five predictor variables mentioned above were still able to predict 59% of the variance in SLUS. It is interesting that only three of the original variables significantly predicting SLUS in the simple regression analyses (social attraction, competence, and course satisfaction) made significant contributions to the hierarchical
regression model, while two of the variables which did not significantly predict SLUS in the simple regression analyses (physical attraction and character) also made significant contributions to the hierarchical regression model. The reasons for these changes in the significant contributions of predictor variables can be attributed to the mathematical nature of the hierarchical regression procedure. Because of the ordered relationship of the variables used in the structural model, it became likewise necessary to enter the variables in the same order in the hierarchical regression procedure. Thus, PRCA was entered first because it was believed to be the primary psychological variable which students brought with them into the classroom experience. The remaining psychological structural variables (all of the teacher credibility and attraction dimensions) were entered next. These were, in turn, followed by the social structure variable, DSI. The interactive structural variables (course satisfaction and AOC) were entered last. Thus the order of entry of variables into the model impacts both the amount of variance which individual variables can contribute to the model and the F test used to test the significance of that contribution. As a result, certain distortions occur. For example, although both social attraction and task attraction accounted for more variance than did physical
attraction, only the social and physical attraction variables retained a significant F for entry. The same is true for the remaining variables. Of particular interest regarding this point is the failure of both PRCA and AOC to significantly enter the model. When PRCA was entered first and alone, its F value was significant (F = 4.97), but as subsequent variables were entered, the variance in SLUS contributed by PRCA was diffused through the remaining variables. When this effect is combined with the highly correlated AOC and PRCA variables, insufficient variance remained for AOC to make a significant contribution to the model. In spite of this problem, the hierarchical procedure was nevertheless utilized due, as was pointed out above, to the a priori conceptually developed model to be tested. As a result, it is difficult to interpret the meaning of individual variables in the overall hierarchical model, but again it should be carefully noted that the results of the overall hierarchical regression analysis support the conceptual model used to predict SLUS.

In passing, it should again be noted the failure of the hierarchical model to predict final grades may well be a Type II error, particularly given its failure to predict when a sizeable number of variables had been added to the model.
The result of the canonical correlation analysis also performed to investigate the research hypothesis was substantially supportive of the overall conceptual model designed to reflect that question. Even though the distributions of the two criterion variables did distort some of the simple and hierarchical regression analyses, the systematic model tested by the canonical correlation viably demonstrated the conceptual and empirical utility of using organizational communication variables as a basis to describe communication classroom learning outcomes.

The critical difference between the canonical correlation analysis and the hierarchical regression analyses was the treatment of the criterion variables, SLUS and final grades, in a systemic fashion. As can be seen in Table VIII, the criterion vector was primarily defined by SLUS although final grades did manage to make some contribution. Apparently the inclusion of final grades into the composite criterion score was sufficient to alter the contributions the individual predictor variables made to that composite score. These alterations reflect greater consistency with the proposed conceptual model. For example, the contributions of DSI and AOC to the predictor vector were substantially increased, as was expected. As has been argued in this study, a better understanding of the relationship between organizational communication variables
and learning outcomes can only be achieved when those variables are treated as two interconnected elements in a larger system. This is exactly what the canonical correlation procedure investigates. In effect, canonical analysis simultaneously combines variables in the predictor and criterion sets in a linear fashion so as to maximize both the degree of relation between each individual variable and its respective canonical variate and the degree of relation between the derived canonical variates. Thus, predictor variables and criterion variables are mathematically linked to create subsets and finally, these subsets are linked as well. Even though the difficulties with predicting the individual criterion variables used in this study remain, the sizeable criterion variables provides a positive affirmation of the hypothesized concept of the classroom-as-a-human-system.

Final Observations

It seems imperative, given the repeated references above to the problem of the distribution of final grades and informal comments made to the researcher by course instructors, students, and the department chairperson, that a substantial problem exists in terms of reliably evaluating the skills achievements of students in basic communication courses. Over a period of several years of teaching and doing research in instructional communication,
the author has discussed this problem with colleagues in communication departments at a variety of institutions of higher education. Apparently the restricted range of final grades obtained in this study is not an unusual occurrence. This is particularly true when final grades are based at least 50% upon the evaluation of communication skills activities. Part of the difficulty stems from the large number of variables to be evaluated in a short period of time over a relatively transitory speech event.

As Wilson and Arnold (1974) pointed out:

A critic who assesses live speaking, speaking as it is delivered, deals with a distinctive critical object. What he examines, appreciates, and judges consists of a combination of sounds and actions symbolizing ideas, existing in time, air, and sight. This object is in constant flight, not static, not arrested. It is unlike some other critical objects. It is not a statue which can be placed on a pedestal and viewed on all sides. It is not a musical score nor a play script which can be consulted. It is not a painting which can be gazed at for hours. It is not print which can be pored over. Speech cannot be taken in fully with either the eye or the ear alone. Ideally, it must be seen and heard—all in the moments of its creation. Like dance, it will not "freeze" for examination, and yet its verbal nature makes it seem analogous to the more stable objects of literary criticism. The contrasts go further. While it is true that a critic viewing a painting takes in first one part, then another, and the critic of music hears sounds in sequence in time, a critic of live speeches faces a more exacting assignment. He must see and hear sequences that have never before occurred in just that way. Usually he will not even have a drama critic's advantage of consulting a script before or after seeing and hearing the object he is to criticize, although occasionally this is possible with very formal speeches.
A speech critic deals with a critical object which usually exists once and only once. Normally there will be no public preview of it, and there may even be no subsequent records. Speeches may be on identical subjects and in identical words, but, still, exact duplication is impossible. The components of the speech situation also constantly shift. In public interviews the interviewee cannot foresee what he must next talk about until he receives the interviewer's question. The bits of talk, which may be regarded as small speeches, and which are a part of rap sessions, class discussions, political interchanges on television, and arbitration sessions—all of these are flexible, fluid, and in constant flux. They can never be exactly reproduced in any future place or time. But despite all of this, anyone who would evaluate public speech must try to note and account for the ongoing adjustments speakers are or should be making (pp. 284-285).

Clearly communication skills evaluation is an incredibly complex and abstract task. As a result, what tends to be evaluated is not the complex or the abstract but rather the simple and concrete, such as the physical attractiveness of students, their apparent "glibness," and sometimes the instructor's prior familiarity with students who are engaged in the communication event. All of these variables play an important role in the evaluation of communication sources (Hurt, Scott, & McCroskey, 1978). Thus in many cases communication skills courses are perceived by students as "blow-off" or "lay down" courses. As several students commented, "It's impossible to flunk speech." Happily, there is a solution to the problem of communication skills evaluation. Many university and college level communication departments (North Texas State
University among these) have begun to utilize specific behavioral objects which are related to each critical aspect of the communication event to be evaluated. Hurt and Sawyer (cf 1982a, 1982b) reported that the use of behavioral objects for communication evaluation purposes significantly improved the reliability of those evaluations and controlled for the undesired effects of those simple and concrete aspects of the communication skills evaluation process. Given the data obtained in this study, it should be obvious that more systematic instructional research efforts should be devoted to the development and utilization of such behavioral objectives.

Finally, it must be pointed out that in spite of the success of the hierarchical regression model for SLUS and the canonical correlation analysis, it should not be assumed that these models are generalizable to other communication courses or noncommunication classes. This is not the fault of the sample selected for use in this study nor of the analytic procedures employed. Rather, it is a function of the artificially static nature of the correlation matrices and the dynamic characteristics of human systems. All other things being equal, it would be highly unlikely to exactly reproduce the matrices upon which the hierarchical regression and canonical analyses were based unless the reproduced matrices are identical with the
original. The magnitude of contribution of individual variables to the total system will vary. In addition, classrooms, as do all human systems, change and alter their structure over time (cf., Rogers & Kincaid, 1981). The results of the canonical correlation provide only a single static glimpse into the dynamic characteristics of classroom structures. Thus, although the overall model investigated in this study was confirmed, its utility can only be determined by examining the stability of its generic subsets across time in classroom environments.

Summary

The present study successfully demonstrated the clear relationships among organizational communication structures and learning outcomes in college level speech communication courses. While distributions of criterion variables caused some problem in prediction, the results demonstrate the viable utility of this model. Future research should seek to improve evaluations of communication skills and examine these relationships over time.

Hurt, H. T. & Sawyer, G. The relationship between social structures and cognitive skills attainment in basic communication courses. Manuscript in preparation, North Texas State University, 1982a.


APPENDIX A

SAMPLE QUESTIONNAIRE

To the Student:

I need your help in assessing your communication behavior tendencies and perceptions of your instructor and the class to find out what variables mediate as predictors of performance in a basic course. Absolute confidentiality is guaranteed, and any information you desire on what we find will be available to you as long as no one's privacy is invaded.

Thank you for your cooperation.

Sincerely,

John A. Cook
Instructor

Student Number ____________________________ (Cols. 3-9)

Sex ____________________________ male 1
                        ____________________________ female 2 (10)

Classification: Freshman 1
                  Sophomore 2
                  Junior 3 (11)
                  Senior 4
                  Other 5

I have had communication courses yes 1 (12)
                no 2

Please respond to each statement below based on your strength of agreement with that statement by placing a number in the blank beside each statement. Use a five (5) if you strongly agree with the statement, a four (4) if you agree, a three (3) if you are undecided, a two (2) if you disagree, and a one (1) if you strongly disagree with the statement.

Strongly agree Agree Undecided Disagree Strongly disagree

5 4 3 2 1
EASE

(13) _____ I feel speech is not an easy course.

(14) _____ I think it will be a "breeze" to get an "A" in a speech course.

SLUS

(15) _____ I expect to do very well in a speech communication course.

(16) _____ I do not expect to get a very good grade in this speech communication course.

(17) _____ I expect it will be easy for me to perform all kinds of communication activities.

(18) _____ I expect my overall level of achievement of speech skills to be low.

(19) _____ The idea of getting help from a speech teacher in this class scares me.

(20) _____ I would enjoy taking more than one communication course.

(21) _____ If it were possible for me to do so, I would avoid taking a speech course.

(22) _____ I would enjoy using my understanding of communication in a variety of settings.

(23) _____ I think a speech communication course will have a very positive effect on my life.

(24) _____ I think a course in communication will be very practical for me.

(25) _____ I really need a course in communication.

(26) _____ I would like a job in which I can use my knowledge of speech.

(27) _____ Human communication is the most vital activity in our lives.

PRCA

(28) _____ I have no fear of facing an audience.
(29) _____ I look forward to expressing my opinion at meetings.
(30) _____ I look forward to an opportunity to speak in public.
(31) _____ Although I talk fluently with friends, I am at a loss for words in front of an audience.
(32) _____ My hands tremble when I try to handle objects in front of a group.
(33) _____ I always avoid speaking in public if possible.
(34) _____ I am fearful and tense all the while I am speaking before a group.
(35) _____ My thoughts become confused and jumbled when I speak before an audience.
(36) _____ I feel self-conscious when I am called upon to answer a question or given an opinion in class.
(37) _____ I face the prospect of making a speech with complete confidence.

SOCIAL ATTRACTION
(38) _____ I think he/she could be a friend of mine.
(39) _____ It would be difficult to meet and talk with him/her.
(40) _____ He/She just wouldn't fit into my circle of friends.
(41) _____ We could never establish a personal friendship with each other.
(42) _____ I would like to have a friendly chat with him/her.

PHYSICAL ATTRACTION
(43) _____ I think he/she is quite handsome/pretty.
(44) _____ I find him/her very attractive physically.
(45) _____ I don't like the way he/she looks.
(46) _____ He/She is somewhat ugly.
(47) He/She wears neat clothes.

(48) The clothes he/she wears are not becoming.

TASK ATTRACTION

(49) He/She is a typical goof-off when assigned a job to do.

(50) I have confidence in his/her ability to get a job done.

(51) If I wanted to get things done, I could probably depend on him/her.

(52) I couldn't get anything accomplished with him/her.

(53) He/She would be a poor problem-solver.

My speech teacher is

Circle the Number

COMPETENCE

(54) qualified 5 4 3 2 1 unqualified

(55) expert 5 4 3 2 1 inexpert

(56) unreliable 5 4 3 2 1 reliable

(57) believable 5 4 3 2 1 unbelievable

(58) informed 5 4 3 2 1 uninformed

CHARACTER

(59) cruel 5 4 3 2 1 kind

(60) unsympathetic 5 4 3 2 1 sympathetic

(61) unselfish 5 4 3 2 1 selfish

(62) sinful 5 4 3 2 1 virtuous
SOCIABILITY

(63) friendly 5 4 3 2 1  unfriendly
(64) good-natured 5 4 3 2 1  irritable
(65) gloomy 5 4 3 2 1  cheerful
(66) sociable 5 4 3 2 1  unsociable

COMPOSURE

(67) composed 5 4 3 2 1  excitable
(68) calm 5 4 3 2 1  anxious
(69) nervous 5 4 3 2 1  poised

EXTROVERSION

(70) aggressive 5 4 3 2 1  meek
(71) timid 5 4 3 2 1  bold
(72) silent 5 4 3 2 1  talkative
(73) extroverted 5 4 3 2 1  introverted

Strongly Agree   Agree   Undecided   Disagree   Strongly Disagree
5                4        3        2         1

COURSE SATISFACTION

(74) _____ My course work is fascinating.
(75) _____ My course work is not very useful.
(76) _____ My course work is challenging.
(77) _____ My course work does not give me a sense of accomplishment.
### APPENDIX B

**ONE-WAY ANALYSES OF VARIANCE FOR INDEPENDENT VARIABLE SEX**

<table>
<thead>
<tr>
<th>Dependent Variable</th>
<th>F</th>
<th>Probability</th>
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<tbody>
<tr>
<td>PRCA</td>
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<tr>
<td>Physical Attraction</td>
<td>3.55</td>
<td>.06</td>
</tr>
<tr>
<td>Social Attraction</td>
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<td>.46</td>
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<tr>
<td>Task Attraction</td>
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<td>.48</td>
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<tr>
<td>Competence</td>
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<td>.94</td>
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<td>Sociability</td>
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<td>.24</td>
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<tr>
<td>Composure</td>
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<tr>
<td>Extroversion</td>
<td>.67</td>
<td>.41</td>
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<td>Character</td>
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BIBLIOGRAPHY

Books


Articles


Publications of Professional Organizations


Unpublished Materials


Hurt, H. T. & Sawyer, G. The relationship between social structures and cognitive and skills attainment in basic communication courses. Manuscript in preparation, North Texas State University, 1982.


