
Retrospective Theses and Dissertations

1976

An Experimental Investigation of the Effects of Sex and Status on Proxemic Behavior in Dyadic Interviews

Nanelle Davis Russ

University of Central Florida, nanelle.russ@gmail.com



Part of the [Communication Commons](#)

Find similar works at: <https://stars.library.ucf.edu/rtd>

University of Central Florida Libraries <http://library.ucf.edu>

This Masters Thesis (Open Access) is brought to you for free and open access by STARS. It has been accepted for inclusion in Retrospective Theses and Dissertations by an authorized administrator of STARS. For more information, please contact STARS@ucf.edu.

STARS Citation

Russ, Nanelle Davis, "An Experimental Investigation of the Effects of Sex and Status on Proxemic Behavior in Dyadic Interviews" (1976). *Retrospective Theses and Dissertations*. 253.

<https://stars.library.ucf.edu/rtd/253>

AN EXPERIMENTAL INVESTIGATION OF
THE EFFECTS OF SEX AND STATUS
ON PROXEMIC BEHAVIOR IN
DYADIC INTERVIEWS

BY

NANELLE DAVIS RUSS

B.A., Florida Technological University, 1972

THESIS

Submitted in partial fulfillment of the requirements
for the degree of Master of Arts in Communication
in the Graduate Studies Program of the
College of Social Sciences
Florida Technological University

Orlando, Florida
1976

172788

TO ALL MY CHILDREN

ACKNOWLEDGMENTS

This thesis would never have been completed without the assistance of Committee Chairman, Dr. Albert Pryor, who gave unselfishly of his time, talents and understanding. My appreciation also goes to Committee members, Dr. K. Phillip Taylor who provided the study idea and to Dr. Edgar Wycoff for his interest in this project.

My thanks to Susan Kallina for her patient proof reading of the thesis drafts.

I am indebted to my friend Kathy Nathan for her assistance in the experiment and encouragement throughout this endeavor.

Finally, my gratitude to James M. Russ for his generosity and support.

TABLE OF CONTENTS

	Page
DEDICATION	ii
ACKNOWLEDGMENTS	iii
LIST OF TABLES	v
Chapter	
I. INTRODUCTION AND RATIONALE	1
Territoriality and Personal Space	
Status and Personal Space	
Purpose and Hypotheses	
II. METHOD	23
Subjects	
Materials	
Design and Analysis	
Operationalization of Variables	
Procedure	
III. RESULTS	29
Tests of Hypotheses	
Tests of Angle Data	
IV. DISCUSSION	33
Summary	
V. APPENDIX	41
A. Semantic Differential Scales	
B. Resumes	
VI. REFERENCES	51

LIST OF TABLES

Table		Page
1.	The Design	25
2.	Distance and Angle Means of Chair Place- ment by Males and Females	29
3.	Main and Interaction Effects of Sex and Status on Distance	30
4.	Main and Interaction Effects of Sex and Status on Angle	31

CHAPTER I

INTRODUCTION AND RATIONALE

"Communication, like an iceberg, is 90 percent beneath the surface" (Schrank, 1970). Schrank explained that what we say is above the surface, what we mean is below the surface and failure to grasp the meaning beneath the surface results in communication breakdown. This communication beneath the surface was researched extensively by Hall and was designated by him as the "hidden dimension" (1966) and the "silent language" (1959).

Territoriality and Personal Space

Hall's pioneering investigations of personal space sparked studies of many aspects of human communication during the 1960's, including distance and personal space (Maclay & Knipe, 1972). It is with this area of research that the present study is concerned, particularly the effects of status and sex on personal space and distance in dyadic interactions.

Man's perception of his personal space can be compared to a basic concept in the study of animal behavior, territoriality, defined by Hall as "behavior by which an

organism characteristically lays claim to an area and defends it against members of its own species" (1966, p. 7).

Territoriality was first described in 1920 by the English ornithologist H. E. Howard. He recognized events that had been noted by naturalists as far back as the seventeenth century as manifestations of territoriality (Hall, 1966).

In 1913 the Danish zoologist Thorleif Schjelderup-Ebbe did the first scientific study of dominance in an animal society (Maclay & Knipe, 1972). He noticed that one of his hens consistently drove the rest of the flock away from choice pieces of food. Observation over a period of time showed that a network of superior-inferior relationships existed in which every individual knew its proper place. Schjelderup-Ebbe described this social system as a "pecking order." The fact that the hens were cooped up made it difficult to determine how the chickens might behave in a less restricted situation. Konrad Lorenz, in the early 1930's, studied a jackdaw colony in its natural environment and found the social hierarchy as rigid as that of domestic fowls (Maclay & Knipe, 1972).

Ethologists used the pecking order as the basic model of social organization to examine the dominance system of man's closest animal relatives, the anthropoid apes. The studies have been varied and complex, but some are concerned with physical proximity. The hier-

archy of the baboon society may be determined by watching the animals move past one another. Who moves out of the way for whom and which animal offers nonverbal apologies when two baboons pass too close, indicate the dominant members. This acute sensitivity to the threat of physical closeness results in a system of personal space. Further, Maclay and Knipe stated, "Research now indicates that man is at least as sensitive to personal space as are his animal relatives ,.." (1972, p. 50).

Horowitz, et al., (1965) referred to personal space as the "body-buffer zone" with the size, shape and penetrability of the zone varying with the individual. Another study by Little (1965) defined personal space as the area immediately surrounding the individual and suggested this space be considered as a "series of concentric globes of space, each defining a region for certain types of interaction" (p. 238). Sommer (1959) distinguished personal space from territory in several ways. Personal space is carried around, the boundaries are invisible and the body is its center. Territory is described as relatively stationary, with boundaries which are marked and visible to others, and the center of the territory is usually the home of the man or animal. Leibman (1970) viewed personal space as a form of territoriality but not as a physical area that is staked out or claimed. She described it as "unique in that it

moves with the individual, is highly elastic and rapidly altered" (p. 209),

- Hall (1966) noted that "man senses distance as other animals do. His perception of space is dynamic since it is related to action -- what can be done in a given space -- rather than what is seen" (p. 108). Hall developed a classification system for measuring distances in relation to man. This system was based on his personal observations of both animals and man. He designated four zones with a far and a near phase:

1. (a) Intimate Distance --- Close Phase
The distance of love-making and wrestling, comforting and protecting,

(b) Intimate Distance --- Far Phase
Six to eighteen inches. The torso and thighs do not touch but one can easily touch, whisper and feel the other's breath.

2. (a) Personal Distance --- Close Phase
One and a half to two and a half feet. At this distance one can hold or grasp the other.

(b) Personal Distance --- Far Phase
Two and a half to four feet. It extends from a point that is just outside easy touching distance to a point where two people can touch fingers if they extend both arms. This is the distance for discussing subjects of personal interest and involvement.

3. (a) Social Distance -- Close Phase
Four to seven feet. Impersonal business occurs at this distance.

(b) Social Distance -- Far Phase
Seven to twelve feet. Formal business and social discourse is conducted at this distance.

4. (a) Public Distance -- Close Phase
Twelve to twenty-five feet. At this distance

a subject can take evasive or defensive action if threatened.

(b) Public Distance --- Far Phase
Twenty-five feet or more. Thirty feet is the distance that is automatically set around important figures.

Hall specified (1959, 1966) that his classification system was applicable to the United States and was not cross-cultural. To explain the hypothesis behind his proxemic classification system Hall said, "It is the nature of animals, including man, to exhibit behavior which we call territoriality . . . the specific distance chosen depends on the transaction; the relationship of the interacting individuals, how they feel, and what they are doing" (1966, p. 120).

Using Hall's classification system, Little (1965) predicted that interaction between two persons classified as friends, acquaintances, or strangers would take place at an increasing rank order of distance. He found that interaction distances in a dyad are markedly influenced by the degree of acquaintance of the two people. The effect was the same for line drawings, stylized silhouettes and for actual interactions. His study found the setting in which the meetings took place also influenced the perceived distance between two people. Maximum distances were chosen for waiting rooms, minimum distances for street corners or other open air settings. Little's results showed that Friends' interaction was in

the zone of Intimate Distance - Far Phase; the Acquaintances' interaction in the Personal Distance - Close Phase; with Strangers in Personal Distance - Far Phase. Little commented that these dyadic interactions seem reasonable for a presumably amiable social nature, since they do not fall within Hall's distances for impersonal business. Although it was not Little's purpose to examine sex differences in spatial behavior, he did note a tendency for males and females to respond differently to acquaintanceship and setting.

Based on laboratory studies, Mehrabian (1969) developed a distance classification system which is somewhat more simplified than Hall's. He listed the personal space distances for cultural norms in the United States within the limit of six to eighteen inches for intimate-interpersonal interaction, thirty to forty-eight inches for casual-personal interaction, seven to twelve feet in social-consultative situations and thirty feet for public interaction situations. Subsequently, researchers have based predictions using both of these models.

Sommer supported Hall's explanation when he found that spacing of individuals in small groups followed from the "personality and cultural backgrounds of the individuals involved, what they were doing and the nature of the physical setting" (1969, p. 68). This theory has been supported by a number of studies (Adler & Iverson,

1974; Argyle & Dean, 1965; Gottheil, Corey & Paredes, 1968; Horowitz, et al., 1964; Leibman, 1970; Little, 1965; Lyman & Scott, 1967) and is generally accepted by social scientists today.

Leibman (1970) believes there is enough evidence to support the statement that "personal space is learned and is under the influence of individuals and social norms" (p. 213). Scott tested children in kindergarten through third grade to determine at what level they could correctly identify the four interpersonal distances (1974). He designated intimate distance (18 inches), personal distance (18 inches to four feet), social distance (four to twelve feet) and public distance (beyond twelve feet). The results showed that awareness of informal space is well established by the time a child is in the third grade. Scott's results also indicated that awareness of each of the four levels of informal space increases with grade level. From the information gathered, Scott concluded that children first become aware of the meaning of public distance, then of intimate distance and finally and more slowly of the intermediate distances.

Pedersen (1973) used as subjects eleven males and eleven females in each of six elementary school grades to study the developmental trends in personal space. He found that "across all grade levels and stimulus persons, females placed the profile representing them significantly

closer to other figures than males did" (p. 6). His results indicated that this difference emerged and seemed to be well established by the third grade level.

Pedersen commented that "the social learning factors that produced the larger personal space of males toward other people by the third grade are unknown" (p. 7).

In 1975, Tennis and Dabbs selected subjects from among students in the first grade through college to test interpersonal distances preferred for different interactions. Results of this study indicated that children's personal space preferences continue to develop through the fifth, ninth, and twelfth grades, and college level. Twenty males and twenty female students from each of the first, fifth, ninth, and twelfth grades, and from the sophomore class at an urban university were subjects for the study. The subjects were tested in pairs. One subject was told to stand at a designated point on a tape which had been placed on the floor. The other subject was instructed to begin walking slowly toward the stationary partner until he said, "Stop!" Then the subjects changed roles and the procedure was repeated. The subjects were then given a paper and pencil test in which they marked where they would want a partner to stop for friendly conversation. Boys and girls seemed to begin with similar personal space preferences, but before puberty they began to choose the distance pattern of adults. This finding

supported research, such as that of Pedersen (1973), and Little (1965) that males prefer greater interpersonal distances than females. Tennis and Dabbs indicated that older males are aware of society's attitude toward physical closeness between adult males; however, first grade males have not yet internalized these norms and maintain closer distance than pairs of first grade females.

We know when another person is too close or too far away for a given interaction but it is difficult to explain how we know. Hall (1966) suggested that physical distance-sensing occurs outside awareness. Little agreed that man's personal space appeared to be completely outside his awareness although there is considerable evidence that it influences his behavior (1965). Little said the sideways shuffle when someone joins the bus queue on the curb, is completely "unconscious" but the spacing is almost as neat as that of sparrows on a telephone line. He also mentioned circumstances we have all experienced. If a friend stands too far away during an amiable discussion, we become a bit anxious or hurt and if a stranger stands too close we may be resentful. Little gives examples which show that even our language contains words and phrases using spatial terms such as "close" friend, or "distant" person. We also keep some people at "arm's length" and think of others as "aloof" or "withdrawn"

or "pushy."

Baxter (1970) concurs in the opinion that the process of spacing is outside awareness for the most part and is usually smooth and rapid in its operation. His results indicated that both participants in an interaction seem to be contributing to establishing and maintaining their desired spatial arrangement. Baxter observed that as one member leaned too close, the other smoothly compensated and when one member moved too far away, the other quickly closed the gap.

The use of spatial arrangements as an independent variable in small group research can be traced to Bernard Steinzor. In 1949, while investigating the effect of the intent of verbal behavior in face to face groups, he observed that a person is more likely to interact with another if he is in a position to see what the other does as well as to hear him. The behavior prompted Steinzor to hypothesize that "seating arrangement, in a small face to face group helps to determine the individuals with whom one is likely to interact" (p. 552). Although Steinzor did not have the benefit of the studies in nonverbal behavior, he knew that individuals were responding to something more than the verbal message. The effect of personal space on seating arrangements has, since Steinzor, been the subject of much research. Sommer (1967) devoted an entire study to the review of the literature in this area. Other sum-

maries are also available (Argyle & Kendon, 1967; Mehrabian, 1969).

In monkey societies we observe that the most dominant monkey has more space than any subordinate and if a subordinate wants to intrude on the territory of his superior, he must humble himself or he risks retaliation. Female monkeys are normally subordinate to the males and are the most affiliative members of the troop (Maclay & Knipe, 1972). In the human species we observe that the person with the highest status also has more space. Women in our society are seen as subordinate to the male and are the most affiliative members of the adult human species.

Status and Personal Space

Morse (1969) observed that social status in American life is conferred by sex, age, color, and national origin. Women are among the groups that Morse refers to as low status or "inferior" status and "outsiders." The woman as a low status person is mentioned by Dohrenwend and Dohrenwend (1969), whose data suggest that males are treated more respectfully than females in our society. Walstedt (1974) confirmed that women are "marginals" in our society. The concept of marginality implies superior status of one group and minority status of the other, since the marginal one is stigmatized and excluded from positions of power by the dominant. Walstedt believes that woman

meets the conditions of the marginal concept.

Status, according to Sommer (1969), is expressed physically in ways of behaving. He found that there is a close connection between space and status. High status individuals have more and better space, as well as greater freedom to move about. Status is specifically defined as "the position of an individual in relation to another or others of the same class, social standing, or profession" (Random House Dictionary, 1966).

Haller and Portes (1973) name three dimensions that are universally regarded as bases for status systems: wealth, power and prestige. They believe that modern societies base status primarily on what a person does rather than on who he is. They admit that while occupational status does not exhaust the range of status variation, "it appears as the most representative, summary measure of a person's general social standing within the context of modern societies" (p. 54). Freese (1974) listed occupation, race, sex, age and education level as status characteristics. He found that if people believe an individual possesses desirable characteristics in these categories, they will respond to that person in predictable ways. High status individuals claim and regulate access to larger territories than low status individuals and those who have access to large territories have the advantages of high status (Mehrabian, 1971).

Jackson and Pepinsky (1972) measured the amount of information a subject would reveal in an initial interview. The authors found a tendency for subjects to reveal more to a high status interviewer than a low status interviewer. It has also been established that the amount of eye contact is an indication of how an individual perceives the status of another. Efran (1968) investigated effects of eye contact and status and concluded that the communicator has greater eye contact with his addressee if the latter is considered to be approving of the communicator and is perceived as having high status. This finding was substantiated by Mehrabian and Frier (1969) when they found that eye contact is moderate with very high status addressees, maximum with moderately high status addressees, and at a minimum with very low status addressees. It is generally accepted that affiliative persons look at others more and longer.

Mehrabian and Diamond (1971) and others have shown women are more affiliative than men. The hypothesis that women look at others more and for longer periods has received support in several studies (Exline, Thibaut, Brannon, & Gumper, 1961; Kendon & Cook, 1969; Mehrabian, 1969). Mehrabian and Diamond (1971) found that any effects due to distance may be confounded by sex or affiliative tendency. One result indicated that females exhibit more affiliative behavior and attain higher scores on measures of af-

filiation. They reported that males sat at an average distance of 5.60 feet from others, while females sat significantly closer at 5.11 feet. White (1975) indicated that neither status nor sex affected interpersonal distance consistently. The only clear outcome of his study was that females sat closer to confederates than males, which supports the Mehrabian and Diamond finding.

Mehrabian (1969) suggests a greater tendency for subjects to use an arms-akimbo position with low status addressee than with high status addressee. The study also showed that in standing and in seated positions subjects are more relaxed when communicating with low status addressees than when communicating with high status addressees. In a later study, Mehrabian (1971) observed that if an elected official receives a visitor with a desk between the two, many visitors will feel ill at ease and may become unfavorably aware of a covert stress on the difference in status. Limiting the immediacy, or closeness, of contact is a very effective means of conveying higher status. Another clue to status differences is the manner in which a person behaves when he enters the room of the person he is visiting. If the status differential is great, he awaits permission before moving closer to the higher status person. He will not sit until invited to do so, and if there is more than one visitor's chair, he will tend to sit at a distance from his host (Lott & Sommer,

1967). However, if the two are intimate or are peers the person entering will feel free to sit closer to the person he visits (Mehrabian, 1971).

There is another way to recognize how status consideration affects our behavior: the higher status person determines the amount of immediacy permitted in his interaction with others (Mehrabian, 1971). The person with hire-fire power, has highest status in a group. The supervisor may invite a typist to lunch, a foreman may invite a machinist for a drink or a corporation president may invite a junior executive to a cocktail party, but as a general rule the lower ranked person does not initiate greater immediacy. A junior employee would not invite the president of the corporation for dinner; however, if the president issued an invitation to the junior employee he would be under heavy obligation to accept the invitation.

The influence of status on the performance of individuals in small groups was examined by Moore (1968). His subjects were women, randomly selected from the same California community college. In the low status condition, the community college woman thought she was in a group of women from Stanford University. In the high status condition, the community college woman believed she had been assigned to a group of high school women. The subjects who perceived themselves as having high status had confidence

in their choices when there was disagreement between themselves and lower status partners in a discussion. Subjects who perceived themselves as having low status showed a greater tendency to defer to the choices made by high status partners.

To re-examine the effects of client sex and counselor sex on self-disclosure as well as the status of the interviewer, Brooks (1974) hypothesized that "(a) Females would be more disclosing than males. (b) Subject-interviewer pairs containing a female would result in greater disclosure than all male pairs. (c) Subjects would be more disclosing when the interviewer was presented as a high status rather than a low status person" (p. 470). Forty male and forty female undergraduate students were used as subjects. Brooks manipulated the status condition in three ways. First, each subject was asked to read a paragraph describing his interviewer. Next, a receptionist praised the high status interviewer and was indifferent about the low status interviewer. Third, interviews for the high status condition were held in nicely furnished counselor offices; low status interviews were held in sparsely furnished rooms located in the basement of the building. In the discussion of her findings, Brooks stated that subjects were more disclosing in dyads containing a female.

Shaw (1971) suggested that one of the important

functions of spatial relations among persons is the establishment and communication of status differences. An interesting aspect of status and spatial arrangement emerged from a study by DeLong (1970). Subjects were observed over a period of twenty-three sessions as they participated in discussions. They were seated at a rectangular table with a designated leader at the "head of the table." The student sitting at the opposite end of the table emerged as a secondary leader. The designated leader was aligned with the students on his right. Subgroups emerged showing that subjects sitting to the left of the secondary leader and farthest removed from the designated leader's right, were perceived by themselves and the rest of the group as having low status. DeLong believes this is consistent with the folk association of "right-hand with goodness and dominance, and left-hand with evil and submissiveness" (p. 184).

That men and women respond differently concerning personal space and distance was the subject of a study by Jourard and Friedman (1970). The dependent measure was duration of self-disclosure on a number of personal topics varying in intimacy level. As distance decreased, the female subjects reduced their self-disclosure, while the males showed no significant increase or decrease. The experimenter was male. In 1959, Sommer did a series of studies in personal space. In one, he employed a "decoy,"

a person who was a confederate of the experimenter and who was already seated in a particular chair before the subject entered the room. The subject was asked to walk over, sit down and discuss a topic with the decoy. Decoys and subjects of both sexes were used in various combinations.

† Sommer found that females will sit closer to a female decoy than to a male decoy, and this is closer than males will sit to decoys of either sex. One finding by Leibman (1970) was that interpersonal distance seemed to be affected by the sex of the confederate. There were greater distances in relation to male confederates and smaller distances in relation to female confederates.

In 1967, Lott and Sommer studied Seating Arrangement and Status. In order to establish levels of status, they asked 103 upper-level students to draw a dominance hierarchy. Ninety-three usable drawings were obtained, 64 from females and 29 from males. Many females put boyfriends or husbands above them on the hierarchy, but no male ever put a girlfriend or wife above him. The only group that students placed below themselves were lower classmen, particularly females, and students doing poorly in school. Based on all information in the hierarchies, Lott and Sommer decided to use "a professor" as higher status figure and "a freshman who is doing poorly in school" as low status, and "another student in your class" as equal status. The first questionnaire was administered

to 294 students. They were asked where they would sit if they arrived in the school cafeteria first and were to be joined by another person of varying status conditions. Two-thirds of the respondents placed themselves in one of the end chairs regardless of the status level or sex of the other person. The second questionnaire was the same as described before, except that the person the subject was to meet arrived at the table first. The subject was asked where the other person would sit and where he would sit. Subjects overwhelmingly placed the other person in an end chair with the respondent selecting an end chair for himself directly opposite the other person. A third questionnaire containing the diagram of a small square table surrounded by four chairs was given to 296 students. The same three status levels were used. Subjects chose to sit opposite the low and high status position, and corner to corner with equal status positions. The students put more distance between high and low status than between peers.

Lott and Sommer continued with the experiment. In a small room they placed a rectangular table with three chairs on each side and one chair at each end. A sweater was placed on the back of the far end chair and a notebook placed on the table in front of it to indicate where the interviewer would sit. The status of the interviewer was indicated to the subject, who was subsequently in-

structed to enter the room, sit down, and await the interviewer. Here again, the peers were arranged closer together than individuals of high or low status.

Haase and DiMattia (1970) examined counselor, administrator, and client preferences for four proxemic seating arrangements in a dyadic interaction. The role orientation of the three groups may explain the findings. The role of the counselor and administrator differ with respect to dealing with the individual. The table intervening position was preferred most by administrators; counselors preferred no table intervening; clients preferred to be positioned across the corner of the desk from the counselor, and the desk intervening arrangement with administrator. The administrator wished to maintain a dominant position and was perceived as dominant by the client because both chose the same seating arrangement. On the other hand, the counselor chose a different seating arrangement than the client. This indicates that a client may not be as comfortable with a counselor as the client may desire, preventing successful interaction.

Pellegrini and Empey (1970) examined the relationship between distance and angle of chairs. They used sixty subjects (30 female and 30 male) who were told they were participating in a study to examine the process of communication between two people. Each subject was instructed to describe himself to a listener (of the same sex). The

distance and angle at which the subject placed his own chair in relation to the listener was measured. Pellegrini and Empey found that female subjects sat significantly closer to female listeners than did male subjects to male listeners. The results showed that "displacement away from direct, face-to-face orientation with listener was also significantly greater for females than for males" (p. 70).

Purpose and Hypotheses

This study proposed to investigate and describe the results of dyadic interview situations. Specifically, the experiment was designed to examine the effects of sex and status on two aspects of personal space behavior, distance and angle.

Two directional predictions were formed. First, on the basis of Mehrabian and Diamond (1971), Pedersen (1973), and Tennis and Dabbs (1975) it was predicted that female subjects would seat themselves at smaller distances from their interviewer, regardless of sex, than would male subjects. Secondly, the results of the status manipulation were expected to conform to those of Lott and Sommer (1967) and Mehrabian (1971) who reported smaller distance between peers than between subjects of unequal status.

Sufficient data on which to make predictions regarding angle as a function of sex and status is not yet available.

Since pilot study observation indicated wide variation in chair angles, it was decided to explore angle as a second dependent measure.

CHAPTER II

METHOD

Subjects

A total of 165 introductory speech students at Florida Technological University participated in this study as a part of their course requirement. Sixty-nine of the students from three speech classes were assigned to a pilot test group to validate the status manipulations. The remaining 48 male and 48 female students from five different speech classes were randomly assigned to one of the eight treatments in the actual experiment. Subjects were tested individually.

Materials

The experiment was conducted in a small room in the Humanities and Fine Arts Building. The room had no windows, only one door and a fluorescent lighting fixture suspended from the ceiling. Two chairs were placed in the room, one on top of the other, against the wall opposite the door. After each trial, a Minolta ST 101 camera was used to record the angle of

the chairs. The experimenter stood on a three-step kitchen stool to take the photographs from a predetermined spot. All photographs were taken with Kodak Tri-X Black and White film.

A resume, designed to produce the perception of higher or equal status was prepared for each interviewer. This resume was based on a model used by Brooks (1974). The high status resume contained praise and information about degrees, honors and publications of a male and a female professor. The equal status resume consisted of information to portray a male and a female high school student. A series of semantic differential scales were used to test the subjects' perception of the status of the interviewers. A copy is included in Appendix A. Index cards (5 x 7) were used to record the following information: the numerical sequence of the subjects; sex and status of the interviewer; the distance and angle of the chair placement; and whether or not the subject knew the name of his or her interviewer.

Design and Analysis

The experiment involved three independent variables in a 2 (sex of interviewee), X 2 (sex of interviewer), X 2 (status of interviewer) design. The treatments are presented in Table 1.

Table 1
The Design

Interviewees	Interviewers			
	High Status		Equal Status	
	Male	Female	Male	Female
MALES	Dr. Roberts	Dr. Karlson	Paul Andrews	Margie Davis
FEMALES	12*			

*Number of subjects per cell

Operationalization of Variables

A pilot sample of 69 subjects completed a series of semantic differential scales designed to validate the two levels of status. The scales, which were buried in a longer list of bipolar adjectives were: High status - low status; important - unimportant; prestigious - disreputable. The complete questionnaire is presented in Appendix B. The results of a t test verified that the researchers (Dr. Roberts and Dr. Karlson) were attributed with higher status than the high school students (Margie Davis and Paul Andrews).

Precautions were taken to insure that subjects in the eight treatments had correctly received the information as to who their interviewer would be.

Shortly after the subject had read the resume, the experimenter, pretending she did not recall which interviewer had been assigned the subject, asked the subject

the name of his or her interviewer. If the subject did not respond accurately, the experimenter, glancing at the resume, informed the subject of the interviewer's name. Approximately 5% of the subjects required this prompting.

Distance was measured in actual feet and inches with the use of a metal retractable tape from a mark in the center of one chair to a mark in the center of the other chair. The photographs of the angles of the chairs were measured by an undergraduate engineering student using a protractor.

A 2 x 2 x 2 analysis of variance was performed for both the angle and distance data.

Procedure

Subjects were met by a confederate as they stepped from an elevator in groups of three, at intervals of approximately fifteen minutes. Each subject was given a resume by the confederate and they were instructed not to discuss the resume among themselves. The resume contained: (a) the topic to be discussed, i.e., student attitudes about the proposed cut in classes at Florida Technological University as a money saving device; (b) a request to read the introduction of his or her interviewer; (c) an introduction of interviewer. In

the equal status condition, the name of a high school student was given and a statement that he or she was conducting interviews for a course requirement. The high status condition employed titles, (Dr. Karlson and Dr. Roberts) and information that they were conducting interviews to gather information to use in a book they were writing.

The experimenter met each subject individually. During the time required to reach the room, the experimenter explained to each subject that although there was a lack of space available at the University, a room for interviews had been obtained only a few minutes previously. The status validation was then implemented, after which the subject was advised that his or her interviewer was now with another student. Next, the subject was instructed to go into the room and place the chairs for the interview while the experimenter went to tell the interviewer that another student had arrived and was waiting in the newly obtained room.

The experimenter waited for one minute before returning to the room with the camera, the kitchen stool and the 5 x 7 cards. Upon entering the room, the experimenter explained to the subject that there would be no interview and that the subject had completed his part of the experiment by placing the chairs. It was

explained that the data necessary for the study were the angle and distance separating the chairs. Each subject was asked to hold the end of the metal tape on a marked spot in the center of one chair, while the experimenter measured the distance to the mark in the center of the other chair. The subject was then asked to stand by the door while the experimenter took a photograph of the chairs. Finally, the subject was thanked for his or her cooperation, cautioned not to discuss the experiment with others, and asked to leave by a back stairway so as to avoid other subjects who were waiting to be interviewed. The film was processed into 2 1/4" x 3 1/4" prints. Each photograph was matched to each subject according to the number sequence on the subject cards and photographs. The photographs are on file in the Communications Department of Florida Technological University.

CHAPTER III

RESULTS

The mean distances and angles at which male and female subjects placed chairs in all interview situations are presented in Table 2.

Table 2

Distance and Angle Means of
Chair Placement by Males and Females

	High Status		Equal Status	
	Distance	Angle	Distance	Angle
<u>Male Interviewer</u>				
Female Ss	43.14 ^a	86.95 ^b	47.63	80.79
Males Ss	49.98	72.35	50.32	71.62
<u>Female Interviewer</u>				
Female Ss	46.65	84.83	45.92	64.08
Males Ss	52.57	61.35	50.38	75.12

^adistance in inches

^bdegree of angle

An inspection of the means indicates that male inter-

viewees selected greater distances than female interviewees in all four possible comparisons. The overall mean distance obtained for male subjects was 4.23 feet compared to 3.82 feet for females.

Test of Hypotheses

An analysis of variance was used to investigate the possible interviewee sex main effect as well as the impact of sex and status of interviewer, and interaction effects. The results are presented in Table 3.

Table 3

Main and Interaction Effects
of Sex and Status on Distance

Source	SS	df	MS	F
Sex of Interviewee (A)	595.01	1	595.01	8.05*
Sex of Interviewer (B)	29.70	1	29.70	
Status of Interviewer (C)	5.42	1	5.42	
A X B	1.09	1	1.09	
A X C	47.04	1	47.04	
B X C	89.71	1	89.71	1.21
A X B X C	10.93	1	10.93	
Error (within)	6506.54	88	73.94	

* $p < .01$.
 $F_{.99} (1-88) = 6.94$

The first prediction that female subjects would seat themselves nearer the interviewer, regardless of sex, than would male subjects was supported. The F ratio was significant beyond the .01 level. None of

the remaining main or interaction effects approached significance. Thus, the second prediction that male and female subjects would seat themselves nearer peers than to high status interviewers was not substantiated. In fact, the overall mean distances of the four equal and the four high status conditions are almost identical, 4.00 feet for the high status interviewer and 4.04 feet in the peer treatment.

Test on Angle Data

An analysis of variance was also used to explore main and interaction effects of sex of interviewee and sex and status of interviewer on angle. The results are displayed in Table 4.

Table 4

Main and Interaction Effects of Sex and Status on Angle

Source	SS	df	MS	F
Sex of Interviewee (A)	1963.84	1	1963.8	1.39
Sex of Interviewer (B)	1038.83	1	1038.8	
Status of Interviewer (C)	289.79	1	289.8	
A X B	193.25	1	193.3	
A X C	2392.03	1	2392.0	1.69
B X C	0.04	1	0.04	
Z X B X C	1267.3	1	1267.3	
Error (within)	124320.5	88	1412.73	

$F_{.95} (1-88) = 3.95$

There were no main or interaction effects, or any discernable trends indicated.

From Table 1, it can be determined that the mean angle for all conditions involving female subjects was 79.41° , which was slightly higher than the overall mean of 70.11° recorded for male subjects. Male subjects mean angle scores ranged from 61.35° in the high status female interviewer condition to 75.12° in the equal status female interviewer treatment. Female subject means ranged from 64.08° in the equal status female condition to 86.95° in the high status male manipulation. Despite these relatively sizable fluctuations, appropriate levels of significance were not obtained since within group variation was also quite large.

CHAPTER IV

DISCUSSION

^ The prediction that female subjects would seat themselves nearer their interviewers, regardless of sex than would male subjects, was supported. In this study, without table or desk intervening, the mean distance obtained for male subjects was 4.23 feet compared to 3.82 feet for females. This supports the work of Mehrabian and Diamond (1971). Using the table-intervening situation, these researchers found that males sat an average distance of 5.60 feet from others, while females sat significantly closer at 5.11 feet. As early as 1959, Sommer had discovered that females would sit closer to interviewers of both sexes than would males. Other studies (Leibman, 1970; Pelligrini & Empey, 1970; Pedersen, 1973; Tennis and Dabbs, 1975; White, 1975) have supported the finding that females tend to sit closer to others than males. Because of the consistency of these findings, and since results have been replicated with subjects ranging from grade three to college level, it seems reasonable to suggest these findings are somewhat generalizable.

The second prediction that male and female subjects would seat themselves nearer their peers than higher status interviewers was not supported. One possible explanation for this surprising result is that subjects actually perceived the high school interviewers as low status persons rather than as peers. It was initially felt that since college freshmen were separated by only one school year from the high school student interviewers, they would perceive the interviewer as approximately a peer. However, if subjects attached a lower level of status to these interviewers, the second hypothesis would be unjustified. That is, subjects should place greater distance between themselves and low status interviewers than between themselves and equal status interviewers. Such a prediction would be consistent with that of Lott and Sommer (1967), who found that subjects sat closer to persons perceived as peers than either lower or higher status persons. Further, Mehrabian (1971) reported that regardless of the high or low status of one individual, if the two people involved in an interaction were friends, the physical distance between the two would be the same [closer] as that for peers.

Pilot test results validated that high status interviewers were attributed significantly higher status than the low status interviewers. However, since the low

status interviewers received a mean rating of 4.1 on the seven-interval scales, it seemed inappropriate to label them low in status. Based on these data, the decision was made to refer to the two levels of status as high and peer. However, the results of the experiment indicate that the subjects may not have perceived the "peer" interviewer as an equal. It is possible that in the paper and pencil validation, subjects were hesitant to rate the high school seniors as low in status, when they actually did perceive them as low. LaPiere (1934) concluded that people sometimes respond in one way on a covert measure of attitude, but in a quite different manner when faced with real life situations. The disparity between results obtained between covert and overt measures of attitude is commonly referred to as the attitude-behavior discrepancy. According to Rokeach (1968), a stated attitude is a function of an interaction between one's attitude toward the object and his attitude toward the situation. To the extent that the situation varies across observations of attitude these stated attitudes may also be expected to vary. In the current study, subjects may have experienced some level of evaluation apprehension over indicating that they perceived the high school student as having lower status than themselves. Yet, their

behavior indicates that they did perceive the high school student as having lower status.

The disparity of chair angles observed during the pilot study was the basis for exploring this area. However, none of the three independent variables in the experiment emerged as a reliable predictor of the chair angle. Research on chair angles is sparse, although Pelligrini and Empey (1970) did report that females exhibited less preference for face-to-face orientations than did males. Similarly, Mahoney (1974) concluded that women preferred to sit beside another person at a table while men preferred a face-to-face position. However, an even more recent study (Fisher & Byrne, 1975), suggested the opposite; that males feel more comfortable in side-by-side seating and females prefer face-to-face seating. Conflicting findings about chair angle preference mandates continued investigations. Some potentially relevant factors to be considered in the examination of chair angles are the variables of sex and status and also the relationship between the individuals participating in the interaction. Perhaps observations of actual interview and counseling situations over a period of time would produce more realistic information for use in bringing about greater understanding of the impact of nonverbal behavior on verbal communication.

Problems arise during an experiment that do not become apparent even during a pilot study. A number of improvements in the implementation of the current experiment should accompany any replication. Although history was held to a minimum by processing all 96 subjects in one day, there were disadvantages to this assembly-line approach. At times the experimenter felt somewhat rushed, and may have failed to maintain the initial methodical pace. Further, the confederate may have become too fatigued to maintain careful consistency in her behavior throughout the experiment. Fatigue of both experimenter and confederate may have resulted in the sending of negative nonverbal signals to the subjects. Fortunately, the random assignment of subjects to conditions which caused all treatment cells to be filled at approximately an equal rate, should have resulted in the randomization across treatments of any such history or maturation biases. It could be argued that the laboratory room was too bare, and was perhaps an unrealistic environment in which to expect an actual interview. Too, the actual presence of interviewers, dressed according to status conditions (Adler & Iverson, 1974), would probably make a more genuine impression upon the subjects. Finally, the camera should be secured to the ceiling in order to avoid human error in handling.

Society's growing concern for greater success in communication within the interpersonal relationships on all levels makes it imperative that research in the area of proxemic behavior continue. It is important to know how people respond to counselors, administrators, and other professionals in interview situations. An interviewer needs information about male and female response to him in the areas of status, sex and relationship. One of the most important aspects may be that of status. In our society, we are conditioned to view the female as less prestigious than the male. For example, a female psychiatrist may be perceived as having different status than a male psychiatrist. This judgment tends to permeate all areas of our society. It is important to know if perception of status is based on the ascribed or achieved status of the individual. Haase and DiMattia (1970), discovered that counselors chose one seating position for clients while clients preferred a different seating arrangement. Haase and DiMattia's findings indicate that misunderstanding and communication breakdown may occur because of lack of information in personal space needs.

The field of study of man's personal space is in its infancy. As in any discipline, only with time, replication, the interest to ask new questions and methodically

test old theories, will new knowledge emerge. It was only the early 1960's when Hall confirmed his assertion that personal space did in fact exist. Trying to convince a Harvard professor of his discovery, Hall inched his chair forward during their conversation, forcing the professor to move his chair away. Finally, Hall called the professor's attention to what was happening thereby gaining his support, and beginning serious study in man's personal space (Maclay & Knipe, 1972). By continuing to observe and determine the significance of man's use of his personal space, we may provide him with ways to communicate more completely and effectively.

Summary

* This study was designed to investigate the effects of sex and status on two aspects of personal space behavior, distance and angle. Support was obtained for the prediction that female subjects would seat themselves at smaller distances from their interviewer, regardless of sex, than would male subjects ($p < .01$).

The second prediction, that subjects would place less distance between themselves and their peers than between themselves and persons of unequal status was not supported. The lack of confirmation was discussed in terms of an interpretation of the status manipulation.

The exploratory part of the study, effects of sex and status on chair angles, produced no statistically significant findings.

APPENDIX A

SEMANTIC DIFFERENTIAL SCALES

M FINSTRUCTIONS

The purpose of this study is to measure the qualifications of various people by having them judged against a series of descriptive scales. In taking this test, please make your judgments on the basis of how qualified they are to YOU.

- IMPORTANT: (1). Place your check-marks in the middle of the spaces, not on the boundaries.
- (2). Be sure you check every scale for every title--do not omit any.

Make each item a separate and independent judgment. Work at a fairly high speed through this test. Do not worry or puzzle over individual items. It is your first impressions, the immediate "feeling" about the item.

RESUME

As a requirement for one of her courses, Margie Davis is conducting interviews in order to learn student attitudes about the proposed cut in classes by this University as a money saving device.

Margie is a student at a local high school and will be entering Florida Technological University next fall.

EVALUATION

high status	1̄ :	2̄ :	3̄ :	4̄ :	5̄ :	6̄ :	7̄ :	low status
reliable	1̄ :	2̄ :	3̄ :	4̄ :	5̄ :	6̄ :	7̄ :	unreliable
informed	1̄ :	2̄ :	3̄ :	4̄ :	5̄ :	6̄ :	7̄ :	uninformed
qualified	1̄ :	2̄ :	3̄ :	4̄ :	5̄ :	6̄ :	7̄ :	unqualified
important	1̄ :	2̄ :	3̄ :	4̄ :	5̄ :	6̄ :	7̄ :	unimportant
prestigious	1̄ :	2̄ :	3̄ :	4̄ :	5̄ :	6̄ :	7̄ :	disreputable
expert	1̄ :	2̄ :	3̄ :	4̄ :	5̄ :	6̄ :	7̄ :	inexpert
intelligent	1̄ :	2̄ :	3̄ :	4̄ :	5̄ :	6̄ :	7̄ :	unintelligent

M FINSTRUCTIONS

The purpose of this study is to measure the qualifications of various people by having them judged against a series of descriptive scales. In taking this test, please make your judgments on the basis of how qualified they are to YOU,

- IMPORTANT: (1). Place your check-marks in the middle of the spaces, not on the boundaries.
- (2). Be sure you check every scale for every title--do not omit any.

Make each item a separate and independent judgment. Work at a fairly high speed through this test. Do not worry or puzzle over individual items. It is your first impressions, the immediate "feeling" about the item.

RESUME

Dr. William Roberts in conducting interviews in order to learn student attitudes about the proposed cut in classes by this University as a money saving device.

Dr. Roberts graduated with honors from the University of Florida and has a Master of Speech degree. He holds a Ph.D. in Communication from the University of Michigan. He has taught at the University of Michigan and has published a number of articles in leading professional journals.

Currently, Dr. Roberts is doing research dealing with communication flow between faculty and students. He will co-author a publication with Dr. Dorothy Karlson, University of Florida.

EVALUATION

intelligent	1	:	2	:	3	:	4	:	5	:	6	:	7	:	unintelligent
qualified	1	:	2	:	3	:	4	:	5	:	6	:	7	:	unqualified
high status	1	:	2	:	3	:	4	:	5	:	6	:	7	:	low status
prestigious	1	:	2	:	3	:	4	:	5	:	6	:	7	:	disreputable
reliable	1	:	2	:	3	:	4	:	5	:	6	:	7	:	unreliable
expert	1	:	2	:	3	:	4	:	5	:	6	:	7	:	inexpert
important	1	:	2	:	3	:	4	:	5	:	6	:	7	:	unimportant

APPENDIX B

RESUMES

YOU HAVE BEEN ASKED TO PARTICIPATE IN A STUDY BEING DONE TO LEARN STUDENT ATTITUDES ABOUT THE PROPOSED CUT IN CLASSES BY FTU AS A MONEY SAVING DEVICE. MS. RUSS, A GRADUATE STUDENT, WILL GIVE YOU INSTRUCTIONS AND TAKE YOU TO YOUR INTERVIEWER.

PLEASE READ THE FOLLOWING INTRODUCTION OF YOUR INTERVIEWER.

INTRODUCTION

AS A REQUIREMENT FOR ONE OF HIS COURSES, PAUL ANDREWS IS CONDUCTING INTERVIEWS IN ORDER TO LEARN STUDENT ATTITUDES ABOUT THE PROPOSED CUT IN CLASSES BY THIS UNIVERSITY AS A MONEY SAVING DEVICE.

PAUL IS A STUDENT AT A LOCAL HIGH SCHOOL AND WILL BE COMING TO FLORIDA TECHNOLOGICAL UNIVERSITY NEXT FALL.

YOU HAVE BEEN ASKED TO PARTICIPATE IN A STUDY BEING DONE TO LEARN STUDENT ATTITUDES ABOUT THE PROPOSED CUT IN CLASSES BY FTU AS A MONEY SAVING DEVICE. MS. RUSS, A GRADUATE STUDENT, WILL GIVE YOU INSTRUCTIONS AND TAKE YOU TO YOUR INTERVIEWER.

PLEASE READ THE FOLLOWING INTRODUCTION OF YOUR INTERVIEWER.

INTRODUCTION

AS A REQUIREMENT FOR ONE OF HER COURSES, MARGIE DAVIS IS CONDUCTING INTERVIEWS IN ORDER TO LEARN STUDENT ATTITUDES ABOUT THE PROPOSED CUT IN CLASSES BY THIS UNIVERSITY AS A MONEY SAVING DEVICE.

MARGIE IS A STUDENT AT A LOCAL HIGH SCHOOL AND WILL BE ENTERING FLORIDA TECHNOLOGICAL UNIVERSITY NEXT FALL.

YOU HAVE BEEN ASKED TO PARTICIPATE IN A STUDY BEING DONE TO LEARN STUDENT ATTITUDES ABOUT THE PROPOSED CUT IN CLASSES BY FTU AS A MONEY SAVING DEVICE. MS. RUSS, A GRADUATE STUDENT, WILL GIVE YOU INSTRUCTIONS AND TAKE YOU TO YOUR INTERVIEWER,

PLEASE READ THE FOLLOWING INTRODUCTION OF YOUR INTERVIEWER.

INTRODUCTION

DR. WILLIAM ROBERTS IS CONDUCTING INTERVIEWS IN ORDER TO LEARN STUDENT ATTITUDES ABOUT THE PROPOSED CUT IN CLASSES BY THIS UNIVERSITY AS A MONEY SAVING DEVICE.

DR. ROBERTS GRADUATED WITH HONORS FROM THE UNIVERSITY OF FLORIDA AND HAS A MASTER OF SPEECH DEGREE. HE HOLDS A PH.D. IN COMMUNICATION FROM THE UNIVERSITY OF MICHIGAN. HE HAS TAUGHT AT THE UNIVERSITY OF MICHIGAN AND HAS PUBLISHED A NUMBER OF ARTICLES IN LEADING PROFESSIONAL JOURNALS.

CURRENTLY, DR. ROBERTS IS DOING RESEARCH DEALING WITH COMMUNICATION FLOW BETWEEN FACULTY AND STUDENT. HE WILL CO-AUTHOR A PUBLICATION WITH DR. DOROTHY KARLSON, UNIVERSITY OF FLORIDA.

YOU HAVE BEEN ASKED TO PARTICIPATE IN A STUDY BEING DONE TO LEARN STUDENT ATTITUDES ABOUT THE PROPOSED CUT IN CLASSES BY FTU AS A MONEY SAVING DEVICE. MS. RUSS, A GRADUATE STUDENT, WILL GIVE YOU INSTRUCTIONS AND TAKE YOU TO YOUR INTERVIEWER.

PLEASE READ THE FOLLOWING INTRODUCTION OF YOUR INTERVIEWER.

INTRODUCTION

DR. DOROTHY KARLSON IS CONDUCTING INTERVIEWS IN ORDER TO LEARN STUDENT ATTITUDES ABOUT THE PROPOSED CUT IN CLASSES BY THIS UNIVERSITY AS A MONEY SAVING DEVICE.

DR. KARLSON GRADUATED WITH HONORS FROM THE UNIVERSITY OF FLORIDA AND HAS A MASTER OF SPEECH DEGREE. SHE HOLDS A PH.D. IN COMMUNICATION FROM THE UNIVERSITY OF MICHIGAN. SHE HAS TAUGHT AT THE UNIVERSITY OF MICHIGAN AND HAS PUBLISHED A NUMBER OF ARTICLES IN LEADING PROFESSIONAL JOURNALS.

CURRENTLY, DR. KARLSON IS DOING RESEARCH DEALING WITH COMMUNICATION FLOW BETWEEN FACULTY AND STUDENT. SHE WILL CO-AUTHOR A PUBLICATION WITH DR. WILLIAM ROBERTS, UNIVERSITY OF FLORIDA.

References

- Adler, L., & Iverson, M. Interpersonal distance as a function of task difficulty, praise, status orientation, and sex of partner. Perceptual and Motor Skills, 1974, 39, 683-692.
- Argyle, M., & Dean, J. Eye contact, distance, and affiliation. Sociometry, 1965, 28, 289-304.
- Argyle, M., & Kendon, A. The experimental analysis of social performance. In L. Berkowitz (Ed.), Advances in experimental social psychology (Vol. 3). New York: Academic Press, 1967.
- Baxter, J. Interpersonal spacing in natural settings. Sociometry, 1970, 33, 444-456.
- Brooks, L. Interactive effects of sex and status on self-disclosure. Journal of Counseling Psychology, 1974, 21, 469-474.
- DeLong, A. Dominance-territorial relations in a small group. Environment and Behavior, 1970, 2, 170-191.
- Dohrenwend, B., & Dohrenwend, B. Social status and psychological disorder: A casual inquiry. New York: Wiley-Interscience, 1969.
- Efran, J. Looking for approval: Effects on visual behavior of approbation from persons differing in importance. Journal of Personality and Social Psychology, 1968, 10, 21-25.
- Exline, R., Thibaut, J., Brannon, C., & Gumpert, P. Visual interaction in relation to machiavellianism and on unethical act. American Psychologist, 1961, 16, 396.
- Fisher, J. & Byrne, D. Too close for comfort: Sex difference in response to invasion of personal space. Journal of Personality and Social Psychology, 1975, 32, 15-21.
- Freese, L. Conditions for status equality in informal task groups. Sociometry, 1974, 37, 174-188.

- Gottheil, E., Corey, J., & Paredes, A. Psychological and physical dimensions of personal space. Journal of Psychology, 1968, 69, 7-9.
- Haase, R., & DiMattia. Proxemic behavior: Counselor, administrator, and client preference for seating arrangement in dyadic interaction. Journal of Counseling Psychology, 1970, 17, 319-325.
- Hall, E. T. The silent language. Garden City, N. Y.: Doubleday, 1959.
- Hall, E. T. The hidden dimension. Garden City, N. Y.: Doubleday, 1966.
- Haller, A., & Portes, A. Status attainment processes. Sociology of Education, 1973, 46, 51-91.
- Horowitz, M. Human spatial behavior. American Journal of Psychotherapy, 1965, 19, 20-28.
- Horowitz, M., Duff, D., & Stratton, L. The body-buffer zone: An exploration of personal space. Archives of General Psychiatry, 1964, 11, 651-656.
- Jackson, R., & Pepinsky, H. Interview activity and status effects upon revealingness in the initial interview. Journal of Clinical Psychology, 1972, 28, 400-404.
- Jourard, S., & Friedman, R. Experimenter-subject "distance" and self-disclosure. Journal of Personality and Social Psychology, 1970, 15, 278-282.
- Kendon, A., & Cook, M. The consistency of gaze patterns in social interaction. British Journal of Psychology, 1969, 60, 481-494.
- LaPiere, R. Attitudes vs. actions. Social Forces, 1934, 13, 230-237.
- Leibman, M. The effects of sex and race norms on personal space. Environment and Behavior, 1970, 2, 208-246.
- Little, K. Personal space. Journal of Experimental Social Psychology, 1965, 1, 237-247.
- Lott, D., & Sommer, R. Seating arrangement and status. Journal of Personality and Social Psychology, 1967, 7, 90-95.

- Lyman, S., & Scott, M. Territoriality: A neglected sociological dimension. Social Problems, 1967, 15, 236-249.
- Maclay, G., & Knipe, H. The dominant man: The pecking order of human society. New York: Delacorte Press, 1972.
- Mahoney, E. Compensatory reactions to spatial immediacy. Sociometry, 1974, 37, 423-431.
- Mehrabian, A. Significance of posture and position in the communication of attitude and status relationships. Psychological Bulletin, 1969, 71, 359-372.
- Mehrabian, A. Silent messages. Belmont, Calif.: Wadsworth Publishing Co., 1971.
- Mehrabian, A., & Diamond, S. Seating arrangement and conversation. Sociometry, 1971, 34, 281-289.
- Mehrabian, A., & Frier, J. Encoding of attitude by a seated communicator via posture and position cues. Journal of Consulting and Clinical Psychology, 1969, 33, 330-336.
- Moore, J., Jr. Status and influence in small group interactions. Sociometry, 1968, 31, 47-63.
- Morse, D. The peripheral worker. New York: Columbia University Press, 1969.
- Pedersen, D. Developmental trends in personal space. Journal of Psychology, 1973, 83, 3-9.
- Pellegrini, R., & Empey, J. Interpersonal spatial orientation. Journal of Psychology, 1970, 76, 67-70.
- Random House Dictionary. New York: Random House, 1966.
- Rokeach, M. Beliefs, attitudes and values. San Francisco: Jassay-Bass, Inc., 1968.
- Schrank, J. Concern, a discussion series. Morristown, N. J.: General Learning Corp., 1970.
- Scott, J. Awareness of informal space: A longitudinal analysis. Perceptual and Motor Skills, 1974, 39, 735-738.

- Shaw, M. Group Dynamics. New York: McGraw-Hill, 1971.
- Sommer, R. Studies in personal space. Sociometry, 1959, 22, 247-260.
- Sommer, R. Small group ecology. Psychological Bulletin, 1967, 67, 145-152.
- Sommer, R. Personal Space. Englewood Cliffs, N. J.: Prentice-Hall, Inc., 1969.
- Steinzor, B. The spatial factor in face-to-face discussion groups. Journal of Abnormal Psychology, 1950, 45, 552-555.
- Tennis, G., & Dabbs, J. Sex, setting and personal space: First grade through college. Sociometry, 1975, 38, 385-394.
- Walstedt, J. Women as marginals. Psychological Reports, 1974, 34, 639-646.
- White, M. Interpersonal distance as affected by room size, status, and sex. Journal of Social Psychology, 1975, 95, 241-249.
- Winer, B. Statistical principles in experimental design (2nd ed.). New York: McGraw-Hill, 1971.