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The Perceived Effects of Physical Distance, Intervening Obstacles, and Race During Interviews between Administrators and Teachers

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THE PERCEIVED EFFECTS
OF PHYSICAL DISTANCE,
INTERVENING OBSTACLES, AND RACE
DURING INTERVIEWS BETWEEN
ADMINISTRATORS AND TEACHERS

by

James L. Kraai

A Dissertation
Submitted to the
Faculty of The Graduate College
in partial fulfillment
of the
Degree of Doctor of Education

Western Michigan University
Kalamazoo, Michigan
April 1973
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THE PERCEIVED EFFECTS OF PHYSICAL DISTANCE, INTERVENING OBSTACLES, AND RACE DURING INTERVIEWS BETWEEN ADMINISTRATORS AND TEACHERS

James L. Kraai, Ed. D.
Western Michigan University, 1973

Although nonverbal types of communication have long been considered important, only recently have behavioral scientists begun to empirically examine the nature of such communication. Many studies available today dealing with nonverbal communication tend toward more general searches rather than toward a specific search into particular aspects of nonverbal communication. The particular aspect of nonverbal communication called "proxemics" was the subject of this investigation. Proxemics is the study of how man structures the space around him and how the space around him affects his behavior. Studies by E. T. Hall, Robert Sommer, Richard Haase, Dominic DiMattia, and James Kern provided the major impetus for this study. This particular investigation of proxemics centered on the interview situation between teachers and administrators.

The purpose of this investigation was to determine the perceived effects of physical distance, intervening obstacles (desk), race of administrator, and race of teacher during an interview situation. A sample of 48 white male teachers and 48 black male teachers from the Grand Rapids Public Schools and the Kalamazoo Public Schools was used in this investigation.

The teachers were grouped so that for each of the twelve slides...
used as stimuli, four white teachers and four black teachers responded. The perceptions of the teachers were measured by means of a ten item semantic differential instrument.

For the final analysis eight of the ten adjective pairs of the semantic differential instrument were summed to give one mean score for each individual. A post hoc factorial analysis of the instrument revealed that two items were irrelevant to the concept investigated.

The mean scores of each four group members were summed to provide a cell mean. A four-way balanced analysis of variance was used to test the twenty-four cell means. The cell means represented all possible combinations of the four selected variables and their interactions.

The data showed the tendency for white teachers to rate the near and middle distances less favorably than the far distance. The black teachers preferred the near distance to both the middle and far distances. The presence of the desk between teacher and administrator was rated most favorable at the near distance, less favorable at the middle distance, and least favorable at the far distance. This supports the assumption that a physical obstacle provides a buffer between teacher and administrator which tends to make the teacher feel more comfortable. As the distance between teacher and administrator became greater, such a buffer lost its importance.

A somewhat surprising finding was that no significant differences were found in the examination of race of administrator when tested without interaction with distance, obstacle, and race of teacher. The investigator assumed that the authority associated with the role.
caused the teachers to react to the principal's role rather than to the principal's race.

One conclusion of this investigator is that proxemic variables tend to be of secondary importance in the kind of relationships investigated. Other variables seem to have a greater effect on the teacher's perception of an interview situation than do the proxemic variables. This in no way negates the importance of proxemic variables, but does tend to put them in perspective with other variables affecting the interview.
CHAPTER I

INTRODUCTION

Nonverbal communication has been considered an important component in interpersonal interactions for many years. Recently, behavioral scientists have directed efforts toward empirical examinations of the various dimensions of such communication. The studies available today differ greatly in the particular aspects of nonverbal communication investigated, the populations sampled, the methods used, and the situations observed. The focus of this investigation was the specific concept of nonverbal communication known as "proxemics".

The concept of proxemics is not new. The term personal space was coined by Katz (1937) but some aspects of it were implicit in Stern's "personal nearness" (1935) and in Lewis' "life space" (1935). The zoologist Hediger (1950, 1955, 1961) has described attributes of personal space or proxemics in the term "territoriality" that he applied to animal behavior.

Recent investigations of personal space as related to humans have their origin in the work of anthropologist E. T. Hall (1955, 1959, 1962, 1964). He demonstrated that personal space (a facet of proxemics) can be systematically studied. Hall (1961) defined proxemics as "the study of how man unconsciously structures microspace—the distance between men in the conduct of daily transactions, the organization of space in his houses and buildings, and ultimately the layout of his towns." Hall described a way of categorizing space in terms of:
(1) fixed features, including buildings, geographic locations, and immovable elements; (2) semi-fixed features, including furniture and all relatively movable things; and (3) personal space, which includes the distance two individuals maintain from one another during interaction.

In addition, Hall proposed four distance zones after observing and interviewing many adults. He called these distances the intimate distance (touching to 18 inches), personal distance (18 inches to 48 inches), social distance (4 feet to 12 feet), and public distance (more than 12 feet). In his systematic treatment of broad aspects of proxemics, Hall discovered that proxemic behavior was largely unconscious, was culturally conditioned or biased, represented a discrete level of communication, and could qualify, negate, or accent verbal communication.

Sommer, forerunner in the study of personal space, became widely known for his investigation of the spatial behaviors of mental patients in a hospital environment (1959). Sommer's work introduced the concept of personal space to other investigators. After Hall's publication in 1963 a more systematized effort was made at studying proxemic behavior. Since that time proxemic behavior has been found to be related to the sex of the participant (Willis, 1966; Mehrabian, 1968; Kern, 1971); age and race of participants (Willis, 1966); status and other relationships between participants (Mehrabian, 1968); eye contact, affiliation and social approval seeking (Argyle and Dean, 1965); positive attitude toward the addressee in a dyadic (one-to-one) interview (Little, 1965); and numerous other variables.
The work of Haase and DiMattia (1970) was of primary importance to this investigator. They suggested that Hall's definition of proxemics be extended to include the impact of spatial environment on man's behavior. In prior investigations the treatment of proxemic behavior was in broad environments rather than in specific situations involving interpersonal interaction. Haase and DiMattia recognized the counseling analogue as a valuable communications situation and pioneered work empirically examining the influence of proxemics and spatial environment on human behavior in the counseling situation.

Problem Statement

Proxemics—the manner in which individuals structure personal space and their immediate surroundings—has become the focus of considerable research in recent years (Ekman, 1971). Administrators, counselors, and all other persons who are involved in one-to-one settings need to know as precisely and explicitly as possible the effects of proxemics upon various relationships. Spatial environment is one of the many variables known to influence the behavior and the communication of man (Sommer, 1969). Although there has been much research on proxemic behavior in recent years, the surface has only been scratched in regard to many important variables. The following quotation from Little (1965) is still true today:

The determinants of personal space in man, its development, the effects of violation of personal space zones, and boundary variations under different settings and content-of-interaction have yet to be studied [p. 239].
This investigator recognized the importance of interviews between school teachers and principals and investigated that setting. The specific direction taken was heavily influenced by the work of Haase and DiMattia (1970), who found that in interview settings, counselors, administrators, and clients preferred spatial arrangements which were consistent within the expectations of their functional roles, as indicated by this quotation:

The role orientation of the counselor and administrator may differ markedly with respect to dealing with the individual student. Possibly the counselors in this sample perceive any proxemic arrangement with a table completely intervening between the participants as an intended communication of an authoritarian relationship. . . .

The administrators may find the placement of a table between participants in a dyadic interaction as a more normal arrangement within the context of their functional role. . . .

The position of the client group within the context of this study offers unexpected insight. Examination of preference profiles . . . reveals that the client and administrator group have highly similar patterns of preferences for proxemic arrangement [p. 324].

Although some information regarding interview situations was available, little referred specifically to the preferences of teachers. An exhaustive review of the literature brought forth no specific information regarding the interrelationships of race, physical distance, and intervening physical obstacles in interview situations between principals and teachers.

The recent influx of black teachers and administrators in the field of education has resulted in new concerns regarding relationships and interactions between principals and teachers in the interview situation. It was the opinion of this investigator that more
knowledge regarding the relation of proxemics to race may be beneficial in structuring interviews. Traditionally, whites have been in positions of authority and superiority while blacks have been relegated to inferior and subordinate positions (Lacy, 1972). Whites and blacks have exhibited proxemic behavior which was a reflection of their traditional status in society (Willis, 1966; Scheflen, 1972). As reported in these studies, blacks tended to use distance as a physical defense to a greater extent than did the whites. Today, the status of blacks in society, especially in the specific area of education, seems to be changing. How this has demonstrated itself by means of proxemic behavior is not yet known. The present investigation was conducted primarily to study the relationship between race and proxemics in the interview situation.

The study examined the effects of (a) physical distance, (b) an intervening physical obstacle, and (c) race of administrator in a dyadic interview situation as perceived by white and black teachers. It was recognized that many other variables such as age, sex, and personal regard could have been examined, but those were beyond the scope of the present study. Physical distance between teacher and administrator was one aspect of the problem that was studied, because information regarding distance and its effects on teachers in the interview setting was lacking. Also, the effect of the placement of the administrators desk on the perceptions of teachers had not been investigated. Another important aspect of the problem dealt with race. The variable of race involved both members of the dyad (the teacher and the administrator). Although race has been a variable in other studies (Hall,
1963; Willis, 1966; Watson, 1970), its relationship in this setting remains unknown. Even though the variables in this investigation were not new, their influence in this particular setting had not been investigated.

Significance of the Problem

By virtue of the school office being the "territory" of the administrator, it usually has been arranged by the administrator to reflect his preferences or other conventional modes of arrangement. This investigator anticipated that the information gained may help administrators in the arrangement of their physical environments in order to facilitate communication within the dyad. Administrators, counselors, advisors, and teachers who work in one-to-one settings need to know as precisely and explicitly as possible the effect upon the relationship of many variables including physical distance, intervening obstacles, and race. Examining these variables from the point of view of the teacher may lead to the point of discovering how proxemic variables may affect the outcome of these interviews.

School administrators have attempted to balance administrative, pupil personnel, and teaching staffs with a number of blacks in an attempt at providing assistance for all. This study attempted to uncover some of the answers to questions associated with the effects of race during principal-teacher interviews. Learning what effect distance, obstacle, and race may have on the interview may enable administrators to choose proxemic behaviors which can help to achieve the desired outcomes. In addition, it may aid both school boards
and superintendents in their hiring and assigning of both administrators and teachers.

Limitations

This investigation was conducted and the results reported with the recognition of the following limitations.

1. The sample was limited to male secondary teachers in the Grand Rapids Public Schools and Kalamazoo Public Schools, and the results were not intended to be generalized beyond the general population from which the sample was taken. However, there was nothing unique or unusual about these teachers which would deter readers from making reasonable applications.

2. The scales chosen for the semantic differential instrument may not adequately represent the "semantic space," thus limiting the respondent in clearly presenting his feelings and perceptions.

3. The possibility of contamination as a result of variance from slide to slide was cautiously controlled by instructing both models to assume identical poses. Yet, contamination may have occurred to some degree.

4. Individual personalities of the respondents and their previously developed preferences regarding principals and experience with principals may have influenced the results.
5. Although every attempt was made to control interfering stimuli during data collection, some may have operated to influence the responses.

6. The projective stimulation of the slides may have limited the respondents' ability to perceive the real-life situation and respond to it.

7. The perceptions of teachers were measured without attempting to make causal inferences.

8. The investigation only accounted for the variables (distance, race, and obstacle) specifically included in the design although many other variables might have been included.

Organization of the Dissertation

The purpose of Chapter I has been to introduce proxemics, to state the problem, to confirm the significance of the problem, to identify the limitations, and to clarify the organization of the dissertation. The second chapter, Review of Literature, gives a historical overview and identifies and organizes literature related to the topic of proxemics. Chapter III, Methods and Procedures, contains an overview of the experimental design, the stimulus materials, the instrumentation, the hypotheses tested, and the data analysis. Chapter IV consists of the presentation of the results, while Chapter V summarizes the results and discusses the conclusions, recommendations, and implications.
CHAPTER II

REVIEW OF LITERATURE

This investigator included references related to nonverbal communication in this review of literature. Of particular value were studies related to interpersonal relationships and interactions. Studies were included only if they led directly to the topic under consideration in the present research or if they provided background information necessary for understanding the general area of research. This review demonstrates the evolution of "proxemics" from two primary sources, the first being the work of zoologists in the study of animal "territoriality" and the second being the work of psychoanalysts in the study of clients' use of postures and gestures.

These two sources were acknowledged by Hall, who first used the term "proxemics." A brief summary of Hall's work was included because it has been the basis for more recent studies. This review concludes with the reporting of recent studies concerned with variables affecting "proxemic" behavior which provided the basis for this study. Figure 1 gives a chronological review of the development of proxemics, demonstrating how it evolved from the study of animal territoriality and from the study of human posture and gestures.
Figure 1. The Development of Proxemics
Territoriality

Historically, the study of the organization and regulation of space has its roots in zoology and ethology. The works of Howard (1920), Hediger (1955), Von Vexkull (1957), Carpenter (1958), and Ardrey (1966) are representative of that group who have pointed to the use of territoriality as an observable phenomenon. In 1966, Ardrey's The Territorial Imperative popularized the concept of animal territoriality and suggested its application to man. Hediger found the use of territory occurring throughout all animal species. According to Hediger (1955), not only was the movement of animals limited by territory that was identified with a particular area, but each animal was surrounded by what has been described as a series of bubbles or irregular shaped balloons that served to maintain proper spacing among individuals. He specifically mentioned flight, critical, personal, and social distances which seemed to be observed by most animals.

The flight distance represents the point at which an animal flees from intruders. If an intruder continues to advance into another animal's territory, he then enters the critical distance. Hediger (1955) defined critical distance as the narrow zone separating flight distance from attack distance.

Hediger also observed that some animals group together and require physical contact with each other, while others avoid touching altogether. The normal spacing that non-touching animals maintain between themselves was called personal distance. Personal distance was found to be
influenced by status, dominance, and social organization.

The last type of distance mentioned by Hediger was social distance. Social distance differs from other forms in that it is a psychological distance. Social distance is not a rigid or fixed boundary, but is an elastic space that changes with the situation.

These distances are found throughout the vertebrate kingdom, and serve as the groundwork for the study of distance as observed by man. Man also has uniform ways of handling space between individual members. E. T. Hall has developed a system for classifying nonverbal communication, a part of which deals with distances used by man, which was similar to Hediger's system for animals.

Postures and Gestures

Although territoriality in the animal kingdom provided real impetus for Hall, others began to study nonverbal communication by investigating posture, gestures, and other cues. Early psychoanalysts studied these cues to determine attitudes and meaning where overt expressions were not forthcoming. Early studies in the area were highly informal and were based on observations of clients by psychoanalysts. James (1932) used 347 photographs of a masked model in which various positions of head, trunk, feet, knees, and arms were systematically varied. From his study he concluded that the head and trunk were most important indicators for categorization, but position of arms and hands allowed subjects to make fine distinctions.

In 1947 and 1952, Deutsch, a psychiatrist, used the case study approach and concluded that there were definite motivations and
attitudes related to every posture assumed by a client. He added that characteristic postures may be associated with the initiation and termination of speech. The work of Deutsch continued through the fifties as several studies related to his recommendations were completed using the case study approach. Mehrabian (1969) summarized that type of research when he wrote:

Unfortunately, for the most part, observations of psychoanalysts of client characteristics or attitudes which were based on postural variables remained informal. Thus hypotheses which related postural variables to communicator attitudes or feelings remained mostly implicit in such work [p. 360].

The work of Birdwhistell was an exception to Mehrabian's statement. Birdwhistell (1952) initiated most of the basic work in developing a notational system for the science of kinesics—the study of human body motion. He developed methods of categorizing gestures and postures. Also, he developed the terminology which is necessary for continued and meaningful investigation. In 1970, Birdwhistell expounded that the information conveyed by gestures and postures must be examined in reference to the social context of the situation.

Scheflen (1964) made an attempt to systematically identify and describe particular nonverbal communication units used in interpersonal interactions. He maintained that configuration of posture or body positioning indicates at a glance much about the interaction. Scheflen (1964) went on to illustrate how postural configurations "(1) demarcate components of individual behavior that each person contributes to group activities, (2) indicate how individual contributions are related to one another, and (3) . . . define the steps and order of interaction."

Scheflen made references which indicate that a therapist must carefully
choose his postures lest he communicate some unintended message inadvertently to his client.

In a more recent book, Scheflen (1972) described his examination of facial expressions, posture, body movement, and touch in relation to language and the larger contexts of group processes and the social order as a whole. In the last few years much interest developed in body language outside of the formal sciences. Unfortunately, this interest has taken a psychological and somewhat simplistic approach. The best seller, Body Language, by Julius Fast led readers to believe that certain bodily behaviors had specific meanings. Scheflen attempted to relate body language to social, economic, and political contexts and to cultural differences.

Personal Space

In recent years a great deal of interest has been generated by the concept of "personal space." The term was coined by Katz in 1937 but some aspects of it were implicit in Stern's "personal nearness" (1935), and in Lewis' "life space" (1935). The term "personal space" is closely allied to what others have called dynamic space (Hall, 1963, 1966); body buffer zone (Kinzell, 1969; Howowitz, Duff, and Stratton, 1964); and dyadic interpersonal interaction (Haase, 1969). In general, all of the above descriptive terms describe the zone of personal space which surrounds every individual and which is defended from invasion in context with the situation.

Hall (1963) attempted to systematize nonverbal communication after acknowledging the work of both zoologists and psychoanalysts.
Hall's underlying hypothesis can be found in the following statement:

It is the nature of animals including man to exhibit behavior which we call territoriality. In so doing, they use the senses to distinguish between one space or distance and another. The specific distance chosen depends on the transition; the relationship of the interacting individuals; how they feel and what they are doing [p. 1004].

Proxemics

A special subclass of nonverbal behavior has been identified in the study of proxemics. Hall (1963) defined proxemics as "the study of how man unconsciously structures microspace—the distance between men in the conduct of daily transactions, the organization of space in his houses and buildings and ultimately the layout of his towns." Hall's definition of proxemics was an attempt to include the concepts found in territoriality, personal space, posture, and gestures.

Hall's system of notation includes three areas of proxemic study: the study of fixed-feature space, such as a building, a bus, or a landscape; semi-fixed such as furniture; and personal space, that invisible boundary which allows the person to feel free of anxiety. Also, he described eight categories of proxemic behavior, namely, posture, sociofugal-sociopetal code, kinesthetic code, and voice loudness. In addition, he proposed four distances after observing and interviewing middle class adults. The intimate distance is the shortest of these, extending to 18 inches. The personal distance extends to four feet while the social distance extends to twelve feet. The farthest distance is called the public distance and extends from twelve feet to the physical limitations of the environment.

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The work of Haase and DiMattia (1970) used an extended definition of proxemics which is also used in this study. They suggested that the definition be extended to include the impact of spatial environment on man's behavior. Of special interest to this investigator are the more recent studies which isolate specific relationships in various situations.

More specifically, the role of the spatial environment has recently received attention in the behavioral sciences and it has been shown that the spatial environment plays an important role in the communication process (Hall, 1966; Sommer, 1969). In his discussion of the significance of the distances between communicators, Hall (1959, 1963) noted the presence of implicit norms within any culture or subculture regarding the permissible ranges of distances between two speakers. If the distance between two speakers exceeds or is less than the limits which are implicitly allowed, then negative attitudes are elicited or inferred. Garfinkel (1964) found that the violation of the implicit norms regarding allowable distances led to the bewilderment and embarrassment of an addressee and to his subsequent avoidance of the communicator. Felipe and Sommer (1966) found that when a communicator assumed an inappropriately close position to another person, that person left earlier than he otherwise would have.

For these variations in distance which occur within the culturally acceptable limits, a number of experimental studies have yielded systematic findings relating proxemics to sex, age, race, status, seating arrangements, eye contact, affiliation, social approval seeking, and other variables.
Leipold (1963) assessed the relationship between introversion-extroversion and interaction distance. He concluded that introverts in a dyadic encounter tend to interact at greater distances than do extroverts. Sommer (1959) found that individuals prefer sitting opposite one another when the distance across is equal to, or less than, an available side-by-side position. He also found that women tend to sit more closely than men. Lott and Sommer (1967) found that individuals sat further from higher and lower status individuals than they did from peers. That dominance and status strongly influence the proximity of interactors has been clearly established (Mehrabian, 1968, 1969; Sommer, 1969). Eye contact, affiliation, acquaintance, and social seeking have been found to be significant factors in determining the nature of proxemic interaction among individuals (Argyle and Dean, 1965; Rosenfield, 1964, 1965; Willis, 1966). Willis (1966) in his study of race found that whites tended to use less space than blacks.

More closely related to this particular investigator's study was the work of Haase and DiMattia. Two studies (Haase, 1970; Haase and DiMattia, 1970) have shown that clients in a counseling interview have distinct preferences for seating arrangements. By showing four photographs to the three groups of subjects who recorded reactions to each photograph on a semantic differential scale, the researchers were able to determine the expressed preferences of the subjects. The results of the study (Haase and DiMattia, 1970) supported two of the hypotheses tested:
1. Individuals have distinct preferences for one kind of furniture arrangement in dyadic interaction over other alternatives.

2. Group membership interacts with preference for proxemic interaction settings in such a way that identifiable differences among counselors, administrators, and clients are noticeable [p. 323].

Kern (1971) followed the basic method of investigation of Haase and DiMattia. He examined the effects of sex on the counselor-client interview situation. Because of the relationships which were found between sex and distance in the counseling situation, the present investigator became curious about the effects which distance may have in the administrator-teacher interview.

More recently, we find proxemic studies in various situations, with various populations, using different methods, and testing many variables. The following studies are representative of these. Guardo and Meisels (1971) found that young boys and girls followed a different schemata of interaction distance. For boys, interaction distance was a function of chronological age, while with girls, it was a reflection of their emotional state during the interview. Maslin (1970) looked at personal space in the classroom situation. He found that the farther the student was from the teacher, the fewer interactions they had. Menne and Sinnett (1971) found that students living in residence halls choose friends who live in close proximity to their rooms. In still another study, McGrew (1970) found that nursery school children were able to adjust their inter-individual spacing to changes in social (more people in the room) and physical (smaller room) environment. An interesting investigation by Meisels and Dosey (1971) found that
people aroused to anger will either use large distances to shield themselves from the cause of arousal or use small distances in order to attack the cause of arousal. And finally, Paluch and Esser (1971) used territorial behavior as an indicator of mental changes in retarded boys.

While the above mentioned studies have added a bit more to our knowledge of specific applications of proxemic behavior, they do not enter into the area of considering the potential effects of proxemics upon dyadic interactions between administrators and teachers. Moreover, an exhaustive review of literature brought forth no information regarding the relationship of race, physical distance, and physical obstacles as exhibited in an interview situation between principals and teachers. The present study was designed as a pilot investigation into the proxemic preferences of teachers as they interact with principals.
CHAPTER III

METHODS AND PROCEDURES

This chapter describes in detail the methods and procedures utilized in conducting this experiment. The following specific areas are discussed: (1) Population and Sample; (2) Experimental Design; (3) Stimulus Materials; (4) Instrumentation; (5) Hypotheses Tested; and (6) Data Analysis.

Population and Sample

The majority of teachers in the study were from Grand Rapids Public Schools, Grand Rapids, Michigan. There are approximately 1400 teachers in the Grand Rapids Public Schools. Eighty-six of these teachers, who fit the criteria of the study, were included in the sample. An additional ten black teachers from Kalamazoo Public Schools were used to fulfill the sample requirements. The sample was partitioned into two groups of 48 male secondary teachers each. One group was comprised of white teachers while the other included only black teachers. Descriptors such as age, amount of graduate work taken, years of experience, personal regard, and subject taught were not critical variables in this study.

Random sampling was not used in the selection of subjects because the sample size exhausted the available number of black teachers. The intent was to test the proxemic theory with this particular sample rather than to attempt to generalize to a larger population. The
descriptors "white male secondary teachers" and "black male secondary
teachers" sufficiently defined the subjects included in the sample
within the scope of this study.

Experimental Design

The design utilized in this study was a fixed model $3 \times 2 \times 2 \times 2$
factorial analysis of variance, as shown in Figure 2. The symbol $D$
represents the independent variable of distance between administrator
and teacher in that figure. The three distances used in the design
are designated as $D_1$, 3 feet; $D_2$, 6 feet; and $D_3$, 12 feet. The second
independent variable, the presence or absence of an intervening
obstacle, is represented by $O$, with $O_1$ representing presence and $O_2$
representing absence. In this particular investigation, the physical
obstacle used was a typical seven-drawer desk. The independent vari­
able of race of administrator is represented by $A$. $A_1$ represents the
white administrator, while $A_2$ represents the black administrator. The
last independent variable, the race of the subject, is represented by
$T_1$ for designating a white subject, and $T_2$ for designating a black
subject.

Each subject's response on a semantic differential instrument
provided the dependent criterion measure (see Appendix).

Stimulus Materials

The stimulus materials consisted of twelve slides depicting the
variables of (a) physical distance (3 feet, 6 feet, and 12 feet),
(b) presence or absence of intervening desk, and (c) race of
<table>
<thead>
<tr>
<th>Factors</th>
<th>Factor Descriptors</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>D</strong></td>
<td></td>
</tr>
<tr>
<td>Distance</td>
<td>Near Distance</td>
</tr>
<tr>
<td></td>
<td>3 Feet</td>
</tr>
<tr>
<td></td>
<td>Middle Distance</td>
</tr>
<tr>
<td></td>
<td>6 Feet</td>
</tr>
<tr>
<td></td>
<td>Far Distance</td>
</tr>
<tr>
<td></td>
<td>12 Feet</td>
</tr>
<tr>
<td><strong>O</strong></td>
<td></td>
</tr>
<tr>
<td>Physical Obstacle</td>
<td>Obstacle</td>
</tr>
<tr>
<td></td>
<td>No Obstacle</td>
</tr>
<tr>
<td><strong>A</strong></td>
<td></td>
</tr>
<tr>
<td>Race of</td>
<td>White</td>
</tr>
<tr>
<td>Administrator</td>
<td>Black</td>
</tr>
<tr>
<td></td>
<td>White</td>
</tr>
<tr>
<td></td>
<td>Black</td>
</tr>
<tr>
<td></td>
<td>White</td>
</tr>
<tr>
<td></td>
<td>Black</td>
</tr>
<tr>
<td></td>
<td>White</td>
</tr>
<tr>
<td></td>
<td>Black</td>
</tr>
<tr>
<td><strong>T</strong></td>
<td></td>
</tr>
<tr>
<td>Race of Teacher</td>
<td>White</td>
</tr>
<tr>
<td>(4 per cell)</td>
<td>Black</td>
</tr>
<tr>
<td></td>
<td>White</td>
</tr>
<tr>
<td></td>
<td>Black</td>
</tr>
<tr>
<td></td>
<td>White</td>
</tr>
<tr>
<td></td>
<td>Black</td>
</tr>
<tr>
<td></td>
<td>White</td>
</tr>
<tr>
<td></td>
<td>Black</td>
</tr>
<tr>
<td></td>
<td>White</td>
</tr>
<tr>
<td></td>
<td>Black</td>
</tr>
</tbody>
</table>

Figure 2. Experimental Design 3 X 2 X 2 X 2 Factorial Analysis of Variance
administrator. The physical distance separating the interviewer (administrator) from the interviewee (teacher) was portrayed to the respondent by an empty chair placed at each of the three distances. The subject was told to imagine that he was sitting in the empty chair. This was a deliberate attempt to cause him to react according to his own subjective perceptions. Figures 3 and 4 may help the reader to visualize the manner in which the variables were depicted in the slides.

Six slides each showing a white administrator and six slides each showing a black administrator were used to demonstrate the race of administrator factor. The six slides showing the black administrator were grouped according to the three variations in the physical distance. Each of the twelve slides depicted one of the possible combinations of the race of administrator, physical distance, and presence or absence of a physical obstacle.

The slides were taken by a camera placed in a corner of a large room so that the distances were clearly apparent to the viewer (see Figure 5). All slides were taken with a wide angle lens from exactly the same location to insure uniformity. Only the locations of the chair and the desk were changed. All movements of the actors as they portrayed administrators were carefully monitored. Both the actors were instructed regarding how to sit, where to place arms, legs, and hands, and what facial expression to portray. This was done to insure similar body positioning and facial expression on all slides.

Two counselors from the Grand Rapids Public Schools contacted the teachers individually and presented the slides to them. The counselor explained that the study was being conducted for a doctoral...
Figure 3. Illustrations of Stimulus Situation Showing Desk as a Physical Obstacle

Figure 4. Illustrations of Stimulus Situation Showing Desk Not Used as an Obstacle

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Figure 5. Illustration of Camera Placement
dissertation. The teachers were assured that their responses would be held strictly confidential. At the same time, they were told that the study was to measure general teacher perceptions of administrators and had nothing to do with their personal relationship with their administrators. The white counselor sampled only white teachers while the black counselor sampled only black teachers.

The three distances used in the study represent three specific zones which were identified and studied by E. T. Hall. The personal distance (3 feet), social distance (6 feet), and public distance (12 feet) each elicit specific types of reactions as found by Hall (1963). The distance was measured between the nearest edges of the chair of the administrator and the teacher.

The variable of intervening physical obstacle was handled by placing the administrator directly behind the desk to portray an intervening obstacle, as is found in typical executive offices. The non-intervening physical obstacle was represented in the slide by placing the desk against the wall, as is quite often the arrangement found in counselors' offices.

The variable dealing with race of administrator was most easily handled. The actors were chosen so as to clearly indicate the race of the administrator when the slide was viewed. The race of the teachers was controlled by selection of the sample.

Instrumentation

The instrument used to measure teacher responses was a semantic differential scale which measured the proxemic relationship between
teacher and administrator as perceived by the teacher. The semantic differential instrument used in this study was derived from an instrument used in a similar type of investigation by Kern (1971). Kern obtained the instrument by reviewing and then selecting 34 scales on the concepts of interviews and counselors and chose 10 scales for his instrument. Five of the scales loaded high on factor 1 which was related to the general atmosphere of the session. The remaining five scales seemed to be closely related to the person (see TABLE 1).

<table>
<thead>
<tr>
<th>Adjective Pair</th>
<th>Factor</th>
<th>Loading</th>
</tr>
</thead>
<tbody>
<tr>
<td>Free-Constrained</td>
<td>1</td>
<td>.657</td>
</tr>
<tr>
<td>Relaxed-Tense</td>
<td>1</td>
<td>.626</td>
</tr>
<tr>
<td>Painful-Pleasurable</td>
<td>1</td>
<td>.623</td>
</tr>
<tr>
<td>Defensive-Aggressive</td>
<td>1</td>
<td>.594</td>
</tr>
<tr>
<td>Unpleasant-Pleasant</td>
<td>1</td>
<td>.592</td>
</tr>
<tr>
<td>Bungling-Skillful</td>
<td>2</td>
<td>.767</td>
</tr>
<tr>
<td>Friendly-Hostile</td>
<td>2</td>
<td>.718</td>
</tr>
<tr>
<td>Insincere-Sincere</td>
<td>2</td>
<td>.635</td>
</tr>
<tr>
<td>False-True</td>
<td>2</td>
<td>.628</td>
</tr>
<tr>
<td>Soothing-Aggravating</td>
<td>2</td>
<td>.613</td>
</tr>
</tbody>
</table>

TABLE 1
ADJECTIVE PAIRS AND FACTOR LOADINGS
FROM KERN'S INVESTIGATION

The instrument from Kern was adapted for use in this particular investigation. The directions and the cover sheet were altered to be appropriate for this investigation. After the teachers had responded on the instrument, the individual scales were factor analyzed. The
post hoc analysis indicated that two items did not load in the anti­
cipated direction (see TABLE 2). Also, in the analysis one factor
showed communality for eight of the adjective pairs. This factor
seemed to be related to the general proxemic relationship between
teacher and administrator. The eight scales with high factor loadings
were used in the data analysis. The two scales which did not load in
the anticipated direction were discarded. The eight remaining scales
largely represent the evaluative factor as identified by Osgood, Suci,
Tannenbaum (1957). The scales and their instructions are found in
the Appendix.

TABLE 2
ADJECTIVE PAIRS AND FACTOR LOADINGS
FOR THE PRESENT INVESTIGATION

<table>
<thead>
<tr>
<th>Adjective Pair</th>
<th>Factor</th>
<th>Loading</th>
</tr>
</thead>
<tbody>
<tr>
<td>Free-Constrained</td>
<td>1</td>
<td>-.079</td>
</tr>
<tr>
<td>Relaxed-Tense</td>
<td>1</td>
<td>.744</td>
</tr>
<tr>
<td>Painful-Pleasurable</td>
<td>1</td>
<td>.824</td>
</tr>
<tr>
<td>Defensive-Aggressive</td>
<td>1</td>
<td>.765</td>
</tr>
<tr>
<td>Unpleasant-Pleasant</td>
<td>1</td>
<td>-.557</td>
</tr>
<tr>
<td>Bungling-Skillful</td>
<td>1</td>
<td>.806</td>
</tr>
<tr>
<td>Friendly-Hostile</td>
<td>1</td>
<td>.749</td>
</tr>
<tr>
<td>Insincere-Sincere</td>
<td>1</td>
<td>.742</td>
</tr>
<tr>
<td>False-True</td>
<td>1</td>
<td>.810</td>
</tr>
<tr>
<td>Soothing-Aggravating</td>
<td>1</td>
<td>.722</td>
</tr>
</tbody>
</table>

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The semantic differential instrument was scored by assigning values from one to seven for each of the seven spaces between the adjective pairs. The more positive side of the scale was assigned the high values while the negative side was assigned the low values. The following is an example of the values assigned to an adjective pair:


One score for the instrument as a whole was obtained by summing the values from the eight adjective pairs. The lowest total score possible was eight and the highest was fifty-six. The neutral point was at thirty-two.

Hypotheses Tested

In order to examine the interactions of physical distance, physical obstacles, race of administrator, and race of teacher, the investigator formulated research hypotheses which were analyzed by using a balanced four-way analysis of variance. The factors and their interactions are illustrated in Figure 6. Although other investigations dealing with these factors indicate a prediction of directional effect, the particular setting and specific population have made the prediction of directional relationships inappropriate. For this reason all research hypotheses listed have been stated without the anticipation of a specific direction. Each hypothesis was tested by means of the analysis of variance using the semantic differential instrument as the criterion measure. The hypotheses are:
Main Effect Hypotheses

1. The distance between teacher and administrator will have no effect on teacher perceptions of the interview situation.

2. The physical obstacle will have no effect on teacher perceptions of the interview situation.

3. The race of administrator will have no effect on teacher perceptions of the interview situation.

4. The race of the teacher will have no effect on teacher perceptions of the interview situation.

Interaction Hypotheses

5. The distance between teacher and administrator and presence or absence of a physical obstacle will have no interaction effect on teacher perceptions of the interview situation.

6. The distance between teacher and administrator and race of administrator will have no interaction effect on teacher perceptions of the interview situation.

7. The distance between teacher and administrator, and race of teacher, will have no interaction effect on teacher perceptions of the interview situation.

8. The presence or absence of a physical obstacle and race of administrator will have no interaction effect on teacher perceptions of the interview situation.
9. The presence or absence of a physical obstacle and race of teacher will have no interaction effect on teacher perceptions of the interview situation.

10. The race of administrator and the race of teacher will have no interaction effect on teacher perceptions of the interview situation.

11. The distance between teacher and administrator, the presence of a physical obstacle, and race of administrator will have no interaction effect on teacher perceptions of the interview situation.

12. The distance between teacher and administrator, the presence or absence of a physical obstacle, and the race of teacher will have no interaction effect on teacher perceptions of the interview situation.

13. The distance between the teacher and administrator, the race of administrator, and the race of teacher will have no interaction effect on teacher perceptions of the interview situation.

14. The presence or absence of a physical obstacle, race of administrator, and the race of teacher will have no interaction effect on teacher perceptions of the interview situation.

15. The distance between teacher and administrator, the presence of a physical obstacle, the race of administrator, and the race of teacher will have no interaction effect on teacher perceptions of the interview situation.
<table>
<thead>
<tr>
<th>Hypothesis Number</th>
<th>Factor and Interactions</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>D—Physical distance</td>
</tr>
<tr>
<td>2</td>
<td>O—Physical obstacle</td>
</tr>
<tr>
<td>3</td>
<td>A—Race of administrator</td>
</tr>
<tr>
<td>4</td>
<td>T—Race of teacher</td>
</tr>
<tr>
<td>5</td>
<td>D X O</td>
</tr>
<tr>
<td>6</td>
<td>D X A</td>
</tr>
<tr>
<td>7</td>
<td>D X T</td>
</tr>
<tr>
<td>8</td>
<td>O X A</td>
</tr>
<tr>
<td>9</td>
<td>O X T</td>
</tr>
<tr>
<td>10</td>
<td>A X T</td>
</tr>
<tr>
<td>11</td>
<td>D X O X A</td>
</tr>
<tr>
<td>12</td>
<td>D X O X T</td>
</tr>
<tr>
<td>13</td>
<td>D X A X T</td>
</tr>
<tr>
<td>14</td>
<td>O X A X T</td>
</tr>
<tr>
<td>15</td>
<td>D X O X A X T</td>
</tr>
</tbody>
</table>

Figure 6. Factor Interactions

Data Analysis

The procedure utilized in this study was a 3 X 2 X 2 X 2 balanced factorial analysis of variance with independent measures. The sum of the values of the eight semantic differential scales provided the data for the analysis. Each of the twelve slides was viewed by four white teachers and four black teachers.

This investigator used the .05 level of significance as a point of reference for discussion. The probabilities have been given in all cases in order to allow the reader to make his own conclusions.
CHAPTER IV

RESULTS

The purpose of this chapter is to present the analysis of the data collected in the present study and to discuss the results in relation to the hypotheses.

Data Presentation

The collected data were statistically tested using a 2 (race of administrator) X 2 (race of teacher) X 2 (presence of physical obstacle) X 3 (physical distance) analysis of variance with equal cell size. The fifteen hypotheses were represented in the four-way factorial analysis of variance by the sources of variation shown in Table 3. The table symbols are: the degree of freedom as found in each source of variation, (df), the sum of squares, (SS), the mean squares, (MS), and the "F" statistics followed by "p", the probability of its occurrence.

Discussion of Results

The following discussion of results is based on the preceding data in reference to the hypotheses set forth in Chapter III. In each case the hypothesis is stated, the results relative to the hypothesis reported, and the results discussed. The four main effect hypotheses will be discussed first, followed by two-way, three-way, and four-way interaction hypotheses. The .05 level of significance
## TABLE 3

ANALYSIS OF VARIANCE OF THE SUM OF THE EIGHT SCALES IN A \( 3 \) (PHYSICAL DISTANCE) \( \times 2 \) (PRESENCE OF OBSTACLES) \( \times 2 \) (RACE OF ADMINISTRATOR) \( \times 2 \) (RACE OF TEACHER) DESIGN

<table>
<thead>
<tr>
<th>Source of Variation from Hypothesis</th>
<th>df</th>
<th>SS</th>
<th>MS</th>
<th>F</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Distance (D)</td>
<td>2</td>
<td>242.77</td>
<td>121.38</td>
<td>2.38</td>
<td>.10</td>
</tr>
<tr>
<td>2. Obstacle (O)</td>
<td>1</td>
<td>10.66</td>
<td>10.66</td>
<td>.21</td>
<td>.65</td>
</tr>
<tr>
<td>3. Race of Administrator</td>
<td>1</td>
<td>1.04</td>
<td>1.04</td>
<td>.02</td>
<td>.88</td>
</tr>
<tr>
<td>4. Race of Teacher</td>
<td>1</td>
<td>112.66</td>
<td>112.66</td>
<td>2.21</td>
<td>.14</td>
</tr>
<tr>
<td>5. D X O</td>
<td>2</td>
<td>334.14</td>
<td>167.07</td>
<td>3.27</td>
<td>.04</td>
</tr>
<tr>
<td>6. D X A</td>
<td>2</td>
<td>13.77</td>
<td>6.88</td>
<td>.13</td>
<td>.87</td>
</tr>
<tr>
<td>7. D X T</td>
<td>2</td>
<td>374.77</td>
<td>187.38</td>
<td>3.67</td>
<td>.03</td>
</tr>
<tr>
<td>8. O X A</td>
<td>1</td>
<td>1.50</td>
<td>1.50</td>
<td>.03</td>
<td>.88</td>
</tr>
<tr>
<td>9. O X T</td>
<td>1</td>
<td>126.04</td>
<td>126.04</td>
<td>2.47</td>
<td>.12</td>
</tr>
<tr>
<td>10. A X T</td>
<td>1</td>
<td>28.16</td>
<td>28.16</td>
<td>.55</td>
<td>.46</td>
</tr>
<tr>
<td>11. D X O X A</td>
<td>2</td>
<td>.56</td>
<td>.28</td>
<td>.01</td>
<td>.99</td>
</tr>
<tr>
<td>12. D X O X T</td>
<td>2</td>
<td>135.14</td>
<td>67.57</td>
<td>1.33</td>
<td>.27</td>
</tr>
<tr>
<td>13. D X A X T</td>
<td>2</td>
<td>307.27</td>
<td>153.63</td>
<td>3.01</td>
<td>.06</td>
</tr>
<tr>
<td>15. D X O X A X T</td>
<td>2</td>
<td>114.06</td>
<td>57.03</td>
<td>1.12</td>
<td>.33</td>
</tr>
</tbody>
</table>

Table entries were obtained by using the W.M.U. Balanced Analysis of Variance Program from the Computer Center at Western Michigan University.
was used for discussion purposes. The reader has been provided with probabilities enabling him to reach his own conclusions.

**Main Effect Hypotheses**

**Research hypothesis number 1.** The distance between teacher and administrator will have no effect on teacher perceptions in the interview situation.

The effect of the distance between teacher and administrator is reported as source one in Table 3. The "F" value of 2.38 obtained from the analysis was not significant at the .05 level. The probability of the "F" value occurring was .10. This hypothesis as stated was not rejected.

**Research hypothesis number 2.** The presence or absence of a physical obstacle will have no effect on teacher perceptions of the interview situation.

The effect of the physical distance is reported as source two in Table 3. The "F" value of .21 obtained from the analysis is clearly not significant. The probability of the "F" value was .65. This hypothesis as stated was not rejected.

**Research hypothesis number 3.** The race of administrator will have no effect on teacher perceptions of the interview situation.

The effect of race of administrator is reported as source number three in Table 3. The "F" value of .02 obtained from the analysis was not significant at the .05 level. The probability of that "F" value occurring was .88.
Research hypothesis number 4. The effect of race of teacher will have no effect on his perceptions of the interview situation.

The effect of race of teacher is reported as source number four in Table 3. The "F" value of 2.21 obtained from the analysis was not significant at the .05 level. The hypothesis as stated was not rejected.

Interaction Hypotheses

Research hypothesis number 5. The distance between teacher and administrator, and the presence or absence of a physical obstacle will have no interaction effect on teacher perceptions of the interview situation.

The effect of distance and physical object is reported as source number five in Table 3. The "F" value of 3.27 is significant at the .05 level. The probability of that "F" value occurring was .04. This investigator rejected the hypothesis and therefore a relationship was established.

The relationship established became more clear when the mean values were studied. A higher mean value represented a more positive response by the respondents. The lowest possible mean scale was 8, while the highest was 56. The neutral point of the scale was at 32. An examination of the means indicate that the presence of the desk between teacher and administrator elicited the most favorable response at 3 feet. At 3 feet the mean response was 37.00. The responses were less favorable at 6 feet and least favorable at 12 feet. The mean responses at 6 feet and 12 feet were 33.50 and 30.81 respectively.
At 3 feet the absence of the intervening desk lowered the response mean to 35.37. At 6 feet the response mean was also lower (31.31). The 12 foot distance reversed this trend. At 12 feet the response mean was much higher (36.74) when the desk was not intervening. The comparison of cell means are illustrated in Figure 7.

Research hypothesis number 6. The distance between teacher and administrator and race of administrator will have no interaction effect on teacher perceptions of the interview situation.

The effect of distance and race of administrator is reported as source number 6 on Table 3. The "F" value of .13 obtained from the analysis was not significant at the .05 level. The probability of that "F" value occurring was .87. The hypothesis as stated was not rejected.

Research hypothesis number 7. The distance between teacher and administrator and race of teacher will have no interaction effect on teacher perceptions of the interview situation.

The effect of distance and race of teacher is reported as source number 7 on Table 3. The "F" value of 3.67 was significant at the .05 level. The probability of that "F" value occurring was .03. This investigator rejected the hypothesis as stated and therefore a relationship was established.

A higher mean value represented a more positive response by the respondent. An examination of the means in Figure 8 shows that white respondents perceived the 12 foot distance most favorably (36.73). The 3 foot and 6 foot distances were rated the same (34.56). The black respondents preferred the 3 foot distance to both the 6 foot
<table>
<thead>
<tr>
<th>MEAN SCORE</th>
<th>DESK</th>
<th>NO DESK</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>3 feet</td>
<td>6 feet</td>
</tr>
<tr>
<td>40</td>
<td></td>
<td></td>
</tr>
<tr>
<td>38</td>
<td></td>
<td></td>
</tr>
<tr>
<td>36</td>
<td></td>
<td></td>
</tr>
<tr>
<td>34</td>
<td></td>
<td></td>
</tr>
<tr>
<td>32</td>
<td></td>
<td></td>
</tr>
<tr>
<td>30</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Figure 7. Illustration of Interaction of Distance and Obstacle—Independent of Teacher's and Administrator's Race
<table>
<thead>
<tr>
<th>MEAN SCORE</th>
<th>White Teacher</th>
<th>Black Teacher</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>3 feet</td>
<td>6 feet</td>
</tr>
<tr>
<td>40</td>
<td></td>
<td></td>
</tr>
<tr>
<td>38</td>
<td></td>
<td></td>
</tr>
<tr>
<td>36</td>
<td>34.56</td>
<td>34.56</td>
</tr>
<tr>
<td>34</td>
<td></td>
<td></td>
</tr>
<tr>
<td>32</td>
<td></td>
<td></td>
</tr>
<tr>
<td>30</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Figure 8. Illustration of Interaction Between Race of Teacher and Distance—Independent of Race of Administrator and Obstacle
and 12 foot distances. The mean values were 38.00, 30.25, and 30.87 for 3, 6, and 12 feet, respectively. The black respondents score higher as the distance decreases. This analysis of means did not partition on the factor of administrator's race.

**Research hypothesis number 8.** The presence or absence of a physical obstacle and race of administrator will have no interaction effect on teacher perceptions of the interview situation.

The effect of physical obstacle and race of administrator is reported as source number 8 in Table 3. The "F" value of .03 obtained from the analysis was not significant at the .05 level. The probability of that "F" value occurring was .88. This hypothesis as stated was not rejected.

**Research hypothesis number 9.** The presence or absence of a physical obstacle and race of teacher will have no interaction effect on teacher perceptions of the interview situation.

The effects of the physical obstacle and race of teacher is reported as source number 9 in Table 3. The "F" value of 2.47 obtained from the analysis was not significant at the .05 level. The probability of that "F" value occurring was .12. This hypothesis as stated was not rejected.

**Research hypothesis number 10.** The race of administrator and race of teacher will have no interaction effect on teacher perceptions of the interview situation.

The effects of the race of administrator and race of teacher was reported as source number 10 in Table 3. The "F" value of .55 obtained from the analysis was not significant at the .05 level. This hypothesis
as stated was not rejected.

**Research hypothesis number 11.** The distance between teacher and administrator, the presence or absence of a physical obstacle, and race of administrator will have no interaction effect on teacher perceptions of the interview situation.

The effect of distance, the physical obstacle, and race of administrator is reported as source number 11 in Table 3. The "F" value of .01 obtained from the analysis was not significant at the .05 level. The probability of that "F" value occurring was .99. The hypothesis as stated was not rejected.

**Research hypothesis number 12.** The distance between teacher and administrator, the presence or absence of a physical obstacle, and race of teacher will have no interaction effect on teacher perceptions of the interview situation.

The effect of distance, the physical obstacle, and the race of teacher is reported as source number 12 in Table 3. The "F" value of 1.33 obtained from the analysis was not significant at the .05 level. This hypothesis as stated was not rejected.

**Research hypothesis number 13.** The distance between teacher and administrator, race of administrator, and race of teacher will have no interaction effect on teacher perceptions of the interview situation.

The effect of distance, race of administrator, and race of teacher is reported as source number 13 in Table 3. The "F" value of 3.01 was not significant beyond the .05 level. The probability of that "F" value occurring was .06. This investigator did not reject the hypothesis as stated but suggests that the reader may come to his own
conclusions since the probability of the "F" value occurring by chance was small.

Research hypothesis number 14. The presence or absence of a physical obstacle, the race of administrator, and race of the teacher will have no interaction effect on teacher perceptions of the interview situation.

The effect of the physical obstacle, the race of administrator, and race of teacher is reported as source number 14 in Table 3. The "F" value of .18 obtained was not significant at the .05 level. This hypothesis as stated was not rejected.

Research hypothesis number 15. The distance between teacher and administrator, the presence or absence of a physical obstacle, and race of administrator will have no interaction effect on teacher perceptions of the interview situation.

The combined effects of distance, obstacle, race of teacher, and race of administrator were reported as source number 15 in Table 3. The "F" value of 1.12 obtained from the analysis was not significant at the .05 level. This hypothesis as stated was not rejected.

Summary

In this chapter the investigator presented the data and the analysis of the findings. None of the main effect hypotheses yielded "F" values significant at the .05 level. Interaction hypothesis 5, the interaction of the presence or absence of the desk and the distance factors, and interaction hypothesis 7, the race of teacher and distance, yielded "F" values which were significant at the .05 level.
The purpose of this chapter is to relate the findings of this study to the conclusions and recommendations. After a brief summary of the rationale of this study, the investigator drew conclusions based on the collected and analyzed data. The recommendations formulated are based upon the results of the study and the review of related literature. Finally, implications for practicing school administrators are stated.

Summary

Nonverbal communication has recently been explored by anthropologists, sociologists, psychologists, and other scientists working in the behavioral field. The development of theories of proxemic and kinesic behavior have enabled investigators to formulate hypotheses and test their relevance to other modes of nonverbal and verbal communication. In 1970, Haase and DiMattia studied the preferences of counselors, administrators, and clients for seating arrangement in dyadic interaction. They found distinct differences between counselors', administrators', and clients' preferences. As a result this investigator became curious regarding the preferences of teachers and administrators in dyadic interaction situations. This investigator assumed that the teacher-administrator interview was sufficiently
important to justify the study of the effects of proxemic and other variables.

Using slides as a projective stimulus device and semantic differential scales for the response instrument, this investigator attempted to quantify certain perceptions of both black and white teachers regarding an interview situation. The teachers' scores were expected to reflect perceptions of race of administrator, presence of a physical obstacle, and each of three interaction distances. To answer questions regarding the effects of these variables, an empirical examination of teacher preferences was necessary. The resulting knowledge of how these variables were perceived by teachers could serve as an aid to persons who function in dyadic interactions. An awareness of the nonverbal messages being sent to teachers may enable administrators to identify and correct problem situations which arise or could arise as a result of their proxemic behavior.

The study involved the responses of 96 teachers from the Grand Rapids Public Schools and the Kalamazoo Public Schools. The majority of the teachers were from the Grand Rapids Public Schools while a few black teachers from Kalamazoo Public Schools were needed to fulfill the requirements of the sample. Each teacher in the sample responded to one slide depicting one of the 12 possible combinations of the variables. Subjects' responses were scored by means of a semantic differential instrument derived from a similar instrument by Kern (1971). The sum of the eight semantic differential scales provided the scores which were analyzed by means of a 3 (physical distance) X 2 (physical obstacle) X 2 (race of administrator) X 2
(race of teacher) balanced factorial analysis of variance.

Significant "F" values were obtained for hypothesis number 5 (the two-way interaction of desk by distance) and hypothesis 7 (the two-way interaction of race of teacher by distance). The reader may also want to examine hypotheses one and thirteen due to their low probabilities. In the following discussion, this investigator will point out specific aspects of these findings and try to relate the findings, where appropriate, to research reviewed in Chapter II of this paper.

The means for the main effect hypotheses have indicated that none of the four main factors tested had a significant impact on the perceptions of the teachers. This tends to demonstrate the complexity of the interview situation in that there can be numerous interactions of factors which may affect all participants in all interview settings. In this particular setting two interactions were found which significantly affected the perceptions of the teachers.

The response means indicated that white teachers preferred the far distance to the middle and near distances. The black teachers preferred the near distance to the middle and far distances. These findings do not agree with the findings of Willis (1968), who reported that blacks in general spaced themselves at farther distances while whites in general spaced themselves at the nearer distance of three feet. The study done by Willis included any black or white person who happened to be visiting a zoological exhibition and its results may not be applicable to specific samples. It is possible that black teachers are not representative of the total black
population which may be found observing a zoological exhibition due to their professional training or some other career or profession orientated factor.

The results of this study do not agree with studies by Lott and Sommer (1968) and Sommer (1959). In each of these studies of seating arrangement, the intervening physical obstacle (desk or table) made respondents uncomfortable. One obvious reason for this is the social nature of the situations which were investigated by Sommer. It is quite possible that most teachers do not perceive interactions with their principals as being social in nature. In this particular study the respondents (teachers) perceived the desk as a comfortable buffer between the administrator and themselves. The desk was of importance especially at 3 feet, but lost importance as the distance increased from 3 feet to 6 feet and from 6 feet to 12 feet. At the nearer distances of 3 feet and 6 feet the teachers felt comfortable with the intervening desk while the intervening desk at 12 feet was not perceived as a comforting factor. This tends to show that the desk provides psychological distance for the teacher even if the physical distance is minimal. As the physical distance increases, the psychological distance also increases, and obstacles seem to lose their importance as the distance increases. The findings of this study agreed with the findings of Haase and DiMattia (1970) in that both tended to show that the presence of a desk or a similar physical barrier is not disliked by either of the interview participants. The findings that both administrators and teachers felt quite comfortable with the intervening desk probably is due to the frequency with which
this physical arrangement is found in typical offices.

No significant difference was found to exist between the way teachers viewed administrators of the same race and those administrators of a different race. According to Lacy (1972) a tradition of fear, hatred, and suppression could possibly cause strained relationships between teachers and administrators of different races. The reader should be aware of the possibility that teachers responded as they felt they should respond, rather than as to how they actually felt. It is also possible that the authority of the administrator, regardless of race, would cause teachers to react in similar fashion to both white and black administrators.

In past studies (Hall, 1963; Sommer, 1959; and Mehrabian, 1968) close proximity was associated with close, warm, and personal relationships. The setting of this particular study demonstrates the fact that close, warm, and personal relationships are not perceived by respondents to be necessary for this kind of situation. The teachers did not perceive any one distance as being more comfortable than others; teachers seemed to react to distance in many different ways. It is possible that some teachers perceived the interview situation as being personal or social in nature while others perceived it as strictly business. According to Hall (1963) the personal and social situations usually are undertaken in close proximity, while business situations take place at greater distances.
Conclusions

The conclusions presented in the following discussion seemed appropriate based on the findings:

1. The desk in an administrator's office serves as a buffer for the teacher when it is located between the administrator and teacher. The desk was an important factor at close distance (3 feet) but lost its importance as the distance increased. The perceptions of the teachers tend to indicate that the necessity of a buffer decreases as the physical distance increases. In addition, Haase and DiMattia (1970) found that both administrators and clients preferred the desk as an intervening barrier.

2. The race of the teacher factor tended to show that white and black teachers tended to perceive distance between themselves and the administrator in directly opposite ways. The white teachers preferred the 12 feet distance to both the 3 and 6 foot distances. The black teachers preferred the 3 foot distance to both the 6 and 12 foot distances. The highest cell mean (38.00) occurred in relation to the black teacher at the 3 foot distance. This finding was contrary to previous investigations. Scheflen (1972) postulates that this change may be accounted for by a black cultural revolution.

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In America a cultural revolution is in progress. Several stages of the old culture are represented in the population and several stages of a new variant have been evolving among young people. There is an analogous but different revolution in American Black culture. Many Blacks have explicitly refused to copy middle-class white American ways and have also turned against the submissive shuffling behavior of the old "colored" manner [p. 92].

3. A blanket statement regarding the effects of the main effect hypotheses cannot be made. The main effect hypotheses were not found to be significant. The interaction effects were necessary to produce significant results.

Recommendations

Based on the findings and conclusions presented in this study, the following recommendations are made:

1. Further research should be undertaken to learn to what degree projective devices, such as slides, are a true reflection of a live interview situation.

2. Further research should be undertaken using methods of testing other than the semantic differential instrument, to determine if a more sensitive instrument can be found.

3. Replications of this study should be undertaken in various settings, with specific age groups, with sex as a variable, and with leadership style as a variable. The nature of the relationship should be investigated in reference to proxemics.
4. Further research should be undertaken in order to eliminate the gross measures used in this investigation. Distances such as three, six, and twelve feet tend to be too general; more gradations of distances may give more specific information.

5. Further research should be undertaken to determine how the ultimate outcome of the interview is related to proxemic factors.

6. Further investigation is necessary to discover methods by which the findings of proxemic research can be used to modify unproductive or negative behavior patterns of individuals.

Implications

In conclusion it appears to this investigator that this study may have these implications for practicing school administrators.

1. The administrator should provide the option of an intervening physical obstacle such as a desk or table when the distance between him and the teacher is small, such as three or six feet.

2. The administrator should remove an intervening desk or table when the distance between him and the teacher is large, such as 12 feet.

3. The administrator should provide white teachers with the opportunity to interact beyond the 6 foot distance.
4. The administrator should attempt to provide black teachers with an interaction distance of approximately 3 feet.

One final suggestion to all practicing school administrators is a word of caution. No two teachers are exactly alike. These proxemic generalizations cannot be expected to fit all teachers in all situations. The administrator should be aware of individual differences and should make every attempt to provide teachers with alternative seating arrangements in the interview situation. Experimentation in an administrator's particular office may facilitate positive seating arrangements appropriate.
REFERENCES


Goffman, E. Alienation from interaction. Human Relations, 1957, 10, 47-60.

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Haase, R. & DiMattia, D. Counselor preference for proxemic arrangements in dyads. Counseling Center Research Reports, Counseling Center University of Massachusetts, Amherst, Massachusetts, 1969.


APPENDIX

INSTRUMENT USED IN THIS STUDY
PURPOSE OF THIS STUDY

The purpose of this study is to gather general information regarding the variables which affect relationships between teachers and principals. In no way are your responses connected to your particular school or principal. Your responses will be kept completely confidential and your name or school will not be connected to any particular set of responses.

Your particular responses to this material will take less than five minutes.

Background Information

Name (optional) _____________________________________
Name of School ________________________________
Subject Taught _________________________________
Your age _________
Number of Years Teaching ___________

Instructions

The purpose of this study is to measure the feelings teachers have about interview situations with principals. You will see one slide of an interview. After seeing the slide you will be asked to judge the existing relationship as you would perceive it. Imagine that you are the teacher in the situation sitting in the vacant chair. Keep in mind that we are interested in your general perception of the overall situation.
INSTRUMENT USED

USING THE SCALES

If you feel that the relationship which you perceive in the slide is very closely related to one end of the scale you should place your mark as follows:

Happy: __:__:__:__:_X:_Sad
or Happy: X:__:__:__:_Sad

If you feel that the relationship which you perceive in the slide seems closely related to one or the other end of the scale (but not extremely), you should place your mark as follows:

Happy: __:__:__:__:_X:_Sad
or Happy: _:_X:_:__:_Sad

If you feel that the relationship which you perceive in the slide is only slightly related to one side as opposed to the other side (but not really neutral), you should place your mark as follows:

Happy: __:__:__:_X:_Sad
or Happy: __:_X:_:__:_Sad

The direction toward which your mark is placed, of course, will depend upon which of the two ends of the scale seems most characteristic of the feelings you have about the relationship you have been presented.

If you consider both sides of the scale to be equally associated with the relationship, or if the scale is completely unrelated to your feelings, place your mark in the center space.

Work at fairly high speed through this rating scale. Do not worry or puzzle over individual items. It is your first impression or your immediate feelings about the relationship that we want.

Thank you
RELATIONSHIP

FREE:__:__:__:__:__:__:CONSTRAINED
RELAXED:__:__:__:__:__:__:_TENSE
PAINFUL:__:__:__:__:__:__::_PLEASURABLE
DEFENSIVE:__:__:__:__:__:__:__:AGGRESSIVE
UNPLEASANT:__:__:__:__:__:__:__:PLEASANT
BUNGLING:__:__:__:__:__:__:__:SINCERE
FRIENDLY:__:__:__:__:__:__:__:SKILLFUL
INSINCERE:__:__:__:__:__:__:__:HOSTILE
FALSE:__:__:__:__:__:__:__:TRUE
SOOTHING:__:__:__:__:__:__:__:AGGRAVATING